

ideas to impact.



DREAMPIPE II

INNOVATION PRIZES IN WATER DISTRIBUTION



THE DREAMPIPE CHALLENGE II

FINAL EVALUATION REPORT

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Submitted by Itad
In association with IMC Worldwide

NOVEMBER 2019



ACKNOWLEDGEMENTS

This report was written by lead evaluator, Catherine Gould and the summary by Cheryl Brown. Other key members of the evaluation team were Dr Sue Cavill, who led the evaluation in its design and initial analysis stages, and Dr Jessica Roberts, who conducted the primary data collection and coding, and provided critical inputs on the interpretation of the dataset. Clare Stott also provided invaluable oversight and support.

Our thanks go to the Dreampipe Prize Team – Chris Shugart, Froeydis Gording and Jonty Slater – for providing their reflections and clarifications on the Prize experience throughout. We are also grateful to the solvers and judges who participated in the evaluation. Finally, we wish to thank the various reviewers of this report: Dave Wilson and Chris Barnett at Itad; Bryony Everett and Alex Scoines at IMC Worldwide; and Magdalena Banasiak and Andrew Shaw at DFID.

DISCLAIMER

The views expressed in this report are those of the evaluators. They do not represent those of IMC or of any of the individuals and organisations referred to in the report.

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List of acronyms

AfWA	African Water Association
DFID	Department for International Development
DPIM	Draft Preliminary Information Memorandum
I2I	Ideas to Impact
IWA	International Water Association
NGO	Non-governmental Organisation
NRW	Non-Revenue Water
NWSC	National Water and Sewage Corporation (Uganda)
PBC	Performance-based Contract
PEQ	Programme Evaluation Question
PPP	Public-Private Partnership
SAB	South African Breweries
SEQ	Sub-Evaluation Question
SoE	Strength of Evidence
ToC	Theory of Change
UK	United Kingdom
UNICEF	United Nations Children’s Fund
VFM	Value for Money
WASH	Water, Sanitation and Hygiene

Glossary of terms

Applicant, participant or solver: an individual, organisation or team that has submitted an application in response to the challenge description and criteria.

Application, solution or submission: the written proposal and supporting material submitted by a solver to the person seeking the solution in response to the Prize problem statement.

Inducement prize: An innovation prize (see definition below) that defines award criteria in advance to spur innovation towards a predefined goal.

Innovation prize: offers a reward (often financial, but sometimes additional support, such as technical assistance) to whoever can first or most effectively solve or meet a pre-defined challenge.

Innovation: the application of new or improved products, processes, technologies or services that are either new to the world (novel), new to a region or business (imitative) or new to the field of endeavour, that is, repurposed (adaptive).

Judges: the technical experts engaged by the Prize to judge the submissions against a set of pre-agreed criteria.

Non-revenue water (NRW) refers to the difference between the amount of water put into the piped system and the amount of water billed to customers. This difference is due to physical water losses, from burst and unrepaired pipes or from overflow at storage tanks, and to commercial water losses, because of incorrect or lack of billing and unauthorised water consumption.

Participant: in the context of this evaluation, people or organisations participating in the Prize.

Prize Team: the team that were responsible for designing and implementing the Prize.

Recognition prize: An innovation prize (see definition above) that is awarded for specific or general achievements made in advance of nominations for the prize being requested.

Term sheets: Under Phase 3 of Dreampipe II, this documentation from solvers was to cover all major project and financing agreements needed for the expansion project in the selected water utility. The term sheets were to be agreed by all relevant parties but were not expected to be legally binding.

Theory of change: in the context of innovation prizes, this is a detailed description of how and why the Prize is expected to lead to the desired change in a given context.

Unintended consequences: things that happen as a result of the Prize that were not planned. These can be positive or negative.

Value for money: optimal returns on investments achieving set objectives. Value for money is high when there is an optimal balance between costs (resources in), productivity (processes leading to delivery of outputs) and the equitable achievement of outcomes.

Verifier: the independent consultant that provided “verification” of the data included within solvers’ submissions.

Executive summary: Using prizes to reduce water losses in low-income countries

The Dreampipe Challenge was a competition to increase investments from non-conventional sources (mainly commercial) in the reduction of non-revenue water (NRW), which is the difference between the amount supplied by utilities and that billed to users. Dreampipe, which ran from 2016 to 2018, focused on DFID's 28 priority countries in Africa and Asia, where NRW is a challenge aggravated by water scarcity, rapid urbanisation and a growing population.

Dreampipe is one of a number of innovation prizes under [Ideas to Impact \(I2I\)](#), a DFID-funded programme.

The programme was established to test the value of using innovation prizes to achieve international development outcomes, often to encourage people to act differently over months or years.

An innovation prize offers a reward to whoever can first or most effectively solve or meet a pre-defined challenge. Two key types of innovation prize include recognition and inducement prizes (see Table 1). The potential for using an innovation prize to help solve the issue of financing NRW reduction in developing countries was identified as part of a broader scoping study, undertaken by Trémolet Consulting for the I2I programme (Trémolet, 2015).

Table 1: Types of innovation prizes and prize effects. Source: Everett et al. (2011)

Prize type	Description
Recognition	Awarded for specific or general achievements made in advance of nominations for the prize being requested
Inducement	Define award criteria in advance to spur innovation towards a predefined goal

As the programme's evaluators, Itad is supporting Ideas to Impact to understand if such prizes worked as expected, and when and where they could be useful as a funding mechanism for international development, compared to other forms of funding such as grants.

If you just want to find out what happened when Ideas to Impact tried using prizes to attract non-traditional investors to finance non-revenue water reduction, then this summary is for you. If you want to know more about the Prize and specific details of the evaluation, the introduction in Section 1 will direct you where you need to look.

The challenge: attracting new investment to the scaling up of non-revenue water reduction in developing countries

Non-revenue water (NRW) is the difference between the amount of water put into the piped system and the amount billed to customers. This difference is caused by physical water losses, such as burst and unrepaired pipes, and commercial water losses, because of incorrect or absent billing and unauthorised water consumption. NRW affects all water utilities but is particularly high in many utilities in the developing world.

Traditionally, the scaling-up of NRW activities in developing countries has only been of interest to conventional sources of funding (mainly the development banks and agencies, and governments). This lack of broader financing has a knock-on effect on water utilities who struggle with reduced revenues, increased costs and reduced ability to obtain financial backing. When water utilities are unable to provide a consistent and sufficient supply of high-quality, safe water to their customers, this has negative effects

on customers' health, sanitation and productivity; it disproportionately affects people living in poorer areas (IMC Worldwide, 2016).

NRW is a preventable waste of scarce water and energy resources, but why is it hard to attract commercial non-traditional sources of financing to the scaling-up of NRW reduction activities? From their research into this problem, Ideas to Impact learned that a major obstacle is that investing in NRW activity by water utilities in developing countries is perceived to be risky; a high level of NRW usually indicates that a utility is poorly managed (IMC Worldwide, 2016). As a result, utilities struggle to mobilise financing for these activities. Investors would need to be convinced of the feasibility of scale-up activities and that the risks had been mitigated. One way to help convince financiers of the viability of larger efforts would be by first carrying out successful smaller demonstration projects. Another, would be to put together deal structures that make the best use of concessional financing to mobilise additional financing from more commercially oriented sources.

It was on this basis that Ideas to Impact designed the Dreampipe Prize to reduce perceived risk.

Dreampipe aimed to encourage the development of workable and replicable ideas for expanding the finance available for NRW reduction activities in developing countries – and do so beyond conventional sources.

Dreampipe: a series of prizes that have evolved based on experience

The Dreampipe Prize has evolved significantly since it was first designed. Dreampipe was originally conceived as a two-stage Prize. Based on the quality and quantity of submissions received during Stage 1, the Prize Team took time out after Stage 1 was awarded, to consult with a range of stakeholders to understand how to make the Prize more effective. "Stage 1" became known as Dreampipe I and Dreampipe II was launched, with a focus this time on sources of finance for NRW reduction, rather than mechanisms. With a similar overall objective to the original Prize design, Dreampipe II aimed to promote unusual investment into the NRW reduction sector and de-risk this prospect for non-traditional financing sources.

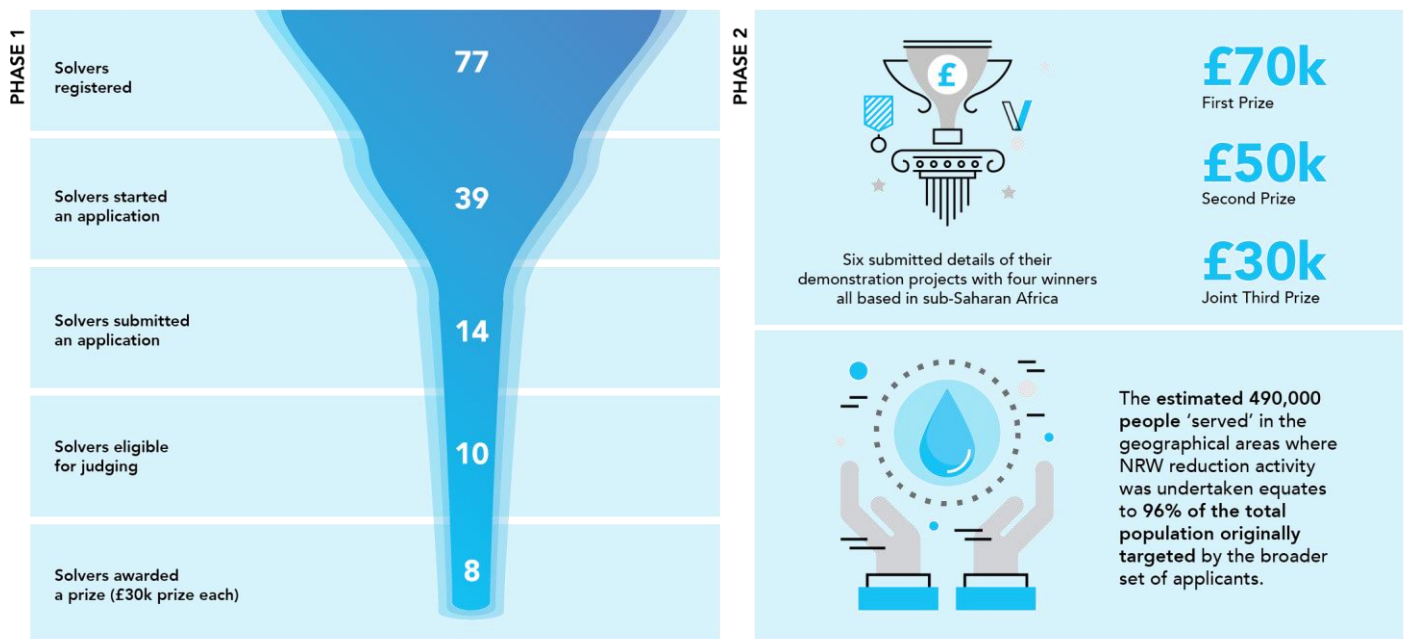
Dreampipe II was designed as an "inducement prize" to reward the best business plans, demonstration projects and structured deals in three separate but consecutive phases:

- **Phase 1 – Business Plan:** applicants were to show how they would carry out the requirements of Phase 2.
- **Phase 2 – Demonstration Project:** winners of Phase 1 were to carry out (and fully document) a demonstration project to reduce NRW in a selected water utility in one of the 28 DFID focus countries in effect at that time. Candidates also had to submit an updated business plan focusing on financing and contracting for a major expansion project in the same utility, building upon the experience of the demonstration project and involving an NRW reduction performance-based contract with an entity that was independent from the water utility.
- **Phase 3 – Fully Structured Deal:** winners from Phase 2 were to submit term sheets (agreed by all parties) for all major project and financing agreements needed for the expansion project in the selected water utility, including for the performance-based contract.

While this is an evaluation of Dreampipe II as a whole, in practice it is only of the first two phases. Based on the results and plans of the four winners of Phase 2, these solvers would have been heading in different directions for their expansion projects. The Prize Team sought to accommodate this; however, they could not find a way to do so that was within the original scope of the third phase and in keeping with the overall aim of the Prize. In addition, they felt that a further prize was not needed to incentivise the winners to proceed with their NRW reduction plans. In agreement with DFID, the Prize Team closed Dreampipe II at the end of Phase 2.

Dreampipe II – did it work?

Figure 1: Dreampipe: What happened



Dreampipe made progress towards mobilising non-traditional finance for NRW reduction, but there is scope for Ideas to Impact to achieve more with the Prize in the area of raising awareness.

Ideas to Impact hoped that if Dreampipe II were able to reward the best business plans, demonstration projects and structured deals, and make non-traditional and commercial sources of finance aware of these, water utilities would be able to undertake investment in NRW reduction activities.

This evaluation found **the Prize has had some success in stimulating water utilities to de-risk the prospect of non-traditional investment in NRW reduction.** Dreampipe II's participants produced new business plans for utilities to reduce NRW in sub-Saharan Africa and went on to implement the associated demonstration projects. The Prize was a catalyst for NRW reduction action by water utilities, consultancies and the private sector; supporting new partnerships for NRW reduction, both within and across organisations, and new and different ways of working. There is evidence that activity for some projects continued beyond the end of Phase 2 – leading to further reduced physical and commercial water loss. While it was not a requirement during Phase 2, there is moderate evidence that the four winning demonstration projects were financed by non-traditional sources albeit at a small scale, including utilities' own funds. However, by the time the Prize closed, it had not resulted in uncovering new ways that are obviously replicable to finance NRW reduction at scale using non-traditional investment sources. This said, the Prize did surface unexpected solutions from unforeseen sources; which can be considered a particular prize effect.

Dreampipe II closed at the end of Phase 2, before Phase 3 was run, because its goal had been achieved as far as was reasonably possible and so there was little to be gained in continuing as planned. Based on the evidence now available, this evaluation finds that Ideas to Impact fully explored the options to continue running the Prize, and that closing the Prize early was the right decision. Phase 3 is unlikely to have led to the mobilisation of non-traditional funding as originally envisaged.

While the rationale for not continuing beyond Phase 2 is clear, the lack of a final phase and its accompanying publicity means **Dreampipe II has only had limited success in achieving its other objective**

of raising awareness among water, finance and development actors of the challenges of securing non-traditional financing for NRW reduction in developing countries. With further investment in communications, the success of Phase 2 projects, along with the learning generated by the Prize about the underlying development problem it sought to address, could be built upon to raise awareness of NRW and encourage future solutions.

What worked?

Dreampipe II encouraged eight feasible and effective business plans

Ten eligible applications came in directly from water utilities, as well as water consultancies, technology companies and an individual consultant in partnership with a water utility. Of these, the Prize's judges determined that eight were feasible and effective, and each of the eight participants received £30,000; giving them automatic entry to Phase 2 (Demonstration Project). The solutions put forward in Phase 1 were largely focused on the technical aspects of specific NRW reduction projects, with less information provided on how the performance of these projects would likely be used to help convince new sources of funding to finance a larger expansion project. This is not surprising, given that, at this stage in the competition, the solutions were judged predominantly on the feasibility and effectiveness of the demonstration project itself. All 10 applicants went through to Phase 2; having allowed for 10 participants in Phase 2, the Prize Team offered the two high-scoring non-winners feedback and the chance to participate in the Demonstration Project phase.

Six demonstration projects made it through to judging at the end of Phase 2

Three solvers left the competition during Phase 2 (including the two who had not received prize money at the end of Phase 1) and so seven projects were submitted, of which six were eligible for judging. Four solvers were awarded with prize money: 1st place £70,000; 2nd place £50,000; and joint 3rd place received £30,000 each.

Phase 2 demonstration projects had excellent coverage and led to some reduction in water losses

We found evidence that the demonstration projects reached the expected number of people, despite only seven of the demonstration projects continuing through to implementation. The estimated 490,000 people "served" in the geographical areas where NRW reduction activity was undertaken equates to 96% of the total population originally targeted by the broader set of applicants. While this evaluation was not required to directly consider impact-level change, there is limited evidence that the demonstration projects run by solver teams in Phase 2 led to the reduction of both physical and commercial NRW losses (albeit on a small scale). Illegal water users were disconnected as part of the NRW reduction activity and will inevitably have experienced negative outcomes; however, the net economic/social effect may be positive.

Phase 2 winners have continued with NRW reduction activities

Our evaluation found that the first-place winner of Dreampipe II has continued with their expansion project as planned, despite the incentive of a third phase Prize being withdrawn. This solver is using financing from the same non-traditional, commercial partner as in Phase 2. Although the utilities associated with the other three overall winners have not sought or secured external, non-traditional financing, there is evidence that they have each continued with and, in some cases, expanded their NRW reduction activities. In addition, a water consultancy that was involved in one of these projects has continued to pursue the idea of securing non-traditional financing for NRW reduction by other water utilities.

Figure 2: Summary of I2I prize effects. Source: Adapted from Ward, J. and Dixon, C. (2015)



Where could things have been improved?

Sharing the learning from the Prize on how to approach non-traditional financing of NRW reduction in developing countries

One of the intended outcomes of Dreampipe II was to raise awareness of NRW and encourage replication projects, using learning and ideas from the Prize. Without the fully structured deals that were expected to come from Phase 3 of Dreampipe II, there has been a limit to what the Prize Team can do towards this outcome under the current prize design. However, our analysis shows that this may be a missed opportunity to obtain more value from the Prize. Based on the evidence reviewed for this evaluation, the findings suggest there is more scope for applying the learning from Dreampipe II on how to approach the issue of financing the reduction of NRW in developing countries (beyond conventional sources), than there is for replicating the solutions developed as part of the Prize.

Anticipating the need to provide support to solvers during Phase 3

Overall, the evidence suggests that Phase 3 may have provided sufficient motivation for solver teams to try to secure non-traditional financing, but it is unlikely that all four winners of Phase 2 would have met Phase 3’s requirements, as stated in the Phase 2 guidance document, without significant solver support to identify financiers and establish a fully structured deal with an entity that is independent from the water utility.

Did Dreampipe II achieve value for money for DFID?

To investigate value for money (VFM), we compared Dreampipe II to the expectations that the Prize Team had of it, within the “Four Es” (Economy, Efficiency, Effectiveness and Equity). Direct comparison between what was achieved and what was expected were hard to make, in part due to the learning-by-doing approach the Prize Team took to implementation. Also, the three-stage nature of the Prize meant that time was invested in scoping and designing the overall Prize and each of the phases. While the experience of implementing Dreampipe I supported this process, Dreampipe II was a new prize and effectively the “first-run” of the Prize. Were the Prize to be run again, it is unlikely to require the same level of investment.

Where a suitable comparator can be found, our aim is to perform a comparative VFM analysis by comparing each Ideas to Impact prize with a programme aimed at achieving similar outcomes but using a different funding model. The evaluation team, Prize Team, Ideas to Impact programme team and DFID together explored various types of comparators for an external VFM assessment but we were unable to find one that could satisfy all the requirements, including having the necessary data available.

Dreampipe II met the Prize Team’s expectations against Economy, and fell slightly short against those for Efficiency and Effectiveness

There is strong evidence that the Prize was launched and ran according to the original time schedule, and that it was implemented within the original budget. Under Effectiveness, we considered two intended effects of Dreampipe II. The primary effect being point solution (finding a solution to a highly specified component of a problem) and the secondary effect being to raise awareness (of the Prize’s focus development issue). There is moderate evidence that the Prize stimulated effective and feasible solutions for de-risking NRW reduction, although these did not use non-traditional financing that is obviously replicable or scalable (this not being a requirement at that stage in the competition). There is limited evidence that the Prize raised awareness about NRW issues with the majority of communications activity focused on prize launch and award.

Equity considerations did not come into play until Phase 3

While Equity considerations were an explicit requirement for Phase 3, the solutions supported by Dreampipe II (closing as it did at the end of Phase 2) did not have to consider distributional impacts. This was a deliberate decision by the Prize Team to maximise the chances of achieving the Prize’s overall goal, to uncover workable, replicable solutions to the challenge of financing NRW reduction in developing countries. However, it raises the question as to whether prize programmes that plan to have development outcomes should explicitly require solvers to take distributional impacts into account at every stage, given that in multi-stage prizes, each stage might not go ahead.

Assessing VFM of a multi-stage prize that did not complete is problematic

Our VFM assessment was only able to cover the value obtained from Dreampipe II against the Prize Team’s expectations of the first two phases of Dreampipe II (business plans and demonstration projects). However, in their design of the prize, the Prize Team expected greater value to come once the expansion projects had been agreed to (Phase 3, Fully Structured Deals), from the potential for replication. Most of the activity to raise awareness of the issue of (financing) NRW reduction, for example, was planned for later in the Prize’s lifetime when it was anticipated that there would be demonstrable “solutions” to promote and expansion projects under way.

What can be learned from the Dreampipe II Prize?

At the end of this evaluation report, we propose a set of conclusions, lessons and recommendations, based on our findings, for consideration by DFID and the Ideas to Impact programme team, as well as others who may be interested in sponsoring or running prizes for development in similar contexts. We share here what we consider to be the most important messages to take away from the Dreampipe II experience. Conclusions, lessons and recommendations are highlighted in more detail at the end of the report.

An innovation inducement prize alone is not suitable for addressing the problem of financing NRW reduction in developing countries.

The barriers to entry to the Prize were high, due to the level of solver investment required, and the short timeframe for mobilisation and implementation by solvers. In the Prize Team's view, a mixed approach, for example an initial grant followed by one or more Prize stages, with technical assistance provided throughout, might have seen better overall results.

Remembering that Ideas to Impact is intended to be a learning programme about the value, as well as the appropriateness and practicalities, of using innovation prizes to achieve development outcomes, for this type of complex development problem, it may have been more appropriate to:

- invest in a feasibility study upfront across a number of countries;
- focus on one or a small number of countries for implementation, rather than having a global remit as Dreampipe did; and
- start the Prize with a competitive process to secure a start-up grant.

Running Dreampipe II has helped increase our understanding of the problem of financing NRW in developing countries and the appropriateness of prizes to solving it.

At the outset of Dreampipe II it was assumed that there would be non-traditional financing sources that would be willing to fund NRW reduction to be undertaken by utility companies in developing countries. Based on the Dreampipe II Prize experience, this assumption needs to be reconsidered. Although the Prize did not result in the surfacing of replicable solutions to the "problem", Dreampipe II did further add to the knowledge base around the problem, and further confirmed the complexity of this. For example, the existence of non-financial barriers to reducing NRW identified in Ideas to Impact's initial research of the problem, was confirmed through this evaluation's discovery that even once financing was potentially available to utilities for NRW reduction, they were not necessarily accepting of this. In other words, availability of funding did not automatically facilitate the utility undertaking more NRW reduction work.

The design of Dreampipe II was informed by the views of some of the key experts in the field, who strongly believed that the Prize would open the doors to non-traditional funding. The Prize Team were aware from the beginning that there would be challenges in achieving what the Prize set out to achieve. However, they maintain that there was no way to know without running the Prize what the nature and extent of these challenges would be. Dreampipe II has generated new learning about the problem, some potential case studies to support this, and a "good practice" methodology for how to judge the performance of NRW reduction projects in a comparable way. It is our recommendation that this learning be shared for greater value to be obtained from Dreampipe II.

Section 1: The Dreampipe II Evaluation

Introduction to the Dreampipe evaluation

Dreampipe II was a global water prize, launched in 2016, with the aim of stimulating innovations that would mobilise finance from non-traditional sources for non-revenue water (NRW) reduction activities. The Prize was one of a set of prizes being implemented under the UK Department for International Development's (DFID's) Ideas to Impact (I2I) programme, which seeks to induce and reward innovative solutions to development challenges in Water, Sanitation and Hygiene (WASH), Climate Change Adaptation and Energy Access; and in doing so, to test, research and learn about the use of innovation prizes for development.ⁱ We identify two key types of innovation prize – recognition and inducement prizes (see Table 1). Dreampipe II was an inducement prize.

Table 1: Types of innovation prizes and prize effects. Source: Everett et al. (2011)

Prize type	Description
Recognition	Awarded for specific or general achievements made in advance of nominations for the prize being requested
Inducement	Define award criteria in advance to spur innovation towards a predefined goal

In advance of launching its first prize, I2I published a set of nine outcomes or effects that prizes can achieve, often in combination (Ward and Dixon, 2015). The I2I programme has reviewed these since then, based on learning to date, to create an updated set of expected effects; including identifying which are intended effects for each prize. The updated effects are: raise awareness; promote best practice; facilitate and strengthen partnerships and networks; maximise participation towards the sponsor's aims; community action; point solution; open innovation; market stimulation; and altering the policy environment. For Dreampipe II, "point solution" was the main intended prize effect. This is defined as: finding a solution to a highly specified problem that has been broken down to a component part, for example, a new product or process.

As the evaluation and learning partner for I2I, Itad are supporting the overall programme's learning by delivering a set of evaluations across the prizes. The evaluations are designed to explore the process, outputs and outcomes of each prize, to determine whether, to what extent and under what circumstances innovation prizes are suitable for addressing complex development problems. As part of the learning component of the programme, we will bring the evaluation findings together through a series of learning papers that draw on findings across the evaluations to provide insight into the value and use of innovation prizes for development.

This evaluation of Dreampipe II examines the outcomes observed under the Prize to respond to a set of programme-level evaluation questions (PEQs) set by DFID (detailed in Section 3.2). The evaluation explores: the story of the Prize; how effective the Prize was at catalysing innovation on the focus problem (PEQ1); the sustainability of the innovations (PEQ2); the value for money (VFM) of the Prize, including the observed Prize effects (PEQ3); the unintended consequences of the Prize (PEQ4); and the effectiveness of solver support (PEQ5).

This report documents the background to the Prize (Section 2), evaluation approach (Section 3), methodology (Section 4), findings (Sections 5–10), conclusions (Section 11), learning (Section 12) and recommendations (Section 13). Each of the findings sections begins with a paragraph that provides the headline findings for that PEQ (or the theory of change (ToC)). This is then followed by a summary box of key findings, before the findings against the PEQ and related SEQ(s) are explored in more detail.

The audience for this report is the Prize's funder DFID and the broader I2I programme team, along with those outside of the programme who are considering the use of prizes in the water sector. It may also be of interest to the Prize participants and wider communities of practice around innovation, WASH and development.

Section 2: Background to the Prize

2.1 The design and development of Dreampipe II

The potential for using an innovation prize to help solve the issue of financing NRW reduction in developing countries was identified as part of a broader scoping study, undertaken by Trémolet Consulting for the I2I programme (Trémolet, 2015). The Dreampipe Prize has evolved significantly since it was first designed. The Dreampipe Challenge was originally conceived as a two-stage prize. However, Stage 2 was not implemented as originally planned. Instead, using learning from Stage 1, the Prize Team redesigned and relaunched Dreampipe as a stand-alone prize made up of three “phases”. The new prize was named Dreampipe II, and the original Stage 1 became known as Dreampipe I. Further details of the original Prize, Dreampipe I, and how this led to the design of Dreampipe II, can be found in Box 1 below. This evaluation report considers only Dreampipe II, also referred to as “the Prize”.

Box 1: Details of Dreampipe I and how this informed the design of Dreampipe II

The original Dreampipe Challenge (both Stages 1 and 2) aimed to stimulate innovations from non-traditional stakeholders (water utility experts, utility companies, lenders, financial experts and innovators) for the mobilisation of funds by water utilities in one or more of the DFID target countries to undertake NRW reduction activities. It planned to do this through rewarding the design of the best financial mechanism concepts¹ in Stage 1, and the best further developed financing mechanisms nearly ready for implementation in Stage 2.

Based on the quality and quantity of submissions received by Dreampipe I, it was decided to halt the current trajectory and redesign the Prize.ⁱⁱ The Prize Team consulted with a range of stakeholders to understand what was required in order to make the Prize successful and redesigned it to this end. The problem statement needed “tweaking”.ⁱⁱⁱ In response to this updated problem, Dreampipe II, rather than focusing on mechanisms, focused on sources of finance. While Dreampipe II had a similar overall objective to the original Prize design, it aimed to promote unusual investment into the NRW reduction sector and de-risk this prospect for non-traditional financing sources.

Non-revenue water (NRW) refers to the difference between the amount of water put into the piped system and the amount of water billed to customers. This difference is due to physical water losses, from burst and unrepaired pipes or from overflow at storage tanks; and due to commercial water losses, because of incorrect or lack of billing and unauthorised water consumption. NRW affects all water utilities but is particularly high in many utilities in the developing world (IMC Worldwide, 2016).

2.2 Problem statement

Traditionally, the scaling-up of NRW activities in developing countries has only been of interest to conventional sources of funding (mainly the development banks and agencies, and governments). From their research into this problem, the Prize Team found that a major obstacle is that investing in NRW activity by water utilities in developing countries is perceived to be risky; a high level of NRW usually indicates that a utility is poorly managed. As a result, utilities struggle to mobilise financing for these activities (IMC Worldwide, 2016).

¹ “Financial mechanism concepts” under the original Dreampipe I referred to applicants’ ideas in relation to “any arrangement set up to source and convey financing (debt, equity, grants, or any other kind of financing or funding) to the water company (or to several water companies) [...] and, as relevant, to provide for repayments and returns to the sources of funding” (source: Dreampipe Challenge Guidance Document).

Dreampipe II was designed to respond to the following problem statement:

“Financing is not readily available to support the scale-up of NRW reduction and control activities by water utilities, a particular problem in developing countries. This has economic, health, social and environmental implications. It means that millions of cubic metres of treated water is either wasted or delivered for zero revenue each year. Water utilities are failing to provide a consistent and sufficient supply of high-quality, safe water. This disproportionately and negatively affects the health, sanitation and productivity of customers living in poorer areas. Insufficient scale-up of NRW activities also negatively affects the water utility companies themselves, with reduced revenues, increased costs and reduced ability to obtain financial backing. Finally, it unnecessarily wastes scarce water and energy resources, which is a growing issue in the context of climate change”.^{iv}

2.3 Prize aim and objective

The Dreampipe II Prize aimed to:

- “stimulate innovations from non-traditional stakeholders (water utility experts, utility companies, lenders, financial experts and innovators) for the mobilisation of funds by water utilities in one or more of the DFID target countries² to undertake NRW reduction activities”.^v

The objective of Dreampipe II was:

- “to encourage the development of workable and replicable ideas for how to expand the financing available for NRW reduction activities in developing countries beyond the conventional sources (mainly the development banks and agencies, and governments)”.^{vi}

To achieve this objective, the Prize Team recognised the need to identify ways to reduce commercial lenders’ perceived risk of new financial sources, for example by demonstrating viability through smaller demonstration projects; or to put together deal structures that maximise use of concessional financing to mobilise additional financing from more commercially oriented sources.^{vii}

2.4 Prize mechanism

The Prize was designed as an “inducement prize” to reward the best business plans, demonstration projects and structured deals in three separate but consecutive phases. An overview of the main features of the three phases is as follows:

- **Phase 1 – Business Plan:** Applicants were asked to prepare and submit business plans showing how they would carry out the requirements of Phase 2. There were to be a maximum of 10 winners. Each winner was to receive a prize of £30,000. This was the only phase at which new applicants could enter Dreampipe II.
- **Phase 2 – Demonstration Project:** Only the winners from Phase 1 would be permitted to compete in Phase 2. Each candidate was to carry out and fully document a demonstration project to reduce NRW in a selected water utility in one of the 28 DFID focus countries. Each candidate was also to submit an updated business plan³ focusing on financing and contracting for a major expansion project in the same utility, building upon the experience of the

² DFID focus countries: Afghanistan, Bangladesh, Burma, Democratic Republic of Congo, Ethiopia, Ghana, India, Kenya, Kyrgyzstan, Liberia, Malawi, Mozambique, Nepal, Nigeria, Occupied Palestinian Territories, Pakistan, Rwanda, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tajikistan, Tanzania, Uganda, Yemen, Zambia, Zimbabwe.

³ This was known as the Draft Preliminary Information Memorandum (DPIM).

demonstration project. This expansion project had to involve an NRW reduction performance-based contract with an entity that is independent from the water utility. There were to be a maximum of five winners. The top prize was to be £70,000. Otherwise, the prize amounts per winner were not defined ahead of time, except that no prize was to be less than £30,000.

- **Phase 3 – Fully Structured Deal:** Only the winners from Phase 2 were to be permitted to compete in Phase 3. Each candidate was to submit term sheets (agreed by all parties) for all major project and financing agreements needed for the expansion project in the selected water utility, including for the performance-based contract. These term sheets were not expected to be legally binding and could include the conventional disclaimers. There were to be a maximum of three winners. The top prize was to be £190,000 and no prize was to be less than £90,000.

2.5 Prize purse and timeline

The total purse available for the prize was £1 million. It was to be distributed as indicated in Table 2 below. The intended prize timeline (for Phases 1 and 2 only) is captured in Table 3.

Table 2: Prizes to be awarded in Dreampipe II and indicative prize value

Phase	Number of prizes	Indicative total prize value (£)
Phase 1	Target = 10	300,000
Phase 2	Target = 5	250,000
Phase 3	Target = 3	450,000
Total		1,000,000

Table 3: Prize timeline for Phases 1 and 2

Activity	Indicative date
Launch of Phase 1	October 2016
Submission deadline Phase 1	March 2017
Award Phase 1; Launch Phase 2	May 2017
Close Phase 2	Feb 2018
Endline verification	March–April 2018
Award Phase 2	May 2018

2.6 Decision to close the Prize early

The Prize Team and DFID made the decision to close the Prize after Phase 2, and to not proceed with Phase 3 (which was to involve fully structured deals for the expansion projects). The press release in Box 2 was made in July 2018, shortly after the award of Phase 2, to announce this decision publicly. This brief statement provides a partial picture of the rationale behind the decision. The reasons for the Prize's closure are explored in more detail as part of the evaluation findings in Section 5.2.

Box 2: IMC Worldwide press release on Dreampipe (30th July 2018)^{viii}

“After two successful stages, and a great award event at the Water Loss 2018 in Cape Town, it has been decided that the Dreampipe Challenge will not proceed to Phase 3. We were pleased with the plethora of solutions presented by the applicants and winners of [Phase] 2; which shows that innovation prizes can attract new and unusual solutions. However, the wide range of solutions to [Phase] 2 means that designing a Phase 3 with guiding and judging criteria which was to be fair to all would be very challenging, we also believe that many of the winners of Stage 2 will go on to achieve Dreampipe’s goals without a [Phase] 3 Prize. For these reasons we have reached the decision to not run the third phase.”

In this section we provide the background and headline methodology for the evaluation. Further detail is provided in Annexes 1 and 2.

Section 3: Evaluation Approach

3.1 Focus of the evaluation

This evaluation focuses on Dreampipe II. Its purpose is to provide evidence from Dreampipe II to report on the overall success of the Prize against its theory of change (ToC), and to help to answer a set of programme evaluation questions (PEQs), agreed with DFID (see Section 3.2). Dreampipe I was evaluated through an interim evaluation for an internal audience following award (see Annex 3 for the headline findings).

The focus of this evaluation was determined according to the Dreampipe I findings, the overall I2I programme’s mid-term review, and discussions with DFID and the programme team.⁴ Together, we identified the following priorities for the evaluation:

- i. **Prize effects**, with a focus on point solution for Dreampipe II;
- ii. the **sustainability of prizes**, in terms of the continued implementation and benefits of associated innovations and evidence of prize effects;
- iii. the additional **benefits of using a prize modality** as opposed to other funding modalities to achieve development aims;
- iv. the **unintended consequences** of the Prize; and,
- v. the likely necessity or value of **solver support** to ensure the Prize reaches its aims.

This evaluation explores these elements of the Prize in the context of the Dreampipe II “story”, as recorded through solver reports and ongoing communications with the Prize Team.

3.2 Evaluation questions

At programme level, five evaluation questions have been identified in response to the priorities outlined in Section 3.1. We have responded to these PEQs through a set of sub-Evaluation Questions (SEQs), in order to both deliver a prize-level evaluation and to contribute to the programme-level learning that draws from across the Prizes. The PEQs and SEQs are provided in Table 4.

Note that under PEQ1, the evaluation will explore the agreed key prize effect – “point solution”. Emerging evidence for how the Prize has contributed to a series of **additional identified prize effects** will be discussed in Section 8 as part of the VFM assessment.

Table 4: Dreampipe II evaluation questions

PEQ 1	How effective has the Prize been at catalysing innovation on the focus problem?
SEQ 1.1	To what extent has Dreampipe II catalysed feasible and effective innovations to NRW reduction and control?
SEQ 1.2	To what extent did the Prize inspire solvers to do something they would not have done anyway?
PEQ 2	To what extent has the effect of the Prize been sustained beyond the point of award?
SEQ 2.1	How are prize participants sustaining their NRW activities post-prize award?
PEQ 3	Does the Prize offer value for money when compared to alternative funding modalities?

⁴ This included: presentation and discussion of the Stage 1 Interim Evaluation findings for all I2I prizes and consideration of the mid-term review findings at the I2I Review Point 11 meeting (and subsequent associated discussions); and further tailoring during an evaluation workshop held between the I2I Evaluation Team, the Prize Managers and the Research Director in March 2017.

SEQ 3.1	What is the added value of Dreampipe II in terms of the profile of solvers attracted and the quality/novelty of solutions received compared to other forms of funding for NRW?
PEQ 4	Were there any unintended consequences of the Prize and did these outweigh the benefits?
SEQ 4.1	Has Dreampipe II resulted in unintended consequences? Did any negative consequences outweigh the benefits of the Prize?
PEQ 5	Is solver support necessary for prizes to be successful?
SEQ 5.1	How have solver support activities delivered by the Prize contributed to improved solver ability to participate in Dreampipe II? What additional solver support activities could have supported solvers' participation in the Prize?

Section 4: Methodology

4.1 Headline methodology

This evaluation used a theory-based, mixed-methods approach, underpinned by a ToC and applying VFM and sustainability assessments. The evaluation's analysis and findings are based on a document review of more than 250 Prize documents and two rounds of interviews with key stakeholders 4 months after the award of Phase 2 and then 10 months after award (this marked a full year since final submissions under the Prize). More information on the key features of the evaluation methodology, including the VFM and sustainability assessments, and data collection and analysis, is available in Annex 1.

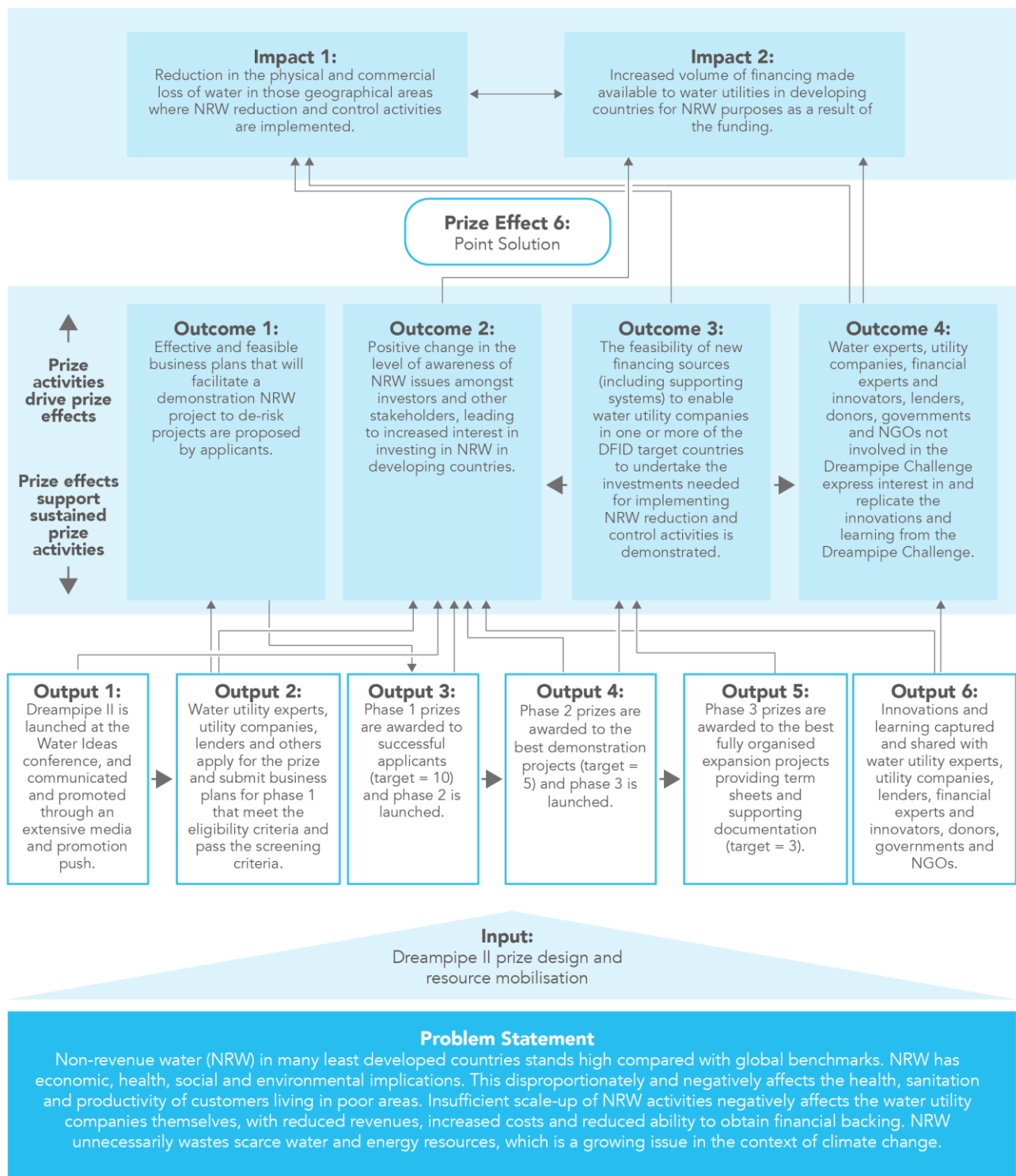
4.2 Dreampipe II theory of change

The Dreampipe ToC is illustrated in Figure 3 (a fuller version, including the underlying assumptions, is available in Annex 4). It moves from inputs at the bottom to a series of six outputs and then outcomes and the key prize effect to impacts, to indicate the thinking behind how the Prize would stimulate the desired development outcomes. The ToC – developed by the evaluation team in consultation with the Prize Team – identifies the central hypothesis of Dreampipe II, as follows:

“By rewarding the best business plans, demonstration projects and structured deals (Phases 1, 2 and 3 respectively), the Prize will enable water utilities to undertake investment in NRW reduction activities. This will be done through demonstrating the feasibility and risk mitigation methods to unusual and commercial sources of financing. The NRW reduction and control activities directly funded by the mobilised sources of finance will reduce the physical (and possibly commercial)⁵ loss of water in the utility service area, leading to increased availability of water, increased continuity and quality of water provision, and increased water utility revenues. Communications around the Prize will create a media buzz that increases awareness, as well as change the perceptions and behaviour of investors, donors, governments and NGOs towards solving the problem of NRW in developing countries.”ix

⁵ The Dreampipe II theory of change assumed that “by dealing with physical losses of water, this [would cause] momentum to deal with the commercial losses”.

Figure 3: Dreampipe theory of change



4.3 Strength of evidence

For each of the findings in this evaluation, we have assigned a rating of strong, moderate or limited to indicate the strength of evidence (SoE) for that particular finding. We refer to the SoE throughout the report using the terminology defined in Table 5 to denote the level of confidence we have in the evidence base for a particular finding. These terms should be used to guide understanding of the findings presented. We have identified varying SoEs between different sources and for different findings. The overall SoE for this evaluation is limited to moderate.

Table 5: Strength of evidence guide

Strong	Moderate	Limited	No evidence
Evidence based on multiple and diverse stakeholders and source types	Evidence from multiple sources/ stakeholders but with limited diversity OR evidence from diverse but a limited number of sources/stakeholders	Evidence from one source/ stakeholder group with limited numbers of stakeholder in agreement. Evidence labelled as "anecdotal" within the report is included to indicate the potential for results to have been achieved but that the evidence base is particularly weak. These findings should be considered to have a low level of confidence.	No evidence found and/or contradicting position among stakeholder

Section 5: Findings

The Dreampipe II story: What happened in practice

Dreampipe II's participants produced new business plans for water utilities to reduce NRW in sub-Saharan Africa and managed to implement the associated demonstration projects, leading to reduced physical and commercial water loss; albeit on a small scale. The Prize closed early before the third and final phase commenced – in which participants were to establish fully structured deals for expansion projects. This decision was taken due to the different directions in which the winners of Phase 2 would be heading under Phase 3, and the divergence between what they could have possibly proposed and the original conception of that phase. The lack of this final phase and its accompanying publicity means Dreampipe II has only had limited success in achieving its other objective of raising awareness of the challenges of securing non-traditional financing for NRW reduction in developing countries.

Key findings:

- The Prize attracted 10 eligible applications in total, from water utilities directly, as well as water consultancies, technology companies and an individual consultant in partnership with a water utility. All solutions were to be implemented with utilities in sub-Saharan Africa, despite the global nature of the Prize.
- The intended outputs directly associated with the running of the Prize were achieved. However, the Prize made limited progress in relation to promoting the issue of NRW reduction from a financing perspective, and promoting solutions that were uncovered by the Prize. This has limited the outcome-level effects of the Prize on raising awareness of NRW issues and encouraging replication projects, using learning and ideas from Dreampipe II.
- In terms of intended outcomes, effective and feasible business plans were submitted under Phase 1 and applied by solver teams in NRW reduction demonstration projects to showcase performance for future expansion projects. However, the Prize did not uncover new, replicable solutions for financing larger-scale NRW reduction projects using non-traditional sources (the overall aim of the Prize).
- While it is beyond the scope of this evaluation to directly consider impact-level change, there is moderate evidence that the demonstration projects run by solver teams in Phase 2 led to the reduction of both physical and commercial NRW losses (albeit on a small scale).

5.1 Overview of the Dreampipe II experience

Prize participation: One in two people who registered (n=77) started an application (n=39). One in three of these went on to submit a business plan for judging in Phase 1 (n=14). Of the business plans submitted, three in four of these were eligible for judging (n=10). Of those business plans judged, eight were awarded £30,000 each in prize money and all 10 proceeded to Phase 2. Six submitted details of their demonstration project at the end of Phase 2, of which four won a prize. The 1st place winner of Phase 2 was awarded £70,000, the 2nd place winner received £50,000, and the joint 3rd place winners each received £30,000. The solver teams that were awarded prize money under Dreampipe II are listed in Table 6, including technical details of the Phase 2 winners' demonstration projects. Details on the financial arrangements (the innovation) for the four winners is provided in Table 8 in Section 6.1.

Table 6: Organisations/projects awarded prize money (source: I2I website announcement of Dreampipe winners)

Award	Country and solvers	Description of demonstration project
1 st prize	South Africa: WRP, working with Tshwane Metro (a city) and SAB, now part of the AB InBev group	With funding from South African Breweries (SAB), implemented their demonstration project in an area with 51,000 water connections. The intervention focused on night flow analysis, pressure optimisation, pump management, leak detection and substitution of local groundwater for more costly purchased bulk water. Leak repairs reduced the network water supply requirements by 15%, which is the equivalent of about 200,000 cubic metres per month. Most of this had previously been NRW.
2 nd prize	Zambia: Nkana Water and Sewerage Company (Nkana Water)	Implemented their demonstration project in Mukuba Natwange, an area with 1,100 water connections. Their approach consisted of the setup of a district metered zone equipped with bulk meters, a baseline survey and database clean-up, replacement of leaking distribution mains and community mobilisation. Customer metering was increased from 75% to 98%.
3 rd prize (joint)	Uganda: National Water and Sewerage Corporation (NWSC)	Implemented their demonstration project in Kyaliwajjala Branch, one of the 24 administrative units in the Kampala Water supply service area. The project, which was delivered in an area with 16,000 water connections, involved a comprehensive set of measures to tackle both physical and commercial losses. A sharp focus was on the laying of new water mains, proactive leak detection and repair, meter testing and repair, improved customer knowledge and detection of illegal connections.
3 rd prize (joint)	Nigeria: Weircapacity, working with the Kaduna State Water Corporation (KADSWAC)	Implemented their demonstration project in Kaduna, northern Nigeria, in an area with 450 water connections. The intervention involved a thorough mapping of the network, installation of bulk meters and a detailed customer survey.
Additional prize winners (in Phase 1)	Mozambique: Águas da Região de Maputo Ghana: Integrated Water Resources International (IWRI), working with Ghana Water Kenya: Upande Ltd, working with Nakuru Rural Water & Sanitation Co South Africa: Michael Goldblatt, working with Nelson Mandela Bay Metropolitan Municipality	

The Prize attracted two main solver types from within the water industry – consultancy firms and utility companies. It also attracted a limited number of non-water sector stakeholders, as both solver team leads as well as solver team participants. These were mainly as project implementers rather than financiers (the latter was to come in the cancelled Phase 3). Four of the 10 solver teams that submitted the 10 eligible business plans as part of Phase 1 were utilities, three were consultancies from within the water sector, two were companies from outside the water sector, and one was from an individual consultant⁶. Three out of 10 of these solvers competed in the original Dreampipe I Prize.

⁶ Details of the solver teams and their demonstration projects are available on request for research purposes only (solver team make-up, planned geographical location, size of population to be served and total budget).

Despite the Prize being intended to be a “global” prize, for application in any one of DFID’s 28 focus countries,⁷ **all of the eligible solutions submitted in Phase 1 came from sub-Saharan Africa**. This is in the context that the DFID focus countries include 10 (over a third) countries outside of sub-Saharan Africa. The reason for this remains unknown, given that NRW is an issue in many non-African countries. It is understood that the African Water Association (AfWA) emailed its 100+ utility members from some 40 African countries⁸ on the Prize’s behalf, which may have contributed to the skew. The profile of the solver teams is further explored in relation to SEQ3.1 (added value) in Section 8.2.

Prize events as they unfolded:

- **Phase 1 (October 2016 – March 2017) – Business Plan:** Applicants prepared and submitted business plans showing how they would carry out the requirements of Phase 2.
- **Phase 2 (June 2017 – May 2018) – Demonstration Project:** Each candidate carried out (and fully documented) a demonstration project in their selected water utility over a period of approximately nine months to reduce NRW in a specific geographical area. Each candidate also submitted an updated business plan focusing on financing and contracting for a major expansion project in the same utility, building upon the experience of the demonstration project.
- **Phase 3 – “a Fully Structured Deal”:** The Prize closed before this phase was launched.

5.2 Why the Prize closed early

This evaluation has found that Dreampipe II closed at the end of Phase 2, before Phase 3 was run, for a combination of reasons i.e. it is a nuanced rather than a simple answer. In essence though, the Prize closed early because its goal had been achieved as far as was reasonably possible and so there was little to be gained in continuing as planned. Based on the evidence now available, this evaluation finds that the Prize Team fully explored the options to continue running the Prize, and that closing the Prize early was the right decision. Phase 3 is unlikely to have led to the mobilisation of non-traditional funding as originally envisaged.

Based on interviews with each member of the Prize Team (n=3) and further discussion with the team upon validation of the evaluation findings, the Prize closed early for the following combination of reasons:

- **There is moderate evidence that the diversity of the four winning solutions under Phase 2 of the Prize meant that the range of what solver teams could have possibly proposed under Phase 3 went beyond the original conception of that Phase and the overall Prize.** While a diverse range of solutions was not in itself an issue, and indeed is something to champion, it was the divergence in their potential directions, and between these and the aim of the Prize, that made continuing the Prize process a challenge. The Prize Team considered adjusting the Prize requirements to accommodate all of the winning solutions. However, they could not find a way to do so that was both within the original scope of Phase 3 and in keeping with the overall aim of the Prize.
 - Phase 3 was to be based on the requirement for each solver team to submit term sheets for all major project and financing agreements needed for their expansion project. There was a high level of potential flexibility within the Prize design process to be “responsive and adaptive” based on “what came through” in the earlier stages of the competition; the Prize Team worked on a stage-by-stage basis, developing the operational details and detailed guidance for applicants shortly before each Phase began. Based on the information available at the end of Phase 2, the Prize Team

⁷ The DFID focus countries targeted by the Prize (with those involved highlighted in bold): Afghanistan, Bangladesh, Burma, Democratic Republic of Congo, Ethiopia, **Ghana**, India, **Kenya**, Kyrgyzstan, Liberia, **Malawi**, **Mozambique**, Nepal, **Nigeria**, Occupied Palestinian Territories, Pakistan, Rwanda, Sierra Leone, Somalia, **South Africa**, South Sudan, Sudan, Tajikistan, Tanzania, **Uganda**, Yemen, **Zambia**, Zimbabwe.

⁸ Potential reach figures from <http://www.greenafricadirectory.org/listing/african-water-association-afwa/>

reviewed the four winning submissions and explored the implications of solvers' potential plans for their expansion project under Phase 3 on the feasibility of continuing the Prize. This included discussions with each of the four winners at the Prize award event on what their plans for expansion might look like, should the Prize process continue. However, given the different proposed approaches of the solver teams for their expansion projects, the Prize Team *"could not find a way for people to submit enough to judge that would have been fair across everyone... we had originally anticipated getting term sheets ... but it became clear that that just was not going to work"* (Prize Team member).

- From the limited information provided by solvers teams as part of their Phase 2 submissions in relation to potential sources of funding for the expansion projects under Phase 3, the Prize Team felt that continuation of the Prize was unlikely to lead to the mobilisation of non-traditional financing as originally envisaged. The winning solvers' plans for how they would fund their expansion projects as part of Phase 3 were not in line with the Prize's expectations:
 - Only one team (Weircapacity) was planning to mobilise non-traditional financing sources to fund NRW reduction activity in a selected utility. The Prize Team did consider switching modality to a grant, to work with the solver team that showed promise for using commercial bank funding for an NRW reduction expansion project. However, this was deemed too far from the original scope of Dreampipe II (and the overall I2I programme).
 - The utility-led solver team, NWSC did not wish to use a performance-based contract, saying to the Prize Team that they had the competence needed in-house. They understood this would bar them from eligibility to participate in a Phase 3.
 - Given the starting point of another utility-led solver team Nkana Water, the expansion project was not thought to have been feasible by the Prize Team within the timeframe. Nkana Water were open to using a performance-based contract (PBC) with a service company. However, they would have been starting from scratch in designing the contract and planning the procurement. The utility would have used their own funds for the needed investments.
- In addition, **bearing in mind that the purpose of an inducement prize is to stimulate action, there is strong evidence that the Prize Team felt that a further prize was not needed to incentivise the winners to proceed with their plans.** The solver teams did not need a prize to *"help push them and facilitate that; they were already ready to go"* (Prize Team member). For example, solver team WRP already had their agreed source of financing (through a public-private partnership) lined up for Phase 3. **However, while the solvers planned to continue with their NRW reduction work without the Prize, the scale and financing approach of these plans were not in line with what was originally envisaged in the Prize's design.** The Prize Team considering whether there was still a need (or value) for the prize process suggests that "value for money" played a role in the decision to close the Prize early. One Prize Team member went so far as to suggest that this early closure, through the removal of the more expensive Phase 3, provided VFM. This is further explored in the VFM Section 8.1.

After the Phase 2 prize award, upon further discussion between the Prize Team and the managers of the overall I2I programme, they collectively decided that it made most sense to close the Prize early and not continue with Phase 3. The funder, DFID was duly informed and signed off the closure of the Prize. The early closure of the Prize highlights one of the benefits (and potential risks) of, running an innovation prize: that it can result in unexpected solutions from unforeseen sources.

5.3 Adjusting expectations in line with Prize changes

Expectations of Dreampipe II progress against its ToC have been adjusted down in light of the Prize closing before Phase 3 was implemented. The Prize could only go part way along its theory of change without Phase 3 (even if the winners of Phase 2 went on to implement the expansion projects without the continued incentive of the Prize).

The evaluation team asked the Prize Team at the evaluation validation workshop how far they would have expected Dreampipe II to progress in its theory of change without Phase 3. This discussion focused on outcome-level changes, which are the emphasis of this evaluation, though we also discussed impact-level changes that the Prize might have contributed to. In the Prize Team's view, outcomes 1 and 2 could feasibly be achieved without Phase 3:

- effective and feasible business plans being proposed that would facilitate a demonstration NRW reduction project to "de-risk" these types of projects; and
- other stakeholders' awareness of NRW issues increasing, leading to increased interest in investing in NRW reduction in developing countries.

However, with the Prize closing at the end of Phase 2, it could only "get so far" in achieving outcome 3, i.e. in demonstrating the feasibility of new financing sources to enable water utility companies in one or more of the DFID target countries to undertake the investments needed for implementing NRW reduction and control activities.

According to the Prize Team, it is not reasonable to expect replication of the "innovations and learning" from Dreampipe II (outcome 4), without some additional promotional activity that has not yet been done (though this may be happening in the future). Whereas, "Phase 3 might have led to some natural trickle-down" (Prize Team member).

5.4 Results and learning against the theory of change

Findings against the key components of the ToC tell the story of the Prize, revealing the process that led to the final submissions and awards in Phases 1 and 2. Table 7 explores the extent to which the Prize achieved its intended outputs, outcomes. It also provides a brief narrative of results at the impact level. This information, when taken together, begins to answer whether Dreampipe II achieved what it set out to achieve: to catalyse feasible and effective innovations for mobilising funds from non-traditional sources to finance NRW reduction activities in one or more DFID focus countries.

This is further explored in detail in Section 6 in response to PEQ1. Results against the Prize ToC are also considered in relation to VFM in Section 8. Table 20 in Annex 5 provides a more detailed version of Table 7 and Annex 6 captures some of the key related assumptions against each intended result to further understand the Prize's original intention.

Table 7: Overview of the story of the Prize against its ToC

Intended results	Finding	Result achieved
<p>Output 1: Dreampipe II is launched at the Water Ideas conference and communicated and promoted through an extensive media and promotion push (October 2016) [Phase 1]</p>	<p>The Prize was launched as planned in October 2016. The Prize Team then spent the following month promoting Dreampipe II. There is limited, anecdotal evidence that awareness of the Prize among water professionals in the field was high.</p>	<p>Yes, though noting that the global nature of the Prize limited the level of targeted promotion that the Prize Team could do.</p>
<p>Output 2: Water utility experts, utility companies, lenders and others apply for the Prize and submit business plans for Phase 1 that meet the eligibility criteria and pass the screening criteria [no specific target] [Phase 1]</p>	<p>There was not a specific target for how many registrations and submissions would be received, however the I2I annual report for the Period 2016 suggested the Prize expected “at least 10 good concepts in Phase 1”.⁷⁷ Individuals “registered” their interest to participate in Dreampipe II.⁹ Of these, 39 individuals started an application on the online prize platform. 14 of these submitted a business plan for Phase 1 by the deadline of March 2017. 10 of these submissions met the eligibility and screening criteria.^x Promotion of the Prize through IWA channels potentially led to a bias in the recruitment of solvers towards the water industry. The Prize Team uphold that participants needed to have expertise in the water sector and NRW management. This is further explored in response to SEQ1.2 and 3.1 in Sections 6.2 and 8.2.</p>	<p>Yes</p>
<p>Output 3: Phase 1 prizes are awarded to successful applicants (Target = 10) and Phase 2 is launched (June-July 2017)</p>	<p>From the 10 eligible applications received, eight solvers were awarded £30,000 prize money each for their business plans at the end of Phase 1 in May 2017. Phase 2 was launched with 10 participants in June 2017 i.e. with the full number of intended competitors. The two non-winning solvers were offered feedback and the chance to participate in Phase 2: “because we had originally allowed for up to 10 [participants] in Phase 2, we invited two high-scoring non-winners to continue in the competition” (I2I annual report for Period 2017).</p>	<p>Yes, though noting that there were only eight rather than the target 10 winners.</p>
<p>Output 4: Phase 2 prizes are awarded to the best demonstration projects (Target = 5) and Phase 3 is launched</p>	<p>Six of the seven demonstration projects submitted by the deadline of March 2018 were eligible for judging. Three solvers left the competition during Phase 2 (including the two who had not received prize money at the end of Phase 1). The reasons for these solvers leaving the Prize process are largely unknown. Four solvers were awarded with prize money: 1st place £70,000; 2nd place £50,000; and joint 3rd place received £30,000 each. The Prize award took place at the 2018 IWA Waterloss conference in South Africa. Phase 3 was cancelled.</p>	<p>Partially – Phase 3 was not launched because it was cancelled. The reasons for the early closure of the Prize are explored in Section 5.2.</p>

⁹ Note, these registrations do not represent the potential number of applications for Phase 1 as multiple individuals from one solver team could register.

Intended results	Finding	Result achieved
<p>Output 5: Phase 3 prizes are awarded to the best fully organised expansion projects providing term sheets and supporting documentation [Target = 3]</p>	<p>Phase 3 of Dreampipe II did not run.</p>	<p>No</p>
<p>Output 6: Innovations and learning captured and shared with water utility experts, utility companies, lenders, financial experts and innovators, donors, governments and NGOs [Phases 1, 2 & 3].</p>	<p>The names of the eight winning solvers of Phase 1 and headline details of the four winning solutions of Phase 2 were shared on the Dreampipe and Ideas to Impact websites, including an interview with one of the winning solvers. According to a Prize Team member, more detailed information was not shared about the winning solutions <i>“because it was an active competition, so sharing too much might have had an impact on competitive advantage that any solver had”</i>. The Prize Team also shared learning informally with their networks. Otherwise, there has been limited activity for this output both during and since the Prize. Information on the winning solvers could have been shared since the Prize’s closure, however, the Prize Team have been awaiting this evaluation report to use as a basis for promotion.¹⁰</p>	<p>No</p>
<p>Outcome 1: Effective and feasible business plans that will facilitate a demonstration NRW project to de-risk [expansion] projects are proposed by applicants [Phase 1].</p>	<p>Eight business plans were deemed effective and feasible by the judges to continue to implementation in Phase 2. Two solvers were provided with feedback on their business plans, which were not deemed eligible to win, and offered the opportunity to progress to Phase 2. The solutions put forward in Phase 1 were largely focused on the technical aspects of specific NRW reduction projects, rather than the challenge of finding new ways to finance NRW projects. This issue and the overall achievement against this outcome are further explored in relation to SEQ1.1 in Section 6.1.</p>	<p>Yes</p>
<p>Outcome 2: Positive change in the level of awareness of NRW issues among investors and other stakeholders, leading to increased interest in investing in NRW in developing countries [Phase 1 & 2].</p>	<p>Most of the activity to raise awareness of the issue of (financing) NRW reduction was planned for later in the Prize’s lifetime and was contingent on there being replicable “solutions” to promote and expansion projects under way. The level of awareness and attitudes of specific stakeholders were not routinely tracked as part of the Prize, which makes this outcome difficult to assess. There is limited, anecdotal evidence of awareness being raised within the utilities involved in the Prize.^{xi}</p>	<p>Partially (to a limited extent)</p>

¹⁰ The I2I programme team are currently scoping a piece of work to capture some of the learning from the demonstration projects.

Intended results	Finding	Result achieved
<p>Outcome 3: The feasibility of new financing sources (including supporting systems) to enable water utility companies in one or more of the DFID target countries to undertake the investments needed for implementing NRW reduction and control activities is demonstrated [Phase 2].</p>	<p>This outcome equates to the primary intended prize effect of “point solution”. There is limited evidence that the Prize showed the feasibility of new financing sources. One of the winning solvers used non-traditional financing from a commercial source to fund their NRW reduction activity; the other winning solvers used the utilities’ own money, which suggests alternative/new funding sources for small-scale projects. This is further explored in relation to SEQ1.2 in Section 6.2.</p> <p>It is worth noting that, at the time of Dreampipe (I and II), at least one other initiative was exploring the feasibility of new financing sources for NRW projects. The World Bank financed and/or promoted six performance-based contracts for NRW initiatives in five African countries and West Bank. The team presented their learning at the Waterloss conference in 2018, the same event at which Phase 2 was awarded. Similar to Dreampipe II, the World Bank project found that this is a new approach for utilities and that budgets are limited, “reinforcing the need of successful experiences to attract additional financing sources” (World Bank, 2018).</p>	<p>Partially (to a limited extent)</p>
<p>Outcome 4: Water experts, utility companies, financial experts and innovators, lenders, donors, governments and NGOs not involved in The Dreampipe Challenge express interest in and replicate the innovations and learning from The Dreampipe Challenge [ex post]</p>	<p>As mentioned against output 6 above, the results of the Prize have not yet been widely shared by the Prize or I2I programme team. A Prize Team member recognised this lack of intention to do post-award activity as a gap, when considering progress against the ToC at the evaluation validation workshop. Based on the evidence reviewed for this evaluation, there is more scope for applying the learning from Dreampipe II on how to approach the issue of financing the reduction of NRW in developing countries than there is for replicating the solutions developed as part of the Prize. This is in part due to the majority of solutions not identifying and testing alternative financing models (the latter was planned for Phase 3). It is also due to the solutions being relatively context-specific and not obviously replicable in new locations with new actors.</p>	<p>No (noting that this was expected to happen ex post)</p>
<p>Impact 1: Reduction in the physical and commercial loss of water in those geographical areas where NRW reduction and control activities are implemented [ex post]</p>	<p>Reduction at scale of physical and commercial losses was expected to come as a result of the implementation of three successful expansion projects in Phase 3 of the Prize, as well as other strong submissions (from other phases of the Prize) going on to implement an expansion project. However, the demonstration projects explicitly targeted both physical and commercial losses, albeit on a smaller scale.^{xii} Physical and commercial loss of water was reduced in the geographical areas of the six demonstration projects. This activity has continued at a small scale within two utilities. The first-place winner of Dreampipe reported further savings.</p>	<p>Partially (albeit at a very small scale, noting that this was expected to happen ex post)</p>

Intended results	Finding	Result achieved
<p>Impact 2: Increased volume of financing made available to water utilities in developing countries for NRW purposes as a result of the funding [ex post]</p>	<p>There is no evidence that Dreampipe II has contributed to this impact. The first-place winner of Dreampipe reported that 6 million rand (~£325,000) has been invested in their “expansion project” since the Prize closed. However, they would likely have achieved this without Dreampipe II stimulating action through Phases 1 and 2.</p>	<p>No (noting that this was expected to happen ex post)</p>
<p>Prize effect 1: Point solution</p>	<p>The Dreampipe II Prize did not uncover a new model or approach for financing NRW reduction activities in developing countries that is feasibly replicable by the same actors and/or others in different geographic areas. It did however stimulate water experts and utilities to explore the issue of NRW and how this could be financed and implemented differently. The Prize also “surfaced” initiatives, stimulating solver teams to make public and share their ideas and projects that they may not have done otherwise (though this effect is limited due to the limited sharing of the Prize results and learning so far). This is further explored in relation to SEQs 1.1 and 1.2 in Section 6.</p>	<p>Partially (through uncovering unexpected solutions from unforeseen sources)</p>

5.5 Learning generated by the Prize about the “problem” of financing NRW reduction in developing countries

Reviewing the results against the Dreampipe II theory of change also reveals learning in relation to the assumptions originally set out about the problem the Prize sought to address, and the design of the Prize to address this (see Annex 6 for further details).

There is moderate evidence that the assumption was incorrect that there would be non-traditional financing sources that would be willing to fund NRW reduction to be undertaken by utility companies in developing countries. The Prize Team recognised the complexity and systemic nature of the issues plaguing water utilities in developing countries and were careful not to say that there was expected to be a “magic bullet” to the issue of financing NRW reduction.^{xiii} However, overall, the Prize design was based on the assumption that there would be non-traditional financing sources that would be willing to fund NRW reduction to be undertaken by utility companies in developing countries. Based on the Dreampipe II Prize experience, this assumption was found to be underestimated/incorrect. The Prize Team undertook consultations with stakeholders from both the water and finance sectors as part of the scoping and design phase of Dreampipe II. These experts strongly believed that the Prize would open the doors to non-traditional funding. The Prize, through its implementation experience, effectively explored the feasibility of utility companies attracting financing from non-traditional sources. Ultimately, although the Prize did not result in the surfacing of replicable solutions to the “problem”, Dreampipe II did further add to the knowledge base around the problem, and further confirmed the complexity of this. For example, the existence of non-financial barriers to reducing NRW identified in IZI’s initial research of the problem, was confirmed through this evaluation’s discovery that even once financing was potentially available to utilities for NRW reduction, they were not necessarily accepting of this. In other words, availability of funding did not automatically facilitate the utility undertaking more NRW reduction work. The Prize Team maintain that there was no way to know without running the Prize what the nature and extent of the challenges would be. The Dreampipe II experience should be shared more widely.

5.6 Adaptive approach to implementation

The Prize Team took an adaptive approach to implementation. For example, as in Dreampipe I, they only awarded prizes to those solutions that were deemed worthy of winning a prize: awarding eight rather than ten prizes in Phase 1; and four rather than five prizes in Phase 2. They **made ongoing design and implementation decisions throughout that were guided by increasing the chances of the Prize achieving its outputs, while considering what was fair for solvers.**^{xiv} **The biggest of these was the decision made to close the Prize early and not run Phase 3** (see details on the early closure of the Prize in Section 5.2).

The Prize Team should be praised for remaining reflective and flexible throughout the Prize process based on learning from what was working/not working in real time. This was done on a reactive basis. Had the Prize been managed adaptively more intentionally, the ToC could have been used as a tool to support this and been updated during the lifetime of the Prize. For example, the ToC assumptions could and should have been reviewed and revised to ascertain whether the Prize design could be adapted to accommodate issues that arose when some of these did not hold true, particularly those within the Prize’s sphere of control/influence.

Section 6: PEQ1: How effective has the Prize been at catalysing innovation on the focus problem?

Dreampipe II had some success in stimulating water utilities, and private sector actors working with water utilities, to de-risk the prospect of non-traditional investment in NRW reduction. However, the Prize did not result in the surfacing of replicable solutions to the “problem” of financing NRW reduction activity undertaken by water utilities in developing countries. This was largely because the overall assumption that there would be non-traditional financing sources willing to fund NRW reduction to be undertaken by utility companies in developing countries did not, in general, hold true.

Approach to answering this PEQ:

Dreampipe II was primarily a point solution prize. In the I2I programme, this involves finding a solution to a highly specified problem that has been broken down to a component part; for example, a new product or process. PEQ1 is considered with this primary effect in mind.

According to I2I: *“Innovation is broadly conceived; it includes the application of improved or new products, processes, technologies or services that are either new to the world (novel), new to a region or business (imitative) or new to the field of endeavour, that is, repurposed (adaptive)”* (Ward and Dixon, 2015). This evaluation has considered “innovation” in this context.

It has also kept in mind the Dreampipe objective, which was to: **“encourage the development of workable and replicable ideas for how to expand the financing available for NRW reduction activities** in developing countries – beyond the conventional sources”.^{xv} To consider how effective the Prize was at catalysing innovation on this focus problem, Dreampipe II judges, solvers and the Prize Team were asked questions in relation to:

- the quality, feasibility and effectiveness of innovations;
- solver motivations and whether they normally worked on NRW issues; and
- whether innovations were new or previously tested.

The sustainability interviews with the four Phase 2 winners further explored:

- whether work started as part of Dreampipe continued;
- what the enabling factors and barriers have been;
- how being part of and winning Dreampipe II affected what they did next; and
- whether Dreampipe closing early and a lack of Phase 3 affected what they did next.

6.1 SEQ 1.1: To what extent has Dreampipe II catalysed feasible and effective innovations to [finance] NRW reduction and control?

Key findings:

- There is moderate evidence that the Prize was a catalyst for NRW reduction action by utilities, consultancies and the private sector. As part of Dreampipe II, 14 NRW reduction projects were conceptualised and planned in Phase 1. Seven of these projects went on to be resourced and implemented in Phase 2.
- There is strong evidence that Dreampipe II catalysed feasible and effective NRW reduction demonstration projects: eight business plans were deemed feasible by judges under Phase 1; six of the seven projects implemented under Phase 2 were eligible for judging and four won a prize.
- There is limited evidence that Dreampipe II catalysed feasible and effective ideas for how to expand the financing available to utilities in developing countries for NRW reduction activities, beyond conventional sources.
- There is moderate evidence that the four winning demonstration projects themselves were financed by non-traditional funding, albeit at a small scale.
- There is limited evidence that these demonstration projects were sufficient to “de-risk”, and so convince non-traditional funding sources to finance, an expansion project, had Phase 3 gone ahead.

There is **moderate evidence that the Prize was a catalyst for NRW reduction action by utilities, consultancies and the private sector**. Dreampipe II encouraged various types of actors to engage in NRW reduction and control activities within the timeframe and structure of the Prize. Some 14 NRW reduction projects were conceptualised, planned and submitted in Phase 1.^{xvi} Seven of these demonstration projects went on to be resourced and implemented in seven different countries¹¹ by solver teams led by utilities (n=4), water consultancies (n=2) and a GIS company (n=1) in Phase 2.^{xvii} There is limited evidence that the Prize provided motivation for utilities to engage more fully with the topic of NRW reduction and to act more quickly than they would have done without the impetus of Dreampipe II. The Prize also supported new partnerships for NRW reduction, both within and across organisations, and new and different ways of working. This is explored further in response to SEQ1.2 in Section 6.2.

There is strong evidence that Dreampipe II catalysed feasible and effective NRW reduction demonstration projects. As captured against the Dreampipe II ToC in Section 5.4, in Phase 1 the Prize received 14 business plans for demonstration projects to reduce NRW in a selected water utility. Of these, 10 applications were eligible for judging¹² and eight of the business plans were awarded a monetary prize.¹³ The Phase 2 activity by solvers demonstrated the feasibility of the different stakeholders working together as teams to implement technical NRW reduction activities; both internally within utilities, and externally between consultancies, utilities and private sector/financial organisations.

¹¹ Demonstration projects were implemented in: Mozambique, Malawi, Zambia, Kenya, Nigeria, South Africa and Uganda.

¹² The Prize Team screened submissions and those with a “sufficient degree of completeness and clarity in the Business Plan for the judges to be able to meaningfully evaluate it” were allowed through to judging (Phase 1 guidance document).

¹³ Only those submissions for which it was deemed by judges “reasonably likely that the Applicant will obtain the full funding to carry out the demonstration project” could be awarded a prize (Phase 1 guidance document).

Based on a high-level review of judges' scores and comments in Phase 1, this evaluation found there was limited information provided by solver teams on their initial financing plans for the expansion project. At this stage in the competition, the solutions were judged predominantly on the feasibility and effectiveness of the demonstration project itself. The feasibility and effectiveness of solvers' initial ideas¹⁴ for the expansion project under Phase 3, of which financing was a major component, only made up 15% of the weighting for judging criteria.^{xviii} Judging therefore focused predominantly on the technical aspects of each business plan. This is in line with feedback received in interviews with the seven judges involved in the first phase. This technical focus was further emphasised in the feedback provided by an independent reviewer¹⁵ on re-submitted business plans at the start of Phase 2, whose review focused solely on the technical soundness of the proposals. The independent reviewer found small issues for solver teams to address, rather than significant issues.^{xix}

Feasibility of financing the expansion projects was indirectly judged through considering the effectiveness of the demonstration projects. Ten solver teams were invited to participate in Phase 2 of the Prize. Seven solver teams implemented their NRW reduction demonstration projects, of which six submitted eligible reports for judging.¹⁶ Four of the documented demonstration projects were awarded a prize. Judging for Phase 2 was to focus 70% on the performance i.e. the results of the demonstration project and 30% on the appropriateness of solver teams' plans for the expansion project; with 15% focusing on the quality of the proposed financial arrangements.¹⁷ In reality, judging in this round focused on the effectiveness of the demonstration projects, in the context that this aspect was assumed to be important for the feasibility of attracting non-traditional sources in Phase 3; rather than directly focusing on the feasibility of proposed financial arrangements for Phase 3, due to a lack of information on these. This observation is in line with reflections provided in interviews four months after judging with the five judges involved in this second Phase.

There is limited evidence that the Prize enabled utilities to make NRW reduction more of an organisational focus and employ technical approaches that were new to the utility. This is "imitative" innovation in I2I innovation terms, and is explored further in response to SEQ1.2 in Section 6.2, in the context of the Prize inducing solver teams to do things they would not have otherwise. It is worth noting that, due to the lack of information on "financial innovation" included in the Phase 1 and Phase 2 submissions, there was a tendency for judges to focus more, both during judging and when providing retrospective feedback for this evaluation, on whether the demonstration projects included "technical innovation". This, however, was not the intention of Dreampipe II. The Prize assumed that financing from non-traditional sources was possible for NRW reduction projects using sound existing technical approaches.^{xx} The level of "technical innovation" by solver teams is therefore not assessed as part of this evaluation.

There is limited evidence that Dreampipe II catalysed feasible and effective ideas for how to expand the financing available to utilities in developing countries for NRW reduction activities, beyond conventional sources. As part of their Phase 2 submission, each candidate was to submit a "Draft Preliminary Information Memorandum (DPIM) focusing on the financing and contracting for an Expansion Project in

¹⁴ These initial ideas were to include: how an appropriate evidence base would be collected to convince financiers to fund a larger expansion project; Initial thoughts on the entity independent from the water utility to engage through a performance-based contract; envisaged funding sources for the expansion project, in particular those from so-called "category B" (for example, "commercial banks, certain infrastructure funds, private foundations, internally generated funds from the utility company"); and how the solver would address the inclusion of financial experts in their team for Phases 2 and 3 (Phase 1 guidance document).

¹⁵ The Prize Team hired an independent reviewer as part of their support to solvers – this is further explored against PEQ5 in Section 10.

¹⁶ Submissions for Phase 2 were screened to check: "there [was] a sufficient degree of completeness and clarity in the submission for the judges to be able to meaningfully evaluate it... the Candidate received a satisfactory opinion from the Independent Verifier... [and] if the demonstration project [and plans for the expansion project] met the minimal requirements..." (Phase 2 guidance document).

¹⁷ 5% weighting on Quality of envisaged NRW-reduction performance-based contract and 10% on Quality of Draft Preliminary Information Memorandum, and potential attractiveness of Expansion Project to funders/financiers (Phase 2 guidance document).

the same utility, building upon the experience of the demonstration project and involving a performance-based contract with an independent entity”.^{xxi}

However, based on a high-level review of the judges’ scores and comments for Phase 2, it appears that information provided on the potential financing and contracting for an expansion project was limited (a summary for the four winners of Phase 2 is provided in Table 8).

There is moderate evidence that the four winning demonstration projects themselves were financed by non-traditional funding, albeit at a small scale. The main purpose of the demonstration projects was to provide proof of concept to then use as a basis to approach financiers to secure non-traditional sources of finance for the expansion projects in Phase 3; it was not a requirement to use non-traditional financing at this stage in the competition. As captured in the I2I annual report for Period 2016, “although the demonstration projects [were] important milestones in Dreampipe II, the ultimate objective [was] to find ways to increase funding from non-traditional sources”. Table 8 summarises the sources and types of finance used to fund the four winning Phase 2 demonstration projects. Two of the four winning demonstration projects were run with internal funds from the water utilities involved. This suggests alternative/new funding sources for small-scale projects – from water utilities themselves. In fact, “internally generated funds from the utility” were included in the Phase 1 guidance documentation as examples of “category B” or non-traditional financing sources under the Prize.

However, had this been the main form of financing for the expansion project under Phase 3, this would not have met the requirement of a PBC with an independent entity. Of the other two winning demonstration projects: one was financed by a commercial brewery; the other by a combination of equity and debt from an infrastructure bank.

Table 8: Phase 2 winners – sources of project finance^{xxii}

Solver team	Source of finance for Phase 2 (demonstration project)	Type of finance	Proposal for Phase 3 (expansion project)
South Africa: WRP, Tshwane Metro (a city) and SAB, now part of the AB InBev group	Private sector (SAB and WRP) – a portion of the savings will be returned to WRP Pty Ltd to help pay for the interventions	South African Breweries made a donation to Tshwane Metro	Private sector (SAB and WRP) – WRP financing contingent on the performance-based project being approved by Treasury
Zambia: Nkana Water and Sewerage Company (Nkana Water)	Nkana Water and the Phase 1 prize money of £30,000	Utility budget	Envisaged funding sources are Nkana Water and the Phase 2 prize money. Demonstration project resulted in an incremental cash flow of \$6,298 per month which can be invested in the expansion project
Uganda: National Water and Sewerage Corporation (NWSC)	NWSC and the Phase 1 prize money of £30,000	Utility capex budget	The funding for the expansion project was to come from the NWSC internally generated funds

Nigeria: Weircapacity with the Kaduna State Water Corporation (KADSWAC)	The Equity component: Weircapacity (33.33%) and the Infrastructure Bank (66.67%). The Debt component arranged by the Infrastructure Bank	Equity and debt	Infrastructure Bank or commercial banks
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There is limited evidence that the demonstration projects were sufficient to “de-risk”, and so convince non-traditional funding sources to finance an expansion project. Theoretically, the demonstration projects were a necessary step before attracting external financing for a larger project from non-traditional financiers who tend to be more risk averse.^{xxiii} They were effectively one of several pieces that would be needed to show the feasibility of funding NRW reduction activity using non-traditional financing sources. The evidence base here is limited due to the lack of an implemented Phase 3, to see whether the four winning solver teams would go on to provide “term sheets (agreed by all relevant parties) for all major project and financing agreements needed for the Expansion Project in the selected water utility, including for the performance-based contract”.^{xxiv} It therefore remains unknown whether the demonstration projects planned, and in some cases undertaken, would have been of a sufficient scale and performance to mitigate the *technical* risks of expansion projects with those utilities, alongside the *financial* “de-risking” that was expected to come from the financial structuring of the expansion projects in Phase 3.

The demonstration projects have achieved various technical improvements in the areas where they were implemented. Given that these were fully documented under Dreampipe II, these achievements could arguably be used as a basis for future external financing. These are shown in Table 9.

Table 9: Technical results achieved by winning demonstration projects^{xxv}

Lead solver	Technical improvements / results from demonstration project
WRP (South Africa)	The project saved more water for the City of Tshwane than SAB uses – giving SAB a <i>negative</i> water footprint
Nkana Water (Zambia)	A “caretaker approach” was developed where one employee in each of the zones has full-scope responsibility for taking care of the system
National Water and Sewerage Corporation (NWSC, Uganda)	A dedicated team was created for leak detection (on motorbikes), and they developed a mobile-phone app to improve the accuracy of reporting leaks
Weircapacity (Nigeria)	Before the project, district managers did not want to have their inefficiencies exposed. However, the district manager who worked on the project has now been appointed to lead further NRW reduction efforts in the utility

There is limited evidence that, in the judges’ view, the involvement of, and reliance on, traditionally non-creditworthy water utilities as part of the proposed “solutions” reduced the likelihood and feasibility of external financing (the very issue that Dreampipe II was trying to address).

Barriers

There were some key **barriers** identified by both solver teams and judges to participating in the Prize, and to what solver teams were able to achieve within the Prize structure, as set out in Table 10.

Table 10: Summary of barriers, their implications and evidence base

Barrier	Discussion	Evidence
Prize timeframe	<p>The timeframe of the Prize was raised as a constraint by participating solver teams (these teams had all submitted successful business plans during Phase 1, despite these constraints). It is not known how many solver teams dropped out before submitting a business plan in Phase 1 due to time considerations; nor how many of the three teams that dropped out during Phase 2 left the competition for this reason. The timeframe was more of an issue for those projects that needed to undertake preparatory activities before the solver teams could start reducing NRW (e.g. mapping the network, installing metering equipment, securing partnerships with utilities).</p> <p>The Prize Team were aware that the Prize timeframe was an issue, particularly in Phase 2, when solver teams <i>“needed to procure, get approvals, so many factors beyond their control...”</i>.^{xxvi} The Prize made an assumption that some of the activities undertaken during Phase 2 would have already been in place. The timeline for Dreampipe II was built around sector events (conferences for launch and award of each Phase) and the overall I2I programme/donor timelines.¹⁸ The Prize Team “flexed” the “softer” deadlines where they could; without impacting the Prize opening/closing deadlines. For example, solvers were given additional time to complete their baseline data collection. It was anticipated by the Prize Team that the timeframe for Phase 3 would be even more of a challenge for solver teams</p>	<p>Limited</p> <p>Prize Team feedback during interviews and the validation workshop.</p>
Financial capacity of solver teams and the size of the Prize purse	<p>Although the Prize purse was designed to be a reward and not compensation for costs incurred, some participants who entered struggled financially to complete tasks in their demonstration projects. The Prize Team assumed that the Prize would appeal to groups who had the financial capacity (or fewer institutional constraints) to undertake the work required. This was not always the case</p> <p>It is not known to what extent the upfront investment needed by solver teams limited initial and continued participation in the Prize. This is further explored in response to SEQ4.1 (unintended consequences) in Section 9.1</p>	<p>Limited</p> <p>Solver feedback during interviews</p>

In summary, **the Dreampipe II Prize did not uncover a new model or approach for financing NRW reduction activities in developing countries that is feasibly replicable** by the same actors and/or others in different geographic areas and at scale.

¹⁸ Despite timeline challenges, there were VFM and prize promotion benefits of tagging onto IWA events.

6.2 SEQ 1.2: To what extent did the Prize inspire solvers to do something they would not have done anyway?

Key findings:

- There is moderate evidence that the Prize induced solvers to act, though the level of inducement varies by solver. In one case, the project was already designed and planned and Dreampipe I and II provided an impetus and effectively some external motivation to make this project happen. For other solver teams, the ideas were less fully formed and new plans were developed as a result of participation in Dreampipe II.
- There is moderate evidence that the Prize stimulated new, and motivated existing partnerships, both within and across organisations.
- There is moderate evidence that the Prize stimulated new NRW reduction activity (albeit small scale) that would not have happened otherwise, or as quickly.
- There is limited evidence that the Prize stimulated internal investment by utilities in NRW reduction that would not have happened otherwise.
- There is limited evidence that the Prize induced new ways of working around data collection.
- There is moderate evidence that the requirements and competitive nature of the Prize contributed to improved quality of NRW reduction projects.

This evaluation found that it is not clear-cut as to whether the business plans and demonstration projects submitted under Dreampipe II were new ideas and whether they would have happened in the timeframe without the Prize. Based on a sample of the Prize participants (the winners of Phase 2), for which the evaluation has more data, there is moderate evidence that in one case, the project was already designed and planned and Dreampipe II provided an impetus and effectively some external motivation to make this project happen. In other cases, the ideas were less fully formed and new plans and partnerships were developed as a result of participation in Dreampipe. There is a question over whether it was possible to come up with and implement a totally new idea within the timeframe in response to the original Prize launch.

There is a spectrum on which solvers could be plotted – from those who developed a demonstration project specifically in response to the Prize to those who were already going ahead. One solver team (WRP) were already going ahead with their planned demonstration project, however Dreampipe II provided an impetus to keep the project partners engaged. Another (Weircapacity) had a pre-conceived idea that was further developed as a result of the Prize, and a new partnership formed with a utility for implementation on the basis of the Prize. Similarly, another solver team (Uganda NWSC) used a partially conceptualised idea but came up with the specifications for the demonstration project based on the Prize, which provided an impetus for cross-organisational working on NRW reduction. For the other winning solver team of Phase 2 (Nkana Water), the demonstration project was developed specifically for the Prize, but was not wholly new in that it was based on the utility's previous experience of implementing something similar. The Prize purse was used as leverage by three of the four winning solver teams to gain organisational support to participate and as co-funding for Phase 2. For the consultancy-led solver teams, the credibility, recognition and publicity that winning the Prize would provide was a motivating factor. For the utility-led solver teams, the opportunity to improve (commercial) performance was a driving factor.^{xxvii} Table 11 below explores in more detail what the four winning solvers did differently because of the Prize.

Table 11: What the winners did differently because of the Prize

Solver	What was done differently because of the Prize
WRP (South Africa)	<p>Neither Dreampipe I nor II catalysed the original idea of reducing NRW in the City of Tshwane, using financing from the city’s main water user, SAB, and the technical expertise of local consultancy, WRP. For this solver team in South Africa, the idea was already pre-conceived, and there were plans for the project to go ahead before the Prize was launched (and arguably would have done so without the Prize). This retrofitting of an existing idea to the Prize was recognised by at least three judges during the judging of Phase 1.^{xxviii} Interestingly, one judge felt that it would be a good model for Dreampipe to be associated with; while another felt that the prize money would be better spent supporting an applicant with greater need for funding to enable their demonstration project.</p> <p>There is limited, anecdotal evidence that the Prize gave the solver team the impetus to keep moving forward and sustain their efforts during the Prize timeframe. Based on three interviews with the lead solver, during Dreampipe I and II, the solver maintains that Dreampipe contributed to the success of the project, saying: <i>“without Dreampipe, this project would not have got where it did”</i>.^{xxix} They used the Prize as a motivating factor to keep both partners engaged through the process in Phases 1 and 2. The Prize Team strongly believe that the Prize contributed to enabling the solver team to achieve what they did within the demonstration project timeframe.^{xxx}</p>
Nkana Water (Zambia)	<p>This demonstration project was based on the utility company’s previous experience of implementing a similar project in a different operating area, run in partnership with a Netherlands-based organisation. The utility developed the project for a different geographical area, and it was implemented specifically for the Dreampipe II Prize. The solver reportedly could not find external organisations to partner with, and so they <i>“made partnerships within the company... the billing department were part of the team, the finance department, the projects department, the non-revenue water team”</i> and funded the project directly.^{xxxi}</p>
Weircapacity (Nigeria)	<p>The general concept of using a PBC was pre-existing (for the consultancy – it seems to have been new for the utility). However, the solver team developed the “increasing revenue share” just for the Prize and to incentivise private sector interest; i.e. how performance would be measured, and how the private operator would be paid.^{xxxii} The partnership between the consultancy and the utility was a new one, developed as a result of the Prize.^{xxxiii} It is worth noting that the concept presented and developed in Dreampipe II is based on the same concept submitted to Dreampipe I.</p>
NWSC (Uganda)	<p>The solution put forward for Dreampipe II was partially conceptualised prior to the Prize, but not fully. The (hydraulic approach) idea may have been pre-existing but the solver chose an appropriate geographical area and came up with an implementation and resourcing plan it seems based on the Prize parameters and requirements, and approached a supplier/partner based on the project.^{xxxiv} The Prize enabled them to do something they wanted to do previously but had not previously had the funds to do (they essentially treated it as a grant in this regard). Dreampipe II provided the utility with a “rallying point” for its NRW reduction activities and enabled multidisciplinary working across teams in the utility.^{xxxv}</p>

There is limited evidence that the “facilitators” within each solver team used the Prize as a motivating factor to keep colleagues and partners engaged. The importance of the facilitator role emerged during the sustainability interviews. For all four successful solver teams, there was an individual directly involved in the Prize who was driving the business plans and demonstration projects forward, to meet the Dreampipe II requirements and deadlines (two internal and two external to the utility). The first-place winner of Dreampipe II *“used Dreampipe as leverage to nudge the project on when it could so easily just have got stuck in the mud”*, for example in getting partners to commit within the Prize deadlines in order to continue as part of the competition.^{xxxvi}

There is moderate evidence that the Prize catalysed a new focus on the issue of NRW reduction, and went beyond “business as usual”. Phase 2 of the Prize was about demonstrating the value of NRW reduction and external financing to water utilities. For each of the three utilities involved in the Prize, the level of priority placed on NRW reduction within the business has increased.^{xxxvii} Each utility was starting from different initial attitudes and levels of motivation:

- Uganda NWSC already had an “ethos” of NRW reduction. The Prize’s stringent timelines and specific targets gave them “a push” and a “focused imperative” to implement NRW reduction activities. The project team used the Prize to get management buy-in for the use of both human and financial resources in the demonstration project.
- Kaduna State Water Corporation (utility in the Weircapacity project) have reportedly “moved non-revenue water to the top of its priority, ... developed a strategy, ... recruited more people, procured equipment, and made presentations for a bit of investment to ensure reduction in non-revenue water”.
- The solver team lead at Nkana Water feels the utility can now start thinking in the direction of accessing funding from commercial banks; though they recognise their need for additional capacity to achieve this.
- The Prize also brought a new focus to NRW financing to those solvers and judges working in the sector, who tend to usually focus on the technical solutions.^{xxxviii}

There is limited evidence that the Prize induced new ways of working; i.e. while some of the ideas and projects were not totally new, the way in which they were implemented was positively affected by the Prize. In the two utility-led projects, new cross-organisational teams came together to implement the demonstration projects where previously it was one team within the organisation and “silo” working was the norm.^{xxxix} In another solver team, the consultancy took a financial risk that they would not normally take, on the basis of the kudos and prize money they would get if they won. The Prize required, for the purposes of judging, data collection at baseline and endline against 15 quantitative data points (with a further five optional data points). According to the Prize Team this data collection was to be particularly important for attracting external financing in Phase 3.^{xl} Solver teams were also expected to report every two months on a summary of activities and any issues and modifications to the Prize Team. Solver teams admitted they would not usually collect this amount of data in such a systematic way. According to three of the four winning solvers, the requirements and the competitive nature of the Prize, in combination with the knowledge that an external would come to verify their results, led solvers to improve the quality of implementation.^{xli}

In summary, while **the Prize did not induce solvers to come up with totally new ideas, it did encourage and sustain attention and action on NRW activities for its duration, and led to solver teams approaching the documentation of NRW reduction in ways they would not have done otherwise.**

Section 7: PEQ2: To what extent has the effect of the Prize been sustained beyond the point of award?

The first-place winner of Dreampipe II has continued with their expansion project as planned, despite the incentive of a third phase Prize being withdrawn, using financing from the same commercial partner as in Phase 2. While the other three overall winning solvers have not sought or secured external, non-traditional financing, there is evidence that the associated water utilities have each continued with and, in some cases, expanded their NRW reduction activities as a result of the Prize.

Approach to answering this PEQ:

This evaluation has considered the “effect” of the Prize as any new solver activity or behaviour in relation to financing NRW reduction that was “induced”, or at least contributed to, by Dreampipe II. This includes, for example: level of motivation and new ways of working towards reducing NRW; NRW reduction activity, and its related results; and commitment to/success in finding non-traditional financing.

To consider to what extent the effect of Dreampipe II has been sustained beyond the point of award, solvers were asked questions in relation to the following points. The questions were asked around 6 months after solvers submitted their Phase 2 solutions; four months since that final prize was awarded:

- about the effectiveness of innovations;
- whether solvers have remained involved [in furthering their solution] post-prize; and
- whether partnerships developed have continued.

The sustainability interviews with the four Phase 2 winners 12 months after submission further explored what had happened beyond the point of award in more depth. These four solvers were asked a similar set of questions in relation to the application of NRW reduction efforts, the securing of NRW financing and the continuation of new ways of working:

- whether work started as part of Dreampipe continued (both within demonstration project areas and whether this has been scaled);
- what the enabling factors and barriers have been;
- how being part of and winning Dreampipe II affected what solvers did next; and
- whether Dreampipe closing early and a lack of Phase 3 affected what they did next (particularly in relation to the planned expansion projects).

The majority of the evidence used as the basis for answering PEQ2 comes from these sustainability interviews. Sustainability has been assessed in the context that Phase 3, a key component of the Prize process did not happen.

7.1 SEQ 2.1: How are Prize participants sustaining their NRW activities post-prize award?

Key findings:

- The first-place winner of Dreampipe II has continued with their expansion project as planned, without Phase 3, using financing from the same commercial partner as in Phase 2. There is moderate evidence to suggest that both Dreampipe I and II contributed to the overall success of this project.
- The three utility companies involved in winning Phase 2 have not sought or secured external, non-traditional financing. However, there is moderate evidence that they have each continued with and, in some cases, expanded their NRW reduction activities.
- There is moderate evidence that one finalist remains committed to the concept and is using their successful experience of Dreampipe II as an entry point when approaching prospective utilities. They are pursuing the idea of a performance-based contract for financing NRW reduction activity with other utilities, rather than the utility they partnered with in Dreampipe II.
- There is strong evidence that results and learning from the Phase 2 demonstration projects has enabled subsequent work.
- The barriers to utilities accessing external, non-traditional financing have been different for each utility. There is limited evidence that this was due to: poor previous financial performance; resistance from management to expose inefficiencies and to giving a proportion of commercial gains away; and not knowing how to go about accessing third party funding.
- There is moderate evidence to suggest that the Prize closing early affected the motivation and commitment of utilities to continue with their expansion projects as planned and access financing from new, non-traditional sources.

What has happened since the Prize closed

Since the Prize closed, only one of the four winning solver teams has gone on to fully implement their expansion project, using the originally planned non-traditional source of financing, though not within the original timeframe. While the other three winning solvers have not gone ahead with their expansion projects, two have extended NRW reduction activities into new geographies using their own funds, and the other has continued reducing NRW in the demonstration area. The cancelled Phase 3 was about further developing and putting into practice the ideas for financing NRW reduction activities using non-traditional sources and was effectively an opportunity to explore whether these ideas were feasible and effective (through securing funding on a larger scale). The only project that has expanded to the extent planned has an unusual, and potentially non-replicable financing arrangement, whereby the financier – a brewery – has a vested interest in reducing NRW in the geographical area, as this directly relates to their own water “footprint”. Table 12 below explores in more detail what each of the four overall winners have gone on to do since the Prize.

Table 12: What the winners have done since the Prize

Solver	What has happened since the Prize closed
WRP (South Africa)	<p>When the team lead was interviewed four months after Phase 2 award, the project was set to continue and deliver the expansion project “with or without” Phase 3. One year after submission of the demonstration project results to Dreampipe II, the solver reported that they have “expanded” the project into the new geographical area as planned. This project is ongoing, using 6 million rand (~£325,000) of financing from the same commercial partner as in Phase 2 (South African Breweries). A portion of this funding is going to the consultancy for their management of, and technical support to, the NRW reduction work. The City of Tshwane [council] is receiving the full financial benefit of the significant water savings reported by the solver. Meanwhile, the financier is reportedly happy with the results in terms of the savings in their water footprint.</p>
Weircapacity (Nigeria)	<p>For the other consultancy-led solver team, planning and preparation for the expansion project in Nigeria commenced but stalled through utility reluctance to engage external financiers. Four months after Phase 2 award, the team lead reported that the expansion project was set to happen, however, it was taking longer than expected to navigate the specific expectations of the potential financier(s) and the utility. They reported one year after submission to Dreampipe II, that the consultancy worked with the utility, Kaduna State Water Corporation, for around two months on planning and assessments for the expansion project. There were reportedly a couple of banks interested, however, subsequently the utility’s executive team changed. The new management team reportedly did not see a need for external commercial funding through a PBC, and the solver team dissolved. According to the team lead (no longer directly involved), the utility has continued independently to “expand” NRW reduction activities into the new geographical area using its own funds. They have promoted the main person working on Dreampipe II internally to implement the same work in a bigger district and established a support team across all districts to do something similar.</p> <p>It is worth noting that while Kaduna State Water Corporation have not pursued the idea of attracting non-traditional, external financing for their NRW reduction activities, the consultancy Weircapacity that originally approached the utility to participate in Dreampipe II, and that participated in Dreampipe I, remains committed. According to the solver team lead, Weircapacity has been promoting what was achieved with the Kaduna utility, and have received interest from a number of other utilities to support them to reduce NRW. The consultancy is using the prize money as an incentive, offering a certain amount of investment to utilities in order to attract PBCs, and applying the learning from their Dreampipe experience, by insisting on having a certain contract in place with them. Based on their experience of Dreampipe II, Weircapacity are willing to invest their own money, taking on some risk, and are intending to see it through to a PBC next time. Weircapacity have identified potential investors, for PBCs with other utilities, but have not engaged them yet, as they will need the right data for proof of concept first. The consultancy’s available resources will limit the size of the project they can do; they plan to start in a small geographical area with one utility (once identified) and build from there.</p>
Nkana Water (Zambia)	<p>One of the two utility-led solver teams has continued with NRW reduction activities in the original demonstration project geographical area, using the “caretaker” approach. Based on an interview with the team lead 12 months after submission to Phase 2, they have not gone ahead with the expansion project as planned, though they have “expanded” NRW reduction activities into a new geographical area, partnering with a Dutch utility company.¹⁹ The utility is looking at how they can tackle NRW area by area rather than all at the same time. They have opted to do this in-house rather than exploring the option of a PBC. The team feel they need to learn and improve their performance themselves internally before seeking and securing external support. Dreampipe II reportedly generated a lot of interest in NRW within the utility, especially in what happens at the customer end i.e. not just infrastructure. The team lead believes this new motivation and focus for NRW reduction within the utility remains.^{xiii}</p>

¹⁹ This was a pre-existing partnership; the expansion is not based on plans made under Dreampipe.

NWSC (Uganda)	<p>For the other utility-led team, progress in reducing NRW has continued but has slowed down due to limited budgets. Based on an interview with four key members of the solver team 12 months after submission to Phase 2, the expansion project has not gone ahead as planned due to uncertainty about how to best proceed with a PBC. The utility is continuing with NRW reduction activity, though expansion to a larger geographical area is an issue in the context of limited budgets. The demonstration project showed the utility that they could undertake NRW reduction activity that works within existing structures without external investment; they have not specifically sought external financing. Dreampipe II also made NRW reduction the business of a diverse set of specialisms across the utility. The solver team, drawn from different parts of the utility company, have now gone back to working in their original teams; however, they believe that the NRW department consults other teams more than it did.</p>
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Enabling factors

For the expansion project that has gone ahead as planned (WRP), according to the solver team lead, **being able to robustly show the water saving has been a key factor in the project's success** (sustainability interview). **Participation in Dreampipe II contributed to the availability and quality of this data**, through requiring its collection. Also, the fact that the **project and the collaboration between the consultancy, the brewery and the council were not created just for the Prize** has also been a major contributing factor to it continuing. Though the solver team lead believes that both the Dreampipe I and II Prizes provided motivation for the project to happen, it was not solely dependent on the external influence of the Prize.

For the other three solver teams that won Phase 2, although the expansion projects are not going ahead as planned, the **results and learning from the demonstration projects have enabled the participating utilities to continue with internally funded NRW reduction activity, albeit at different scales.**^{xliii} For the consultancy, Weircapacity, these results and learning are **providing a basis to start exploring the idea of a PBC with other utilities**, as well as to convince others internally in the organisation of the value of making upfront investment in utilities' reduction of NRW.

Barriers

The main barriers for expanding the NRW reduction activity and attracting non-traditional financing sources post-award have been the very issues that Dreampipe set out to help find a solution to:

- utilities not being in a position to attract external finance due to poor balance sheets;
- resistance from utility management in exposing utility inefficiencies and in giving a proportion of their commercial gains away. This is perhaps due to utilities having government targets to meet in terms of revenue increases, so alternatives such as grants are potentially more attractive; and
- utilities not being sure how to progress getting third party funding in the context of limited resources.

How Dreampipe II affected what solvers did next

For the solver team that continued with their expansion project as planned (WRP), the team lead reported that Dreampipe II provided momentum in Phases 1 and 2. Though neither Dreampipe I nor II catalysed the original idea, which existed before the Prize, the Prize process helped the consultancy to get all parties to commit to the arrangement, especially the council.^{xliiv} The expansion project then went ahead because of the savings/success of the demonstration project. The early closure of Dreampipe II did not adversely affect the success or progress of this solver's expansion project.

Participation in Dreampipe II and the implementation of demonstration projects under the Prize provided a catalyst for the three water utilities to build on the experience and momentum of the NRW reduction activities (albeit to differing degrees). However, without the running of Phase 3, the motivation and

commitment of these utilities for expanding financing to new sources for NRW reduction seemed to wane. This has limited the scale of the NRW reduction activity they have been able to achieve. One solver team still appear interested in the idea of attracting non-traditional, external sources of financing, but feel it is difficult to do this on their own without support from the Prize or other external advice. Overall, winning Dreampipe II seems to have had little effect on whether these three solver teams went on to pursue non-traditional financing sources (though, as noted above, participation in the Prize has enabled NRW reduction activity more generally).

Conversely, consultancy Weircapacity are using their winning prizes under Dreampipe II and the recognition and credibility that this provides as an entry point with other utility companies in Nigeria. For this solver, their finalist certificate with the DFID/UK Aid logo is *“the proof that we can do it and that we’re recognised ... by an authority that has value”*.^{xlv}

It remains unknown to what extent the continuation of the Prize and the running of Phase 3 would have removed the barriers to seeking and securing external funding. As found in the World Bank’s experience of using PBCs for NRW reduction projects,²⁰ there are several challenges to overcome (it is to be noted that the way the World Bank was defining PBCs might have been different from and potentially less flexible than the Prize’s requirements). These include that:

- PBC for NRW reduction is a new approach for utilities. This is challenging for design as well as procurement stages.
- Available budgets for NRW reduction are limited. This reinforces the need of successful experiences to attract additional financing sources and roll-out these projects to other areas.
- Experienced contractors for PBC are a scarce resource. There is a need to build capacity/capability as well as build successful partnerships.

In the evaluation team’s view, in light of the World Bank experience above, and based on the feedback received in the sustainability interviews, Phase 3 may have provided sufficient motivation for solver teams to try to secure non-traditional financing. However, it is **unlikely that all four winners of Phase 2 would have met the requirements of Phase 3**, as stated in the Phase 2 guidance document, without significant solver support to identify financiers and establish a fully structured deal with an entity that is independent from the water utility.

²⁰ Based on World Bank Waterloss conference PowerPoint presentation on the use of PBCs for NRW reduction projects in six initiatives across Africa that took a three-phase approach (World Bank, 2018).

Section 8: PEQ3: Does the Prize offer value for money when compared to alternative funding modalities?

Our VFM assessment was only able to consider the value obtained from Dreampipe II against the expectations of the first two phases of Prize – the business plans and demonstration projects. However, the Prize Team expected greater value to come once the expansion projects had been agreed to in Phase 3, from the potential for replication. The Prize met expectations against Economy, and fell slightly short against those for Efficiency and Effectiveness. VFM against Equity was not assessed as the solutions supported by the Prize under Phases 1 and 2 intentionally did not have to consider distributional impacts; equity considerations would have become an explicit requirement in Phase 3.

Approach to assessing VFM:

This evaluation has considered the “internal” value for money of Dreampipe II for Phases 1 and 2 of the Prize. An “external” VFM assessment has not been carried out for reasons set out in Annex 1. The VFM assessment was undertaken by the evaluation team, and the methodology and preliminary results reviewed by an external VFM expert.

For the internal assessment, the evaluation team have, as far as possible, considered the Prize’s VFM against the original expectations for Dreampipe II as set out in the ToC. These are in relation to three of the “4Es”: Economy, Efficiency, Effectiveness. The Prize did not set out any specific expectations in relation to “Equity” for Phases 1 and 2, nor is there sufficient data to assess this. We have adjusted original expectations for the other three “Es”, where available, to take into account the implications of changes in the Prize, in particular the cancellation of Phase 3. This change in design and scope had implications on:

- the size of the Prize purse;
- the scale of the NRW reduction activities undertaken by solvers and the number of people benefiting from these; and
- the level of financial investment they achieved (or the Prize stimulated).

In addition, a lack of prize monitoring and solver data has meant that, in some cases, the level of evidence is low for evaluating against the original expectations (or “sub-criteria”), particularly in relation to “Efficiency” and “Effectiveness”.

The sub-indicators for Economy, Efficiency and Effectiveness, along with associated ratings against each, are explained in detail in Annex 7. Anyone seeking a full understanding of the Prize’s VFM for any/all of the sub-criteria and indicators should consult the annex directly. We have used a rating scale drawn from DFID’s VFM approach to provide a numerical assessment for each E: 1 = substantially did not meet expectations; 2 = moderately did not meet expectations; 3 = met expectations; 4 = moderately exceeded expectations; 5 = substantially exceeded expectations.

A brief narrative account of the Prize’s overall VFM and VFM according to each of the “Es” explains the quantitative rating, based on those sub-indicators there is sufficient data to assess against. The narrative in this section also considers the Prize’s performance against both the intended and unintended prize “effects”. **We stress the importance of the narrative over the VFM ratings.**

It is also important to note that assessing the VFM of the individual activity of each solver team under the Prize goes beyond the scope of this evaluation.

8.1 The internal VFM of Dreampipe II against expectations

Key findings:

- The VFM analysis indicates that the Prize met expectations against Economy, and moderately did not meet expectations against Efficiency and Effectiveness. The “Equity” of the Prize has not been rated.
- **Economy:** There is strong evidence that the Prize was launched and ran respecting the original time schedule, and that it was implemented within the original budget.
- **Efficiency:** There is strong evidence that the Prize stimulated and awarded a set of NRW reduction projects. There is limited evidence that innovations for financing NRW reduction activity were captured and shared.
- **Effectiveness:** There is moderate evidence that the Prize stimulated effective and feasible solutions for de-risking NRW reduction. There is limited evidence that the Prize raised awareness about NRW issues.
- **Equity:** There is no evidence that equity was considered by solver teams in the targeting and implementation of their demonstration projects. This was not a requirement of the Prize under Phases 1 and 2.

The overall internal VFM assessment

Table 13: Summary of the VFM of Dreampipe II

What we want to know	Criteria	Rating*				
Economy: Did the Prize cost what we expected it to cost?	The Prize was launched and ran respecting the original time schedule, and within the original budget.	1	2	3	4	5
Efficiency: Were prize inputs converted into the expected outputs?	The Prize stimulated and awarded a set of NRW reduction projects, and promoted innovations for financing NRW reduction activity.	1	2	3	4	5
Effectiveness: Did prize outputs convert to the expected outcomes?	The Prize raised awareness about NRW, and stimulated effective and feasible solutions for de-risking and financing NRW reduction.	1	2	3	4	5
Equity: Were prize outcomes equitable for those intended? ²¹	Not rated: Equity considerations were an explicit requirement for Phase 3, i.e. not for Phases 1 & 2. Solver teams did not provide related information as part of their submissions and were not judged against this criterion.	1	2	3	4	5

* 1 = substantially did not meet expectations; 2 = moderately did not meet expectations; 3 = met expectations; 4 = moderately exceeded expectations; 5 = substantially exceeded expectations

The overall internal VFM assessment is summarised in Table 13. **The VFM analysis indicates that the Prize met expectations against Economy, and moderately did not meet expectations against Efficiency and Effectiveness. The “Equity” of the Prize has not been rated.** Results for all four aspects of VFM (including Equity) are explored in the narrative that follows against Phases 1 and 2 of the Prize. The Prize has not been rated against expectations that relate to Phase 3.

²¹ Equity of the Prize has not been rated. Instead, a narrative is provided later in this section.

There is strong evidence for assessing the Economy of the Prize. For Efficiency there is a mixture of strong and limited evidence. For Effectiveness, there is a mixture of moderate and limited evidence. There is no evidence for assessing the Equity of the Prize.

It is important to note that, had Phase 3 of the Prize gone ahead, the results of this VFM assessment might have been quite different. According to a Prize Team member, the value of the Prize was to come from the potential for replication, once the expansion projects had been agreed to, rather than the small-scale demonstration projects of Phase 2.^{xlvi} It could be argued that the prize modality itself enabled greater value for money, i.e. it was possible to close the programme early. However, the overall results should also be considered. The investment made upfront by Dreampipe II in Phases 1 and 2 did not lead to new workable and replicable solutions to the issue of financing NRW reduction in developing countries. Nor did it lead to finance being levered at scale as a result of the Prize.

There are some caveats to bear in mind when considering the results of the VFM assessment. The Prize largely did not define upfront what success looked like (particularly quantitatively) because it was such an unknown what would happen (e.g. how many applications of sufficient quality would be received) and how much solver teams, and hence the Prize, could and would achieve. The Prize Team took an adaptive, learning-by-doing approach to implementation, similar to that taken in Dreampipe I, resulting in a flexible process and related decision-making (within the overall parameters of the Prize specification). This makes direct comparison between what was achieved and what was expected less clear-cut. Also, the three-stage nature of the Prize meant that time was invested in scoping and designing the overall Prize and each of the Phases. While the experience of implementing Dreampipe I supported this process, Dreampipe II was a new prize and effectively the “first-run” of the Prize. Should the Prize be run again, it would likely not require the same level of investment.

Economy of Dreampipe II

There is strong evidence that the Prize was launched and ran respecting the original time schedule, and that it was implemented within the original budget. The Prize spent nearly a third less than anticipated on running Phases 1 and 2 and on its prize purse for these phases. The Prize was implemented at a cost of £197,431 (32% below the original budget)²² and with a prize purse of £390,000 (29% below the total available). 36% of the cost of implementation was spent on Phase 1 and 64% of Phase 2. This breaks down as: £2,387 on the Prize launch;²³ £110,048 on the Prize Team fees including some verification fees; £18,000 on the judges’ honorarium; £44,718 on Phase 2 verification; £7,753 on the Prize award event; £588 on Prize promotion; £13,650 on the Prize purse financing fee²⁴; and £287 in miscellaneous expenses. Further details are available in Annex 7.

There is limited evidence that the main reasons for the underspend were fewer submissions than anticipated (to judge, verify and manage) in both phases, and limited activity by the Prize to share learning and raise awareness.²⁵ The allocation of budget across the three original phases was to be relatively flexible, depending on what was needed in practice. Based on this, it is understood that the underspend in Phases 1 and 2 would have been reallocated to running Phase 3, had this gone ahead. Instead, a portion of the underspent budget has been allocated to a learning activity, to be led by the I21 programme team, which will capture relevant technical learning from the Prize.²⁶

²² The total expected budget used for the purposes of this VFM assessment was provided by the I21 programme team, based on an original budget for the Prize, with anticipated costs for Phase 3 removed. Given the flexible approach to budgeting between phases, this is more of a proxy than a finite figure.

²³ Phase 2 was launched online and so did not have a related cost beyond Prize Team fees.

²⁴ The prize purse financing fee is the fee of 0.035% that IMC adds onto the prize purse to DFID. This is to cover the risk of cash flow and costs of transfer.

²⁵ This is explored further under Efficiency and Effectiveness.

²⁶ According to an I21 team member, the purpose, audience and focus of this activity is currently being scoped and will, in part be informed by the findings of this evaluation.

There is strong evidence that the main reason for the under-allocation of the prize purse was fewer than anticipated submissions being worthy of a monetary prize in both phases. In addition, in Phase 1, one winning solver was allocated the prize money (£30,000) but did not provide the supporting information to trigger a disbursement. In Phase 1, each prize awarded was at the amount expected: £30,000. In Phase 2, the prizes awarded were in line with the parameters set in the Phase 2 guidance, with the top prize being £70,000 and no prize being less than £30,000. The Prize met expectations in this regard. Table 14 below outlines the breakdown of the prize purse across the three phases.

Table 14: Summary of Prize purse allocation

Phase	Number of prizes	Indicative prize value (£)	Number of winners	Amount dispersed (£)	Variance (£) – amount less than planned
Phase 1	Target = 10	300,000	8	210,000 ²⁷	90,000
Phase 2	Target = 5	250,000	4	180,000	70,000
Phase 3	Target = 3	450,000	N/A	0	450,000
Total		1,000,000		390,000	610,000

Efficiency of Dreampipe II

There is limited evidence that the Prize stimulated and awarded a set of innovations for financing NRW reduction activity. As already discussed in the ToC Section 5.4, the Prize intended to award “up to” 10 prizes in Phase 1 and “up to” five prizes in Phase 2.^{xlvii} There were 14 applications to the Prize, of which 10 were eligible for judging. Of these, eight business plans were deemed worthy of a monetary prize in Phase 1, and four demonstration projects were worthy of a prize in Phase 2. The Prize therefore moderately did not meet expectations for these outputs. Another expected output – the capture and sharing of innovations and learning with water, finance and development stakeholders – was not achieved, as this was contingent on there being “solutions” to promote, and expansion projects under way.

There is strong evidence that the Prize stimulated investment in, and awarded, a set of NRW reduction projects. An estimated £824,700 investment was stimulated by the Prize. This includes the time spent by solvers to participate in the Prize as well as the time and money invested in planning and implementing their demonstration projects. This investment was made by solver teams without guarantee of being awarded prize money. Given the high level of estimation and subjectivity in calculating both the intended and actual figure, it is more appropriate to consider the absolute figure achieved, rather than a comparison between the two.

In addition, the Prize stimulated further investment not captured in the VFM assessment. In some cases, the demonstration projects are known to have led to further investment, despite Phase 3 not going ahead. For example, the WRP solver team have reported that the expansion project currently under way has a budget of £325,000, coming from the “non-traditional” financing source of the brewery involved in Phase 2. While this figure has not been added to the total investment stimulated,²⁸ it is an indication of additional investment ex post. Further, each of the demonstration projects reduced “commercial losses”

²⁷ Note that while £240,000 was planned to be awarded in Phase 1, in fact only £210,000 was dispersed (I2I annual report for Period 2017). This is due to one of the Phase 1 winners not claiming their £30,000 prize money. According to a member of the Prize Team, the award of prize money was contingent on showing invoices for parts/works to ensure that participants carried over to Phase 2, which this one winner did not provide.

²⁸ The self-reported post-prize investment figure has not been included in the figure used for rating this aspect of “Efficiency” for two reasons: the scope of the VFM assessment is Phases 1 and 2 only; and there is moderate evidence that this investment would have gone ahead with or without the Dreampipe Prize.

for NRW; i.e. they made savings for the utility, which the utilities involved may have used to fund further NRW reduction activity.

Two of the winning solver teams have reported further NRW reduction activity post-prize, which is being funded by the utility, potentially by these savings made through participation in the Prize (ex post actions by the four overall winners of the Prize are explored in Table 12 in Section 7.1).

Effectiveness of Dreampipe II

There is moderate evidence that the Prize stimulated effective and feasible solutions for de-risking NRW reduction. The solutions put forward by solver teams in Phase 1 were largely focused on the technical aspects of specific NRW reduction projects, rather than the challenge of finding new ways to finance NRW projects (with the latter being the purpose of the Prize). Eight business plans were deemed effective and feasible by judges to continue to implementation in Phase 2; seven of which went on to be implemented.

There is limited evidence that the Prize showed the feasibility of new financing sources. This equates to the primary intended prize effect of “point solution”. In Phase 2, the demonstration projects were effectively one of several pieces that would be needed to show the feasibility of funding NRW reduction activity using non-traditional financing sources. Their purpose was to demonstrate the technical feasibility to de-risk NRW reduction for potential financiers; it was not a requirement to use non-traditional financing at this stage in the competition. According to the Prize Team: *“There were other things in the submission for Phase 2 that should have given support or not to the feasibility of financing. Unfortunately, contestants gave little attention to these requirements”*. The demonstration projects were mostly run with internal funds from the solver teams (with the exception of the first-place winning solution, which used non-traditional financing). This internal funding provides an indication of to what extent the Prize stimulated solver motivation and suggests alternative/new funding sources for small-scale projects, for example from water utilities themselves.

There is limited evidence that the Prize raised awareness about NRW issues. This was a secondary intended prize effect. The Prize Team undertook a promotional “push” shortly after the launch of the Prize to raise awareness and the profile of Dreampipe II. Most of the activity to raise awareness of the issue of (financing) NRW reduction was planned for later in the Prize’s lifetime and was contingent on there being demonstrable “solutions” to promote and expansion projects under way. There is some anecdotal evidence of awareness being raised within the utilities involved in the Prize.

There is moderate evidence that the demonstration projects reached the expected number of people, despite only seven of the demonstration projects continuing through to implementation. An estimated 490,000 people were “served” by the Phase 2 demonstration projects.²⁹ This equates to 96% of the total population originally targeted by the broader set of applicants. It was beyond the scope and resources of this evaluation to assess the other outcomes achieved by the solver teams, for example the total cubic meters of water saved through the demonstration projects. However, it is to be noted that there is another set of NRW reduction-related achievements at solver-level.

Equity of Dreampipe II

Attention to equity was not a requirement for Phases 1 and 2 of the Prize. This would have been an explicit requirement for Phase 3, had it gone ahead, as flagged to participants at the start of Phase 2. The I2I prizes as a set were intended to *“equitably benefit women or most vulnerable population groups”*.^{xlviii} Dreampipe II also had this aim; the NRW reduction activity implementation that the Prize planned to

²⁹ This figure has been calculated based on the “population served” figures provided by seven solver teams at the end of Phase 2. The population served figures were self-reported; though some have been verified as “reliable”, others were deemed “unreliable” by the independent verifier. There is no reason for solvers to have inflated these figures. The figures were sourced from the verification collation spreadsheet.

induce through submitted solutions for financing NRW was expected to improve service delivery, “especially for the poorest”.^{xlix} Equity was explicitly brought to solver attention by the Prize Team at the start of Phase 2.

However, this was forward-looking to Phase 3: “The utility must have a sound and feasible plan for delivering a substantial amount of the additional water resulting from the Expansion Project to the poor, or in some other way ensuring that a substantial part of the benefits of the Expansion Project go to the poor”.^l This condition was to be further defined at the start of Phase 3 (had it gone ahead). The guidance emphasised that it referred to the expansion projects, and “not necessarily the demonstration project – whose purpose is more narrowly to test solutions for dealing with NRW, regardless of how the benefits fall on different parts of the population”. The submissions for Phases 1 and 2 were not judged against equity considerations.

The decision to not require solver teams to consider distributional impacts in the targeting and implementation of their demonstration projects, and to instead focus on solving the issue of financing NRW reduction, was an explicit one, to further the potential for success of the Prize. In an email sent to a consultant working with IMC Worldwide (manager of the I2I programme) shortly after Dreampipe II was launched, the Prize Team outlined the rationale for why it was better not to make this a requirement in Phases 1 and 2. They explained that: “the competition becomes greatly complicated if we insist that [the demonstration projects] reduce NRW and also get the water to the poor. The latter may well involve capital expenditures that need to be partially grant funded, or need an increase in tariffs”. They added that it was better for the Prize to focus on the “key constraint” of financing NRW reduction; with the potential for these solutions to then “be adapted to sell the additional water to the poor”, as the two issues are largely separable. The Prize Team maintain that this was the most appropriate approach.^{li}

Because it was not a requirement, there is no evidence that equity was considered by solver teams in the targeting and implementation of their demonstration projects. Solver teams did not provide information on whether the demonstration projects were targeting and benefiting low-income households as part of their submissions. For example, there is no data available on the profile of the demonstration project areas or the proportion of low-income households, or the distributional impacts of the NRW reduction projects. Even if they did not explicitly target low-income households, the demonstration projects may have been implemented in areas with high poverty incidence; however, these data are not available, and it would likely have been done “accidentally” (i.e. there was no intention to be pro-poor). Meanwhile, there is a risk that implemented projects may have had negative unintended consequences on poor populations within the project areas through for example the removal of illegal water connections, and not considering customers’ ability (i.e. affordability) or willingness to pay. This latter issue is explored further in Section 9, unintended consequences, against PEQ4.

The risk of having supported solutions which have not paid sufficient attention to distributional impacts is more of an issue because Phase 3 did not go ahead as planned, when equity considerations would have become a requirement. This raises the question as to whether prize programmes that plan to have development outcomes should explicitly require solvers to take distributional impacts into account at every stage, given that in multi-stage prizes, each stage may not go ahead. It also raises the question as to what teams running prizes should be accountable for with respect to equity.

Being a DFID-funded development programme, there was an implicit expectation that prize activity should be gender-sensitive, promote inclusiveness, and ensure the most vulnerable are not excluded. The need for community sensitisation by implementing utilities was raised by the independent consultant who reviewed each updated plan for the demonstration projects at the start of Phase 2. However, this need was highlighted on the basis of ensuring technical success of the demonstration projects, rather than to ensure equity. For example, education and support was suggested in relation to customers whose water consumption was going to be metered to raise their awareness of the likely change in cost of their current consumption pattern, to encourage reduction of household water consumption and minimise any objection to the change.

Analysis of intended and unintended prize effects

Table 15 presents the prize effects under the I21 programme (from October 2016). It indicates which effects were anticipated by the Prize Team to be likely to occur as a result of Dreampipe II, and records any evidence from the evaluation that supports this. While the evaluation did not set out to collect primary data on each of these (except the primary intended effect, point solution), the evaluation team have captured insights from the evaluation data available. Evidence of effects that were not explicitly intended or expected is also recorded.

There is limited evidence of the Dreampipe II Prize achieving its primary intended effect, “point solution”. This has already been explored under the Effectiveness section of the VFM assessment earlier in this section.

There is also limited evidence of the Prize achieving its secondary intended effects of “raising awareness” and “facilitating and strengthening partnerships and networks”, and no evidence of it “promoting best practice”.

In terms of **unintended effects**, there is **limited evidence that the Prize stimulated “open innovation”.**

There is no evidence that it achieved the remaining effects: “maximising participation towards the sponsor’s aims”; “community action”, “market stimulation” and “altering the policy environment”.

Table 15: Summary of progress against the prize effects

Prize effect and definition	Intended for Dreampipe II	Evidence from Dreampipe II
<p>Point solution Finding a solution to a problem that has been broken down to a component part; for example, a new product or process. Problem is highly specified</p>	<p>Primary: This was the primary intended effect Dreampipe II</p>	<p>There is limited evidence of this effect. As reported in Section 5 against the ToC and further explored in Section 6 against PEQ1, Dreampipe II did not uncover a new model or approach for financing NRW reduction activities in developing countries that is feasibly replicable by the same actors and/or others in different geographic areas. It did however stimulate water experts and utilities to explore the issue of NRW and how this could be financed and implemented differently. It also “surfaced” initiatives, stimulating solver teams to make public and share their ideas and projects that they may not have done otherwise (though this effect is limited due to the limited sharing of the Prize results and learning so far)</p>
<p>Raise awareness Either brings something to someone’s/some people’s attention or increases their understanding of something. Often about increasing awareness and knowledge of an issue (especially one that is neglected or previously communicated to that group of people)</p>	<p>Secondary: According to the Prize Team this was a secondary effect intended by the Prize.ⁱⁱⁱ However, it is included in the Prize ToC (outcome 2) and so is treated as an intended effect by this evaluation</p>	<p>There is limited evidence of this effect. There is limited, anecdotal evidence that the demonstration projects implemented under Phase 2 raised stakeholders’ awareness of the scale of the NRW issue within their utility.ⁱⁱⁱ There is also limited, anecdotal evidence that there was awareness of the Prize and the issue of NRW/NRW financing beyond its immediate participants^{iv}. However, the scale of this is small and focuses on stakeholders within the water industry rather than financiers and other non-water stakeholders.</p>
<p>Facilitate and strengthen partnerships and networks</p>	<p>Secondary: According to the Prize Team this was a secondary</p>	<p>There is limited evidence of this effect. For example, a Phase 2 winning solver team</p>

Prize effect and definition	Intended for Dreampipe II	Evidence from Dreampipe II
<p>Raises visibility and brings those also working in the space to the attention of others, helping to establish new networks and strengthening partnerships towards a common goal. Some prizes may require new partnerships through criteria or conditions</p>	<p>effect intended by the Prize. It was seen as a means to an end to make facilitation of financing easier</p>	<p>consisted of a new partnership between an infrastructure and management consultancy and a utility. This partnership was formed to participate in the Prize. However, it has not continued since the close of the Prize. Conversely, there is limited evidence that an inability to form effective partnerships affected solver teams' ability to:</p> <p>(a) participate in the Prize (1 solver dropped out during Phase 2 for this reason);</p> <p>(b) continue with the expansion project originally intended under Phase 3 (another solver reported not knowing how to attract external financing)</p>
<p>Promote best practice A prize can do this by: Identifying best practice in a certain field (through solutions submitted) and encouraging adoption (through publicising the winning solutions) OR making potential solvers aware of current best practice as part of the prize application process</p>	<p>Not an intended effect for Dreampipe II. However, the intention was to capture and share the innovations and learning from Dreampipe II (output 6 of the ToC)</p>	<p>There is no evidence of this effect. In the Dreampipe II guidance (for Phases 1 and 2) the Prize Team specifically did not want to lead potential solvers in their identification of non-traditional financing solutions.^{30iv} Activity to promote the solutions post-prize award was limited to including the names of the eight winning solvers of Phase 1 and headline details of the four winning solutions of Phase 2 on the Dreampipe and I2I websites, along with an interview with one of the four winning solvers³¹</p>
<p>Maximise participation towards the sponsor's aims. Benefits to the sponsor are provided by all effective participants not just by the winners</p>	<p>Not an intended effect for Dreampipe II</p>	<p>There is no evidence of this effect. It is unknown whether the two non-winners of Phase 1 continued with their planned projects. All other solver teams that submitted an eligible business plan as part of Phase 1, won a prize</p>
<p>Community action Incentivising communities (broadly defined as people living in the same place/sharing a communal interest*), to take action, encouraging ownership of the problem and solution</p>	<p>Not an intended effect for Dreampipe II. The Prize did not directly target local communities within the utility operating areas, though some solver teams did undertake community sensitisation activities to gain their support for NRW reduction activity</p>	<p>There is no evidence of this effect. There is however limited, anecdotal evidence that local communities affected by the disconnection of illegal connections took action. For example, during the expansion project, the WRP-led implementing team of a pressure installation were held at gunpoint. The team gained the community's support before continuing the planned works</p>
<p>Open innovation Open innovation enables new solvers to enter the field of endeavour. For some prizes this could include local and</p>	<p>Not an intended effect for Dreampipe II. According to the Prize Team, participants had to have certain level of knowledge</p>	<p>There is limited evidence of this effect. Two of the 10 eligible applicants to Phase 1 of the Prize were from outside the water / NRW sector: a GIS social enterprise and a start-up technology company. One of these went on</p>

³⁰ The Prize Team were, however, hoping to identify a pool of potential financiers who were willing to consider funding Dreampipe II participants' projects as noted in Section 10.2 under SEQ 5.2.

³¹ According to the Prize Team, this limited sharing of details of solutions during the Prize process was due to it being a competition.

Prize effect and definition	Intended for Dreampipe II	Evidence from Dreampipe II
grassroots innovators, e.g. small community organisations, students, etc.	about NRW to have credibility with utilities	to be a “winner” of Phase 1. It is not known if these solvers had previous experience of working within the sector, nor if Dreampipe II induced them to consider developing a solution for the problem of financing NRW reduction in developing countries
Market stimulation Helps to increase economic activity in an existing market or starts a new one for a particular good or service through a high value prize that, as a result of all of the other effects, results in a changed market. Can also be to open up a new market	Not an intended effect for Dreampipe II. However, it is an effect that the I2I programme team is interested in	There is no evidence of this effect. 1 of the Dreampipe II solver teams (the first-place winner) achieved the investment of a brewery in NRW reduction. However, there is moderate evidence that this would have happened without Dreampipe I or II. The three other winning solver teams invested their own funds (as well as the prize purse) to participate in the Prize. However, there is no evidence that this involved market stimulation
Altering the policy environment Raised awareness, market stimulation, etc. can lead to corresponding policy change in reaction to the other prize effects	Not an intended effect for Dreampipe II	There is no evidence of this effect

8.2 SEQ 3.1: What is the added value of Dreampipe II in terms of the profile of solvers attracted and the quality/novelty of solutions received compared to other forms of funding for NRW?

Approach to answering this SEQ:

To consider the added value of the Prize, in terms of both the profile of solvers attracted and the quality/novelty of the solutions received, judges, solvers and the Prize Team were asked questions in relation to:

- the key strengths and weaknesses of Dreampipe II;
- how the Prize compared to other funding mechanisms in terms of catalysing innovation;
- what costs were incurred by solvers; and
- success in raising awareness of the value of NRW reduction outside of the water industry.

Key findings:

- The Prize attracted two main solver types from within the water industry – consultancy firms and utility companies. It also attracted a limited number of non-water sector stakeholders, as both solver team leads as well as solver team participants, though these were mainly as implementers rather than financiers (the latter was to come in the cancelled Phase 3).
- There is moderate evidence that, as anticipated, the solutions received by the Prize were not novel in terms of their technical approach (this was not the purpose of the Prize). They were, however, deemed technically sound by technical experts within the Prize.
- There is moderate evidence that solutions varied in the level of novelty of their approaches to financing. Limited information provided by solver teams on this aspect affected the perceived quality of the solutions in relation to the purpose of the Prize.
- There is moderate evidence that the Prize facilitated the planning, implementation and documentation of a set of diverse demonstration projects. Each was different in its approach to reducing NRW, partnerships, financing and resourcing, and project management.

Profile of solvers attracted

The Prize attracted two main solver types from within the water industry – consultancy firms and utility companies. It also attracted a limited number of non-water sector stakeholders, as both solver team leads as well as solver team participants, though these were mainly as implementers rather than financiers (the latter was to come in the cancelled Phase 3). As a point of reference for the solvers attracted by the Prize, the Dreampipe II target audience “[was] two-fold, encompassing specialists from both the water and NRW sector, and the financial sector”.^{lvi} The Dreampipe II overview document, developed just before the launch of the Prize, further defined the target solvers as including “utility experts, utility companies, financial experts and innovators”.

Information on the profile of the solver teams is only available for the 10 “finalists” of Phase 1: eight of which were considered “winners” of Phase 1 and received a monetary prize, and all of which were given the opportunity to proceed to participate in Phase 2³². Of these 10 applicants:

- Four were led by a water utility directly.
- Three were led by consultancies from the water sector, each of these with a slightly different organisational focus: WASH infrastructure; infrastructure and management; and water engineering.
- Two were led by companies from outside the water sector: a GIS social enterprise and a start-up technology company.
- There was one application from an individual consultant (allowable under Phase 1). This person is from the water sector.

The Dreampipe II judges commented on the reach of the Prize being limited; i.e. to NRW/water engineering consultancies and utility companies.^{lvii} They were surprised there were not more applicants from other, non-water sectors. The Prize Team, however, maintain that participants had to have a certain level of knowledge about NRW in order to have credibility with, and engage, the utilities. This said, one of the applicants coming from outside the water sector submitted a successful application during Phase 1.

³² Details of these solver teams and how far they progressed in the competition are available on request for research purposes only.

The Prize Team confirmed at the evaluation validation workshop that the intention was to “get the financial people to be interested in water; not as solvers necessarily ... it was the solvers who knew water who would go out and get these people in [other sectors]”. Direct involvement by financiers was to come in Phase 3. The projects that showed promise in working with non-traditional financing stakeholders already had existing relationships to build on. For one project, the solver team lead had existing connections to a commercial bank.^{lviii} Another engaged a large brewery company as the project’s financier. This entity was very much viewed by the lead organisation as an integral part of the solver team.^{lix}

In the stakeholder interviews, judges and the Prize Team identified some potential limiting factors for non-water stakeholder involvement in the Prize:

- Overall, the closure of the Prize before Phase 3, when serious financier (i.e. non-water stakeholder) involvement was expected to happen; the small scale of the demonstration projects was a limitation for financier involvement during Phase 2.
- Being a global prize was a limiting factor in targeting and getting new players in. This would have been more feasible if the Prize had focused on a particular country or region, as seen in other I2I prizes.
- Using the IWA as the main promotional channel. This limited the reach of the Prize; though it was a way of reaching the sector globally.

Due to the uniqueness of Dreampipe II’s scope and objective, it is difficult to assess how the profile of solvers attracted by the Prize compares with those types of stakeholders involved in projects financed by other non-prize forms of funding. Solvers, judges and the Prize Team all noted the uniqueness of the Prize for NRW improvement, in targeting developing countries specifically.

Quality and novelty of solutions

As anticipated, the solutions received by the Prize were not novel in terms of their technical approach (this was not the purpose of Dreampipe II). They were, however, deemed technically sound by technical experts within the Prize.

The solutions varied in the level of novelty of their approaches to financing. Limited information provided by solver teams on this aspect affected the perceived quality of the solutions in relation to the purpose of the Prize.

There is moderate evidence that overall the novelty of the solutions submitted for Dreampipe II was limited. This evaluation has already explored the novelty of the business plans and demonstration projects submitted and implemented under the Prize in response to PEQ1 in Section 6. The Prize judges felt that the lack of novelty of proposed solutions was due to solutions coming from within the water industry.^{lx}

There is moderate evidence that the quality of the solutions submitted for Dreampipe II was varied across solver teams. In terms of quality, the Prize guidance for judges in Phase 1 encouraged judges in their scoring to “identify those contestants who are likely to succeed in implementing their demonstration projects and in subsequently proposing sound expansion projects that will be sufficiently attractive to lenders and investors and can mobilise the required financing”. They were asked to “focus on the facts, ideas, and justifications set out in the business plans”, rather than the quality of proposal writing. In other words, judges were to focus on the quality and feasibility of the ideas proposed. Based on a high-level review of judges’ comments on Phase 1 submissions and both scores and comments on the six Phase 2 submissions eligible for judging, there seems to have been a relatively positive view of the quality of submissions to Dreampipe II. Negative feedback tended to be in relation to there not being enough detailed information to judge, and solutions not being aligned to the Prize’s objectives in terms of financing arrangements. However, in the evaluation interviews four months later, based on recall, some judges voiced strong opinions on the quality of some submissions.

As introduced in Section 6.2, in relation to what the Prize led solver teams to do differently (SEQ 1.2), according to interview feedback from solvers, the Prize's comprehensive data requirements may have improved the quality of implementation. The various stages of the Prize had to be adhered to and improved record keeping was needed to provide sufficient data for verification. However, while the quantity of data collection by solver teams under the Prize may have significantly improved (with each solver providing up to 20 data points at baseline and endline for verification), the quality of these data varied significantly between solvers. Based on a review of the verification results, only three of the seven projects visited by the independent verifier were deemed to have "reliable" figures for the eight key comparative quantitative indicators, collated to support judges in their assessment of each submission. The other four projects provided two or fewer "reliable" values for the eight indicators. The lack of reliability of data was in some instances due to the data not being provided, or being provided too late in the verification process to enable assessment. The effect of the support provided by the Prize to solvers on the quality of the design and implementation of their Phase 2 demonstration projects is unknown. This solver support is further explored in response to PEQ5 on solver support in Section 10.

It is assumed that the judges will have used their previous experience in NRW reduction, with water utilities and working with various types of funding arrangements, to assess the novelty and quality of the submissions. This offers a point of comparison to other non-prize projects. However, this is only implicit within the judges' scoring and it is beyond the scope and resources of this evaluation to study these in detail to provide an accurate assessment.

In summary, **there is moderate evidence that the Prize facilitated the planning, implementation and documentation of a set of diverse demonstration projects. Each was different in its approach to reducing NRW, partnerships, financing and resourcing, and project management.** In terms of added value, there are few other known examples of documented demonstration projects for the purposes of gaining financing for expansion projects.

Section 9: PEQ4: Were there any unintended consequences of the Prize and did these outweigh the benefits?

Dreampipe II led to some unintended consequences, both positive and negative. The Prize contributed to improved NRW reduction practice among the participating water utilities, for example through enhanced data collection on NRW performance. On the flipside, illegal water users were disconnected as part of the NRW reduction activity undertaken by solvers and will inevitably have experienced negative outcomes; however, the net economic/social effect may be positive.

Approach to answering this PEQ:

To consider whether there were any unintended consequences of the Prize – positive or negative – and whether any negative consequences were perceived to outweigh the benefits, Dreampipe II judges, solvers and the Prize Team were asked questions in relation to:

- the key strengths and weaknesses of Dreampipe II;
- any unintended consequences of the Prize (positive or negative); and
- whether any costs incurred by solvers outweighed the benefits.

To answer this PEQ, the evaluation team have looked across stakeholder interview responses as well as Dreampipe II documentation, for example, the solver reports of the four overall winners.

9.1 SEQ 4.1: Has Dreampipe II resulted in unintended consequences? Did any negative consequences outweigh the benefits of the Prize?

Key findings:

- There is limited evidence to suggest that the Prize resulted in a set of unintended consequences, including:
 - greater availability of NRW-related data;
 - better water and customer service from utilities;
 - a verification methodology that could be used by the wider sector;
 - negative outcomes as a result of NRW reduction activity in some demonstration project areas; and
 - time and money invested by some solver teams in unexpected activities and beyond their means.
- One potential negative consequence was water users within the small demonstration project areas previously illegally accessing water being cut off as a result of the NRW reduction activity. While the quality and quantity of water available within the service areas, and the related level of customer service, may have increased, this benefit may not have been distributed to all water users equitably.

The evidence for unintended consequences of the Prize is limited. Although there are indications of both positive and negative unintended consequences, the evidence base is small. Table 16 summarises the potential unintended consequences of Dreampipe II. It indicates whether these can be considered as positive or negative, who they affect and what their level of impact is. Each is discussed in more detail in the narrative below the table.

Table 16: Summary of unintended consequences observed as a result of the Prize

Unintended consequence	Description	Positive/negative	Affecting whom	Level of impact	Strength of evidence
Greater availability of NRW-related data	The Prize’s requirements, along with capacity building through the baseline/endline verification process, led to improvements in data collection and mapping of the demonstration project areas. Data were available on total NRW and the change in NRW for the seven demonstration project areas as a result of baseline data collected, meters installed and mapping of pipe networks. The robustness and reliability of this data varied by solver team, as seen in the verifier’s collation of solver data	Positive	Utilities and large commercial water user(s)	<u>Moderate</u> – This was the case at the end of Phase 2 for the small geographical area of each demonstration project. As captured in the I2I annual report for Period 2018: “Through careful measurement [solver teams] were able to put a value on water loss ... [demonstrating] improved management”. Continued availability and accuracy of this data is unknown. Level of impact depends on the quality and quantity of data available prior to participation in the Prize, which is likely to vary by utility but is unknown. It also depends what the utilities (and others) subsequently do with the information	Limited
Better water and customer service from utilities	The NRW reduction activities will have resulted in more reliable and longer hours of service for those with legal connections. Where people are paying for a service, they can demand better service and faults to be fixed	Positive	Paying water customers/ users	<u>Moderate</u> – the scale, scope and sustainability of this change is unknown. One solver interviewed argued that, while users may now need to pay for water, there are other benefits from metering, such as better customer service and an increase in water supply (i.e. a better service as a direct result of less illegal water being withdrawn). In theory, increased water pressures will have reduced microbiological contamination in the distribution network, thereby improving the quality of water ^{ix}	Limited
The Prize produced a quantitative verification methodology that could be used again	The Prize required the development of a bespoke quantitative verification methodology by the Prize Team. Performance indicators and definitions were developed to support the running of the Prize	Positive	NRW actors	<u>Low</u> – The methodology could be used in future to serve the WASH sector as well as to judge further prizes. However, it would need to be packaged and shared with relevant stakeholders to support this to happen	Limited

Unintended consequence	Description	Positive/negative	Affecting whom	Level of impact	Strength of evidence
Negative outcomes as a result of NRW reduction activity	NRW reduction necessarily means that those with illegal access now have to pay or be cut off. This is not a clear-cut issue: sometimes the parties taking the illegal water sell it on to the poor at high rates; also, often illegal connections provide poor quality water. This evaluation is not suggesting that making people pay for water in general has a net negative economic/social effect. The issue is more that the Prize did not explore the potential for negative outcomes	Negative	End water users (likely poorer communities)	<u>Unknown</u> – Based on available data, 209 illegal customers were either disconnected or made into legal customers as a result of the seven implemented demonstration projects. ^{33lxii} Utilities may have used the savings to fund pro-poor systems (like water kiosks); however, considering the affordability of water was not required by Dreampipe II as it was not the aim of the Prize, and it is unknown if this type of intervention has happened (see Section 8.1 on VFM against Equity for more details)	Limited
Time/money invested by solvers in unexpected activities or beyond means	Time and/or money spent to participate in the Prize were higher than expected for some solvers and not reconciled through subsequent returns on investment or prize money awarded (though it is worth noting that the Prize was never intended to be a grant)	Negative	Solvers	<u>Low</u> – Only one solver is known to have spent their own money to participate in the Prize and be dissatisfied with the result. Another solver encountered unexpected organisational costs. This was more of an issue as the solver perceived that this additional work was not recognised or appreciated by the Prize. In general, solvers gained non-financial benefits from participating in the Prize, and chose to risk their own or their organisation’s funds on the basis that they may win one or more prizes	Limited

³³ Note: not all solver teams provided data and not all provided figures deemed reliable by the verifier. This is therefore an estimated figure to give an idea of scale/scope.

There is limited evidence that, within the demonstration project areas, there was a greater availability of NRW-related data as a result of Dreampipe II. As mentioned in Section 6.2, against SEQ 1.2, in order to provide verifiable and comparable data to judge implementation projects under Phase 2 and also Phase 3 (had this gone ahead), solvers were required to provide data at baseline and endline against 15 quantitative data points (with a further five optional data points). For several solvers, this data collection was more substantive and rigorous than what they would usually carry out. Data collected by the solvers was deemed “new” and therefore “innovative” by the participants themselves who argued these efforts should have earned credit in the judging process. Related to this, the Prize Team developed a **quantitative verification methodology that could be applied to other similar prizes and other initiatives within the WASH sector.**

There is limited evidence that the implemented demonstration projects may have led to negative outcomes for poorer communities/customers. Previously illegal water users were disconnected as part of the NRW reduction activity. As with every change that involves people paying for something that they previously got for free, this will have led to negative outcomes for those individuals – however, the net economic/social effect may be positive. More relevant for this evaluation, the solver teams were not required under Phases 1 and 2 to consider the affordability of the water (see Section 8.1 as part of the Equity discussion in the VFM assessment for more details). The Prize did not explore the potential for negative outcomes from a Do No Harm perspective; there is a risk that the demonstration projects may have had negative effects for poorer customers in the instance that they could not afford to pay for the water. However, it is not as clear-cut as this (as suggested in the table above).

This evaluation cannot comment on whether this potential negative consequence outweighed the benefit of the Prize. It is unknown what, if anything, solvers did to reduce the impact of the potential issue of negative effects on poorer customers, and it was beyond the scope and resources of this evaluation to consult with beneficiary communities. The issue of discontented (not necessarily poor) customers was raised as a potential risk and the need for community sensitisation was highlighted to all solvers as part of the independent reviewer feedback provided at the start of Phase 2 (many were already intending to do a certain level of community sensitisation). These reviews highlighted to solver teams that *“changing the behaviour of customers to pay their water bill will be very challenging with the potential for conflict between the candidate and customer. Sensitising and education will play a key role in the project”*.^{lxiii}

Three of the four winning solver teams planned to identify illegal connections as part of their (implemented) demonstration and expansion projects (three of which did not directly go ahead), due to a large number of households taking water from the system illegally. **There is limited evidence that some communities have opposed the work being done, through threatened/actual violence against solver teams.** This highlights the tensions in the Prize’s aim between environmental benefits and “benefiting low-income households”; it seems to have tended towards the former. It also highlights the lack of control that Dreampipe II had over what the utilities do with the commercial savings made. This is in the context that reduction of physical losses has the environmental link but the related reduction in commercial losses is what will likely motivate utilities to engage in NRW reduction activities.

The counterpoint to the above finding is that **the quality and quantity of water, and associated customer service, will likely have improved as a result of the NRW reduction activities** in the demonstration project areas.

Participation in Dreampipe II in two cases led to unexpected costs. For one solver, these were outweighed by the benefits of participating; for another they were not. One solver reported spending an estimated £60,000 of their own money to set up their demonstration project. They then left the competition before submitting their Phase 2 solution as they could not secure the necessary partner commitment within the Prize timeframe. Had they remained in the Prize process, this solver believes the outcomes would have outweighed the costs. All solvers interviewed (except those that dropped out during Phase 2) indicated that the benefits of the Prize to them outweighed any negative consequences or costs. They saw their investment as worthwhile (i.e. the costs were worth the gain).

While solver teams were in general satisfied, despite the cancellation of Phase 3, there is perhaps an ethical point here that the Prize communication should have continued to clarify throughout that there was no guarantee of financial compensation and that the Prize could be amended at any point. The Prize Terms and Conditions stated that: *“The Prize Manager reserves the right to hold void, suspend, cancel, or amend the prize competition for any phase where, in the Prize Manager’s opinion, it becomes necessary to do so”*. However, it would have been better to include a clear disclaimer to this effect in the guidance document for each Phase.

Section 10: PEQ5: Is solver support necessary for prizes to be successful?

Dreampipe II provided a limited level of solver support. This was largely by design – to give solver teams an equal footing to compete, while still serving to motivate solvers. The evaluation only heard from those solvers who won a monetary prize under Dreampipe II and so it is difficult to conclude whether solver support is necessary for prizes to be successful. Based on what is known now about the nature of the “problem” of financing NRW reduction activity undertaken by water utilities in developing countries, it is unlikely that a small level of additional solver support would have given the Prize a reasonable chance of success in achieving its ultimate goal of surfacing workable and replicable ideas for how to expand the financing available.

Approach to answering this PEQ:

To consider whether and how solver support contributed to improved solver ability to participate in Dreampipe II, as well as what additional solver support activities could have supported participation, judges, solvers and the Prize Team were asked questions in relation to:

- whether solvers sought support from the Prize Team;
- the level of support provided and satisfaction with this; and
- whether the Prize could have been designed differently to make participation more attractive or successful.

To answer this PEQ, the evaluation team have looked across stakeholder interview responses as well as Dreampipe II documentation, for example, the feedback reports provided by an independent reviewer to solvers at the start of Phase 2.

Key findings:

- There is limited evidence that the feedback solver teams received on the technical aspects of their updated business plans was appreciated and supported their continued participation in the Prize.
- While not directly intended as a form of solver support, there is limited evidence that the visits solver teams received from an independent verifier at baseline and endline were valued and that these supported their continued participation in the Prize.
- There is moderate evidence that the Prize Team had started to make preparations for increased solver support in Phase 3, again with the objective of increasing the chances of the success of the Prize.
- The main requests for support were in relation to the Prize timeframe. Where changes to deadlines were allowable, there is limited evidence that this was done on an equitable basis across solver teams.

10.1 SEQ 5.1: How have solver support activities delivered by the Prize contributed to improved solver ability to participate in Dreampipe II?

There is strong evidence that, during Phase 1 of Dreampipe II (the development of business plans), no specific support was provided to solvers beyond the initial guidance documentation and responses to questions of clarification over email. The guidance documentation for Dreampipe II was relatively detailed and comprehensive compared to other I2I prizes, because it was such a technical area.^{lxiv} This relates in part to the Prize's main aim to find a "point solution". As outlined to potential applicants in the Phase 1 guidance document, the Prize Team were accessible via a dedicated Dreampipe email address and available on an ad hoc basis to respond to questions. According to the Prize Team, this normally involved them referring the solver back to the prize documentation already in the public domain (i.e. not providing further information).

Requests for support, and Prize Team responses to these, were not routinely tracked. However, there seem to have been very few of these.^{lxv} Typically, solvers did not request support.^{lxvi} When they did have questions, solvers reported that they were always satisfied with the feedback. However, it is to be noted that this is based on feedback from winners of either Phase 1 or Phase 2 or both; i.e. not from potential solvers who registered for the Prize but did not participate. The Prize process ran relatively smoothly; the Prize Team were able to draw on their experiences of Dreampipe I and applied similar approaches to Dreampipe II.

There is limited evidence that the feedback solvers received on the technical aspects of their updated business plans was appreciated and that this supported their continued participation in the Prize. Solver teams were invited to share updated versions of their business plans to receive feedback on the technical aspects of their proposals. At the start of Phase 2, those 10 solvers that had progressed to this stage were invited to resubmit their business plans, in case anything had changed. Dreampipe II hired a consultant to spend half a day reviewing each business plan to provide feedback. The aim of this exercise was to "help solvers to be more successful at getting to the end of the stage", for example by identifying any gaps (Prize Team member).^{lxvii} Feedback was provided in the same format to all participants, including on: data integrity; the pilot area; the interventions (both commercial loss and physical loss reduction interventions, the associated benefits and outputs); the activity plan; and budget.^{lxviii}

There is limited evidence that the visits solvers received from an independent verifier at baseline and endline were valued and that this supported their continued participation in the Prize. At the start and end of Phase 2, each demonstration project was visited by an independent verifier (n=7). The verifier examined the reliability of up to 20 data points per demonstration project. They collated eight key comparative quantitative indicators to support judges in their scoring of each submission. The Prize Team reflected that solvers were more inclined to ask for advice from the verifiers who visited them: "The verification team for baseline were asked by [solver] teams what they could do better – they wanted to know if they were doing it right".^{lxix} The independent verifiers were only able to give solvers feedback on data collection methods; they had permission to advise if data was not being collected correctly, but were not allowed to give technical advice or support. The provision of independent verification was seen as beneficial by both judges and solvers. The judges found the resulting documents of great value during judging in Phase 2 and liked the format and content of the reports coming from the verification visits.

There is moderate evidence that, in preparation for Phase 3, the Prize Team had started exploring potential funding sources for the planned expansion projects. This was based on the realisation (as captured in the I2I annual report for the Period 2016), that "a concerted effort must be undertaken to bring sources of financing into the picture, especially those that can provide concessional, "first loss" funding that acts to mitigate risk for the commercial financiers". It was felt by the Prize Team that, without central support, solver teams would struggle to identify funding sources within the Phase 3 timeframe.

In the I2I annual report (for Period 2017), the Prize Team reflected: *“A particular challenge at the end of [2017] was to attract the initial interest of appropriate funding sources who might be willing to consider partial financing of the Expansion Projects that will be proposed by contestants in Phase 3. It is up to contestants to mobilise the funding – and most of the funding is expected to come from local sources – but more funding may be needed (especially to mitigate risk) and providing contestants with a slate of possibly interested international funding sources will help minimise their search costs. We will continue pursuing this actively during the months ahead”*. According to a Prize Team member, the team approached 20–30 possible financiers who might be interested to provide financing during Phase 3.^{lx} They developed an information sheet to support “water people” to get “finance people” interested in the expansion projects. It was *“about getting people to team up. We hoped we would end up with a group of potentially interested people to connect the solvers to”* (Prize Team member). This is further explored in the next section in relation to SEQ 5.2.

As found in the evaluation of the Prize’s predecessor, Dreampipe I, the Prize Team (and consultants commissioned by the team) were able to provide a relatively personalised and reactive service due to the small number of registrants, applicants and participants. There is a question as to whether this would have been feasible had there been more solvers interested in the Prize. At the evaluation validation workshop, the Prize Team reflected that it was important to avoid biasing the competition’s results and to stay balanced in the support provided to solvers. They seem to have erred on the side of caution in this respect; preferring not to provide solver support if there was any risk of bias.

10.2 SEQ 5.2: What additional solver support activities could have supported solvers’ participation in the Prize?

As with SEQ 5.1, it is important to note that the evaluation only has evidence on what additional support would have made a difference from solvers who “succeeded” as part of Dreampipe II (either winning at least one prize or being allowed to continue to participate in Phase 2 without winning Phase 1). We do not have feedback from potential solvers who dropped out before participating in Phase 1, for whom additional solver support might have made more of a difference. Judges also provided feedback on this aspect; however, they did not necessarily have full visibility of the Prize process and the level of support given.

There is moderate evidence that the Prize Team planned to provide more intensive support. In the annual report for the Period 2016 (i.e. soon after Dreampipe II had been launched), the I2I programme requested £15,500 additional funds from funder, DFID for “capacity support for applicants”. The aim was to minimise the identified risk that the Prize depended on *“the applicants being able and willing to undertake large investments with little support and feedback”*. The additional solver support was to involve a specialist in NRW and water utilities working with the 10 participants towards the end of Phase 2 to support each solver team to *“better organise and present their submission and respond to the typical questions that judges would have”*. In Phase 3, a financial expert would work with remaining participants to *“[help] them structure and write complete term sheets”*. This additional solver support was signed off by DFID but did not go ahead. According to a member of the Prize Team, this was in part because the independent verification process helped solvers better organise their data and respond to typical questions of a judge, and in part due to Phase 3 – when the majority of the support would come – not being run.

The aspects that might have been beneficial for solvers to receive more support on align with some of the main barriers that solver teams faced as found in response to PEQ1 in Section 6:

- Based on solver feedback, more time and more money would have supported solvers to participate in the Prize. For one solver, who dropped out of the Prize process during Phase 2 because they could not meet a deadline, there was some discontent when they discovered that another solver had been granted an extension after they had left the competition.

- The Prize Team maintain that they changed the timeframes wherever they could in response to solver requests; asking all solvers if they were having a problem when one or more of them reported that they were, and, in those cases, giving all solvers the same extensions. This occurred mostly in Phase 2 and “reflected the informal relationship [the Prize Team] had with solvers”.^{lxxi} The perceived lack of fairness from that one solver’s perspective, whether justified or not, highlights the importance of consistency and transparency in prize processes – to give participants the same chance of success, and to communicate about how this is being done throughout.
- In the judges’ view, solvers would have benefited from more support in the development of partnerships. A pre-prize stage in mobilising partnerships between different sectors and with different expertise (notably, technical and financial) would have been helpful in identifying appropriate partners. They suggested, for example that, in advance of the Prize, work could have been done with banks to help build the credibility of the solver teams in order to secure the necessary funding (particularly for the expansion projects). They believed that more might have been achieved by solvers (e.g. better quality proposals), had this mobilisation of potential partners taken place, alongside training and examples of best practice, for example in Public-Private Partnerships (PPPs).

The Prize Team confirm that they would have liked to provide more technical assistance to solvers along these lines, but were restricted by both the Prize timelines and the prize modality more broadly (i.e. it not having a grant component). They also did not want to influence solutions towards PPPs, as this was not the only potential model: the “fairness” issue was also a factor. According to the Prize Team they did what they could, but could do little on a solver-by-solver basis, beyond providing permission for solvers to use the Dreampipe logo and a letter to say that individual initiatives were part of the Prize process. It was not feasible to do more given the global nature of the Prize – it was too big a task to support partnerships across multiple countries, when it was not yet known which countries and localities would participate in the different stages of the Prize.

The Prize Team did approach a number of private investors to be potential funders of the proposals, however this “gained little traction because the Prize Team was the middleman”.^{lxxii} According to a member of the Prize Team, the team put a lot of effort into this search, but could not find one such financier. They came to the conclusion that the likely non-traditional sources for financing would be country-specific, for example local commercial banks. Overall, the global nature of the Prize, the Prize Team’s focus on fairness, and the diverse nature of the winning solutions (in Phase 2) limited the level of support that could be given to potential and competing solvers. It is worth reflecting on whether the Prize Team could have interacted with participants in a more proactive way without creating any bias to support learning for the running of future prizes.

Conclusions

To what extent did the Prize achieve what it set out to achieve? PEQ1: How effective has the Prize been at catalysing innovation on the focus problem?

The objective of Dreampipe II was to encourage the development of workable and replicable ideas for how to expand the financing available for NRW reduction activities in developing countries beyond the conventional sources. In relation to the I2I prize effects, the Prize aimed to identify a “point solution” to the issue of financing NRW reduction activity by water utilities in developing countries. The Prize Team recognised the complexity and systemic nature of the issues plaguing water utilities in developing countries and were careful not to say that there was expected to be a “magic bullet” to the issue of financing NRW reduction.

Inducing actors to do things differently and catalysing NRW reduction activity

In practice, the Prize stimulated a small community of water consultancies and utilities, and a subset of stakeholders from the private sector, to consider, invest in and act on the issue of NRW across 10 different countries in sub-Saharan Africa. The extent to which Dreampipe II induced actors within the solver teams to do something they would not have done without the Prize varies. Where the likelihood is high that the NRW reduction activity and related financing would have happened anyway, the Prize provided credibility and motivation. The Prize timelines were relatively short and potentially pushed solvers to mobilise their teams, establish agreements and implement the demonstration projects more quickly than they would have done otherwise, providing a source of momentum.

The demonstration projects, planned under Phase 1 and implemented and documented under Phase 2, were effectively one of several pieces that would be needed to show the feasibility of funding NRW reduction activity using non-traditional financing sources. Their purpose was to demonstrate technical feasibility to de-risk NRW reduction for potential financiers; it was not a requirement to use non-traditional financing at this stage in the competition. In some cases, non-traditional financing was used to fund the demonstration projects (albeit at a small scale); or it was planned to be used to fund the subsequent expansion projects under Phase 3. This includes utilities mobilising their own internal funds for NRW reduction.

Scope for uncovering non-traditional financing sources limited

Dreampipe II did not uncover new ways that are obviously replicable for financing larger-scale NRW reduction projects using non-traditional sources. This said, the Prize did surface unexpected solutions from unforeseen sources; which can be considered a particular prize effect. The Prize served to further explore the issue of financing NRW reduction, and added to the knowledge base around the problem. This includes some of the barriers from a water utility perspective; for example, even once financing was potentially available to utilities, they were not necessarily accepting of this (i.e. there were other non-financial barriers at play).

The Prize Team did well to design a prize that responded to what was known of the problem of financing NRW reduction in developing countries. However, the overall assumption of the Prize’s design – that there would be non-traditional sources that would be willing to finance NRW reduction activity to be undertaken by utility companies in developing countries – was found to be underestimated and incorrect. The design of Dreampipe II was informed by the views of some of the key experts in the field, who strongly believed that the Prize would open the doors to non-traditional funding. The Prize Team were aware from the beginning that there would be challenges in achieving what the Prize set out to achieve. However, they maintain that there was no way to know without running the Prize what the nature and extent of these challenges would be.

Early closure of the Prize justified

Dreampipe II closed earlier than planned for a combination of reasons. In essence though, the Prize closed early because its goal had been achieved as far as was reasonably possible and so there was little to be gained in continuing as planned. Based on the evidence now available, this evaluation finds that the Prize Team fully explored the options to continue running the Prize, and that closing the Prize early was the right decision.

The early closure of the Prize means that the potential sources of financing, and the level of interest and risk appetite of these non-traditional financiers, was not fully explored. It therefore remains unknown whether the demonstration projects planned, and in some cases undertaken, would have been of a sufficient scale and performance to mitigate the *technical* risks of expansion projects with those utilities, alongside the *financial* “de-risking” that was expected to come from the financial structuring of the expansion projects in Phase 3. From the limited information provided by solvers as part of their Phase 2 submissions in relation to potential sources of funding for the expansion projects under Phase 3, as well as the limited results from their own approaches to potential financiers, the evaluation team believe that it is unlikely that continuation of the Prize would have led to the mobilisation of non-traditional financing as originally envisaged.

Awareness of NRW raised and the issue of financing NRW explored

While the Prize did not catalyse innovation in relation to the focus problem as expected, it did, to a limited extent, raise awareness of the issue of NRW as well as the related issue of financing the reduction of NRW in developing countries. It also “surfaced” initiatives, stimulating solver teams to share their ideas and projects that they may not have done otherwise. The planned external engagement of the Prize with water, finance and development actors to share ideas and learning for how to expand financing of NRW in developing countries to new sources was contingent on “workable and replicable ideas” being uncovered and was therefore limited by the results of the Prize.

Wider sectoral lessons can be learned

Overall Dreampipe II showed that there are potential solutions to financing NRW reduction to be supported but importantly that these tend to be diverse, context-specific, incremental and require ongoing support to deliver NRW reduction at scale. To capitalise on the experiences of Dreampipe II, there is now an opportunity to reflect on, document and share the learning from the Prize for the benefit of the water/NRW sector to further add to the knowledge base around the problem of financing NRW reduction in developing countries.

PEQ2: To what extent has the effect of the Prize been sustained beyond the point of award?

NRW reduction continues; financing sources not as expected

Despite the incentive of a third phase prize being withdrawn, NRW reduction activity for some projects has continued beyond the end of Phase 2 – leading to further reduced physical and commercial water loss. The first-place winner of Dreampipe II has gone on to implement and finance their expansion project as planned, using funding from the same non-traditional, commercial partner as in Phase 2. While the utilities associated with the other three overall winners have not sought or secured external, non-traditional financing, there is evidence that they have each continued with and, in some cases, expanded their NRW reduction activities. In addition, a water consultancy that was involved in one of these projects has continued to pursue the idea of securing non-traditional financing for NRW reduction by other water utilities. This post-prize activity has been enabled by the experiences of, and learning from, the demonstration projects.

The barriers to utilities accessing external, non-traditional financing have been different for each utility. These include: poor previous financial performance; resistance from management to expose inefficiencies and to giving a proportion of commercial gains away; and not knowing how to go about accessing third party funding.

There is potential that continuation of the Prize to Phase 3 would have kept the solver teams engaged with the idea of seeking external, non-traditional financing sources to fund larger-scale NRW reduction activities. However, based on the Prize's overall experience it is unlikely that running Phase 3 would have led to them securing this financing in order to carry out their expansion projects.

PEQ3: Does the Prize offer value for money when compared to alternative funding modalities?

Overall the Prize met expectations in relation to Economy and was moderately below expectations with regard to Efficiency and Effectiveness. The VFM assessment was only conducted for Phases 1 and 2 of the Prize. The Equity of the Prize was not rated due to this explicitly not being a requirement under Phases 1 and 2; it was due to become a requirement under Phase 3.

Limitations and caveats to the VFM assessment

Had Phase 3 of the Prize gone ahead, the results of the VFM assessment might have been quite different. The value of the Prize was to come from the potential for replication, once the expansion projects had been agreed to, rather than the smaller-scale demonstration projects of Phase 2. The results of the VFM assessment should also be considered with certain caveats in mind; the original expectations of the Prize were not outlined in detail due to the level of uncertainty of what would happen and what was achievable by both potential solvers and the overall Prize. It was also the "first-run" of the Prize and, as such, required investment in scoping and design for each Phase.

The Prize was run economically, in part because of a narrow focus

Dreampipe II was launched and ran respecting the original time schedule. It spent nearly a third less than expected on running Phases 1 and 2 and on its prize purse. This was due to close budget management by the Prize Team, and also due to the results of the Prize: fewer submissions than anticipated required fewer resources than planned to manage the processing of applications; and fewer winners than the maximum number allowable under each Phase meant that the full value of the prize purse was not awarded. The Prize Team also focused on delivery of the core prize activity, with limited activity to raise awareness of the issues of NRW and financing NRW reduction, or to share learning from the Dreampipe II experience. This has implications for the Efficiency and Effectiveness of the Prize.

Efficiency was limited by the lower than expected number of awards

The Prize stimulated and awarded fewer than anticipated business plans and demonstration projects. It did not capture and share innovations and learning from the Prize as this output was contingent on there being "solutions" for financing NRW reduction to promote and development of structured deals for the expansion projects being under way. It did, however, stimulate an estimated £824,700 of investment by solvers in a set of NRW reduction projects. In addition, each of the demonstration projects reduced "commercial losses" for NRW, and, in some cases, the demonstration projects are known to have led to further investment, despite Phase 3 not going ahead.

Overall effectiveness constrained by there being few solutions to address the target problem

Dreampipe II stimulated effective and feasible technical solutions for de-risking NRW reduction activity by water utilities in developing countries. These demonstration projects reached the expected number of people. However, as explored under PEQ1, Dreampipe II did not achieve the intended prize effect of "point solution" in that it did not demonstrate the feasibility of new financing sources.

Along with the documented demonstration projects, there were other aspects expected in the submissions under Phase 2 that should have given support to the feasibility of financing; however, these were not adequately covered by solvers in their submissions. There is also little evidence to suggest that the Prize achieved the secondary prize effect of “raising awareness” about NRW issues; most of the activity to support this outcome was planned for later in the Prize’s lifetime, during and beyond Phase 3.

Equity not considered explicitly in earlier prize stages by design to maximise chances of success

The decision by the Prize Team not to require solver teams to consider distributional impacts in the targeting and implementation of their demonstration projects was an explicit one. The idea was that, by enabling solvers instead to focus on solving the issue of financing NRW reduction, this would further the potential for success of the Prize. However, being a DFID-funded development programme, there was an implicit expectation that prize activity should be gender-sensitive, promote inclusiveness, and ensure the most vulnerable are not excluded. Because it was not a requirement, there is no evidence that equity was considered by solver teams in the targeting and implementation of their demonstration projects. The risk of having supported solutions that have not paid attention to distributional impacts is more of an issue because Phase 3 did not go ahead as planned, when equity considerations would have become a requirement. This raises the question as to whether prize programmes that plan to have development outcomes should explicitly require solvers to take distributional impacts into account at every stage, given that, in multi-stage prizes, each stage may not go ahead.

PEQ4: Were there any unintended consequences of the Prize and did these outweigh the benefits?

Dreampipe II led to some unintended consequences, both positive and negative. The level of impact and sustainability of these effects depends on factors outside of the Prize’s sphere of control.

Signs of improved practice

The Prize requirements, along with capacity building through the baseline/endline verification process, led to improvements in data collection and mapping of the demonstration project areas. The demonstration projects themselves may have led to better water and customer service from utilities. In addition, the quantitative verification methodology developed by the Prize could be used in future to serve the WASH sector as well as to judge further prizes. However, it would need to be packaged and shared with relevant stakeholders to support this to happen.

Uncertainty around whether the Prize induced changes that limited water access

The Prize may have led to negative outcomes as a result of the NRW reduction activity by solvers. NRW reduction necessarily means that those with illegal access now have to pay or be cut off. In the case of Dreampipe II, 209 illegal customers were either disconnected or made into legal customers as a result of the implemented demonstration projects. Whether or not this negatively affects the poor, for example due to the water not being affordable, is not a clear-cut issue: sometimes the parties taking the illegal water sell it on to the poor at high rates; also, often illegal connections provide poor quality water. This evaluation does not suggest that making people pay for water in general has a net negative economic/social effect. The issue is more that the Prize did not explore the potential for negative outcomes from a Do No Harm perspective. This links back to whether solver consideration of distributional impacts of their NRW reduction activity (i.e. equity) should have been a requirement under Phase 2 of the Prize.

Costs of participation were high

For a small proportion of solvers, the upfront investment to participate in the Prize was higher than expected, and in one case beyond the solver’s means. It is to be noted though, that solvers chose to risk their own or their organisation’s funds on the basis that they may win one or more prizes, and that most participants won a monetary prize under Dreampipe II, as well as gaining non-financial benefits.

PEQ5: Is solver support necessary for prizes to be successful?

Support was limited by design; support that was provided served to motivate solvers

Dreampipe II provided a limited level of solver support. This was largely by design – to give solver teams an equal footing to compete, though there is also some evidence that the Prize Team would have liked to have provided more support, and sought funds to do this. This additional support was signed off by DFID. However, it did not go ahead, in part because the majority of this support would have come in the cancelled Phase 3. The solver support that was provided served to motivate solver teams. This support was to become more crucial in Phase 3.

Preparation for solver support in Phase 3 tested the overall assumption of the Prize

In parallel to solver activity in Phase 2, the Prize Team contacted a wide range of financiers to develop a pool of potential financing sources for the expansion projects under Phase 3. This outreach had limited results and the Prize Team concluded that the non-traditional sources for financing would likely be country-specific, for example local commercial banks. This provides further evidence that the overall assumption of the Prize's design – that there would be non-traditional sources that would be willing to finance NRW reduction activity to be undertaken by utility companies in developing countries – was flawed.

Contribution of solver support to continued participation in the Prize is unknown

Evaluation feedback was only received from solvers who won a prize under either Phase 1 or Phase 2 of the Prize (or both); these solvers all received the same level of solver support (albeit a small amount). With no counterfactual available, it is difficult for this evaluation to conclude whether solver support is necessary for prizes to be successful.

Implications of the collective evaluation findings

Overall this evaluation found that an inducement prize alone was not suitable for addressing the problem of NRW financing in developing countries.

The barriers to entry to the Prize were high, due to the level of solver investment required, and the short timeframe for mobilisation and implementation by solvers. This limited the number of solver teams that participated in both stages of the Prize. A higher prize purse for Phase 1 may have helped induce solver teams to stay within the competition and see their business plans through to fruition in Phase 2. In the Prize Team's view, a mixed approach (e.g. an initial grant followed by one or more prize stages, with technical assistance provided throughout) might have seen better overall results. This would have been a fundamental change to the Dreampipe II design.

Ultimately, a lot was simply unknowable *ex ante* about the nature of the problem and the suitability of a prize to help solve a particular aspect of it. There was always a risk that the financing of NRW reduction was too complex and not a "prizeable problem"; and that the Prize would not result in a point solution. This risk could have been reduced through extra solver support and larger prize awards. However, these would have had additional cost implications and, in the instance that they did not improve the Prize's performance, they would have had a negative effect on the Prize's overall VFM.

This evaluation concludes that it was worth Dreampipe II exploring whether a prize was a feasible approach to the problem of financing NRW reduction in developing countries, in the context that it was part of a broader suite of prizes under a learning programme. However, based on what is known now about the nature of the problem (that was not known at the start of the programme), it is unlikely that a small level of additional solver support would have given Dreampipe II a reasonable chance of success in achieving its ultimate goal of surfacing workable and replicable ideas for how to expand the financing available for NRW reduction.

Lessons for future prizes

Based on our findings and conclusions we pose a set of lessons that can be drawn from this evaluation for broader application.

Not all development problems can be solved through innovation prize processes alone.

As per the conclusion in the previous section, this evaluation found that an inducement prize alone was not suitable for addressing the problem of NRW financing in developing countries. For this type of complex development problem, it may have been more appropriate to:

- invest in a feasibility study upfront across a number of countries;
- focus on one or a small number of countries for implementation (rather than having a global remit as Dreampipe did); and/or
- start the prize process with a competitive process to secure a start-up grant for solvers.

Running a prize as part of a broader grant programme could also have additional value-for-money benefits, such as baseline data and direct feedback from beneficiaries being available to help evidence the additionality of the prize component.

Some types of development problems will require more hands-on technical solver support during the prize process.

This evaluation found that identifying, engaging and accessing non-traditional sources of financing for NRW reduction activity by utilities in developing countries went beyond the capabilities of many of the solvers involved, in part due to the lack of existing willing financiers. While it may not have changed the overall result of the Prize, the Prize Team could potentially have interacted with solver teams in a more proactive way to support them, without creating any bias towards specific participants.

Decisions in relation to prizes' design and implementation should be captured systematically and clearly communicated in real time. Subsequent prize evaluations may provide new perspectives on decisions made during the prize process. Any discrepancies will need to be explained to funders.

This evaluation required a high level of follow-up and validation with the Prize Team about the timing and rationale behind certain decisions, particularly in relation to the decision to close the Prize early. This decision (like other prize decisions) was based on information available to the Prize Team and the I2I Programme Team at the time. The findings from this evaluation are based on the broader evidence base now available, including what has happened since the Prize closed. This means the evaluation provides a different, more nuanced view of the decision made in real time.

It is important for prize managers to communicate upfront what is and is not open to change in terms of the prize's design. This may include for example updating/reminding solvers that there is no guarantee of financial compensation and that the prize may be amended at any point.

This evaluation found that, while solver teams involved in Dreampipe II were in general satisfied despite the cancellation of Phase 3, the potential for change within the Prize process was only explicitly outlined within the Prize's terms and conditions and not in the guidance for each phase. It would have been better to include clear disclaimers during the Prize process itself.

Recommendations for I2I programme and future prizes

This section provides recommendations for both the remainder of the I2I programme and for future development prizes. The recommendations for I2I are aimed at the programme team and DFID. They are intended to both build on and further the results of Dreampipe II, and apply the learning from the Dreampipe II experience, in relation to aspects that worked well and less well, to other prizes within the I2I portfolio. Recommendations for future prizes are aimed at prize managers and donors.

Recommendations in relation to evaluating prize programmes are not provided here. The I2I evaluation team are reflecting on learning from each prize evaluation and applying this to subsequent prize evaluations on an ongoing basis. The Itad team will also be developing a set of learning papers towards the end of the I2I programme, which will be available at www.ideastoimpact.net/research. These will document both our evaluation approach to prizes for development and key learning from across the prizes.

Table 17: Recommendations for the I2I programme and for future prizes

Ref	Recommendation	Audience
1	<p>Package the experiences and learning from Dreampipe II and share this in a targeted way with specific audiences to further the Prize objectives – The I2I programme team should consider how to efficiently package the experiences and learning from Dreampipe I and II for the purpose of raising the awareness of water, finance and development actors of the challenges of securing non-traditional financing for NRW reduction in developing countries, while also highlighting some successes, in order to inform others’ efforts to address this issue. While the Prize does not have replicable solutions for financing NRW reduction in developing countries using non-traditional sources to share, it has generated new learning about the problem, some potential case studies to support this, and a “good practice” methodology for how to judge the performance of NRW reduction projects in a comparable way.</p> <p>This post-prize activity should be audience led rather than supply driven. The evaluation team understand that the I2I programme has already secured funds from DFID for a learning activity based on the experiences of Dreampipe II. The findings of this evaluation can be used to support the scoping of this activity.</p>	I2I programme team DFID
2	<p>Review other I2I prizes’ policies and likely performance against “Equity” – All prizes being evaluated under the I2I programme are being assessed at the point of evaluation (i.e. after prize close) against Equity, as well as the other 3Es for VFM. For those prizes for which there is still scope to improve results in relation to this aspect of VFM, a light touch review should be undertaken by the I2I programme team. This should focus on what each prize is doing to ensure Equity, and what is known, even if only anecdotally, of the distributional impacts of solutions under the prize. The results, any concerns and related actions should be discussed with the programme’s funder, DFID.</p>	I2I programme team DFID
3	<p>Consider and apply the results of the Dreampipe II evaluation to other I2I prizes – Different aspects of this evaluation will be relevant and speak to different prizes within the I2I portfolio. Each prize team should familiarise themselves with the findings of the Dreampipe II evaluation and, either together as a programme, or separately as prize teams, explore what can be done to improve the chances of success of their own prize within the remaining timeframe. For example, they might consider increasing technical support for solvers. The results of this review should be discussed as appropriate with DFID and actions identified for both prize teams and the donor.</p>	I2I programme team DFID

Ref	Recommendation	Audience
4	<p>When designing future prizes, be explicit about the “known knowns” and the “known unknowns” about the development problem the prize seeks to address – The problem should be fully researched, and an evidence-based theory of change developed on this basis. Where there is a strong evidence base behind certain assumptions about the problem and how the prize can address this, this should be outlined. Where there is little/no evidence behind assumptions, this should be highlighted. Learning about the development problem should be captured throughout the prize process, the ToC updated accordingly, and the prize’s design adjusted in response as appropriate (see also recommendations 8 and 9 below). Prize theories of change should be reviewed on an ongoing basis, to remind prize managers of the overall strategic objective of the prize, and update the problem statement and how the prize will address this, as more information becomes available and the prize evolves.</p>	<p>Prize managers Prize evaluators</p>
5	<p>Consider VFM in the design of each stage of a multi-stage prize, particularly the issue of “Equity” – Where there is a risk that not all stages will be completed as planned, prizes for development should consider VFM aspects for every stage of the competition, and for different scenarios (e.g. different combinations of stages), and not just in relation to an overall prize. If consideration of equity is not to be built into every prize stage as a requirement, then this should be formally justified and discussed with the funder, and documented. Risks of not meeting equity objectives for the overall prize should be monitored and managed.</p>	<p>Prize managers Donors Prize evaluators</p>
6	<p>Actively manage risks of prizes failing or falling short of their objectives – Prizes should be expected to sometimes fail or fall short. This risk should be actively managed and mitigated by, for example, having a portfolio of prizes (i.e. not being dependent on the results of just one), and having multi-stage prizes with decision-points built in. Should a multi-stage prize not complete all its stages, and end earlier than expected, resources should be re-deployable to maximise VFM of investments to date, for example, through communications or grant support to continue the benefits. This could involve solver support to continue, replicate or scale-up solutions uncovered by the prize.</p>	<p>Donors Prize managers</p>
7	<p>Consider and maximise solvers’ chances of success through appropriate timeframes and sufficient solver support – The overall parameters of the prize (i.e. what is expected of solvers and the timeframe/reward for this) should be considered from a solver perspective. For example, the timeline should reflect the appropriate timeframe for each prize stage; prize managers should avoid setting prize deadlines around external timeframes where possible.</p> <p>Prize managers should consider throughout the prize process what is “fair” and reasonable for participants; they may even consult directly with solvers on this aspect. Any changes made (e.g. to the level of solver support and deadlines) should be applied to all solvers in a fair and transparent way, to give them the same chances of success. Communication should be sustained throughout the prize process to ensure all stakeholders have the same understanding of the prize and its requirements.</p>	<p>Prize managers</p>
8	<p>Allow for a certain level of flexibility in prize design, for example, through multiple prize stages or the addition of solver support – While the overall prize design should be fixed, an appropriate level of flexibility can be built in. Design changes are less ethical in a prize context, as solvers are risking their own resources, based on what is promised. The prize’s overall design document and guidance documents for each stage should clearly set out an overall prize design and process that is fixed. They should also include and draw solvers’ attention to</p>	<p>Prize managers</p>

Ref	Recommendation	Audience
	<p>aspects that might be adjusted during the prize process (e.g. cancellation of a subsequent stage). In general, the overall prize timeframe and purse for each stage should be fixed. There is, however, scope for flexibility within this – for example, rather than specifying how many awards will be made, and specific prize award amounts, the prize documents might provide a range of “up to” a certain number of prizes and the upper and lower limits of each prize award. The level and nature of solver support, the prize purse and timeframes for subsequent stages should be set based on learning from prior stages.</p>	
9	<p>Use “adaptive programming” and “adaptive management” principles – To deal with the level of uncertainty in the management and performance of prizes, and the unpredictable nature of the development problems they seek to address, prizes should be run and managed adaptively for maximum effectiveness and value for money. Prize managers should adopt an “adaptive programming” approach; following a structured process of reflection and ongoing strategy development. This approach both supports delivery teams to be adaptive and holds them to account. Prize decisions should be documented throughout the prize process, including their basis and timing, to provide a clear, accountable record of the rationale of key design decisions for later evaluation and learning.</p> <p>Meanwhile, donors should manage prize programmes, using “adaptive management” principles; creating an enabling environment to enable adaptive programming and delivery to happen in reality.</p>	<p>Prize managers Donors Prize evaluators</p>
10	<p>Closely track potential negative unintended consequences – Given the unpredictability of who will apply to and participate in a prize, and what their solution may involve, prize managers should seek to identify and understand any potential negative consequences of the prize as they evolve. This can be done via a risk matrix, with the level and impact of risks assessed through close engagement with solvers, and potentially through already built-in aspects of the prize design, for example verification visits to solvers.</p>	<p>Prize managers</p>

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Dreampipe II Evaluation Annexes

Annex 1: Dreampipe II evaluation methodology

This Annex provides more detail on the evaluation methodology used, including the value for money and sustainability assessments, data collection and analysis, and limitations/bias affecting the evaluation. It also summarises some of the key changes to the methodology in response to changes to the Prize design.

Key features of the evaluation approach

Value for money assessment

The original intention, was to undertake an internal and external VFM assessment:

- **“Internal” assessment:** to measure the VFM of Dreampipe II against the original expectations for the Prize. The methodology and results for this assessment are presented in Section 8 of the main report.
- **“External” assessment:** to measure the VFM of Dreampipe II in comparison to an alternative funding mechanism targeting similar outcomes. This idea of an external assessment was explored and discounted, however, for the reasons set out below.

For the internal assessment, we developed a set of indicators against the “Four Es”: measuring Economy, Efficiency, Effectiveness and Equity. We collected data against each indicator, drawing from primary and secondary sources (see Section 1.2). We then analysed the data available to provide a rating and corresponding narrative against each indicator. We used a rating scale drawn from DFID’s VFM approach; wherein 1 = substantially did not meet expectations; 2 = moderately did not meet expectations; 3 = met expectations; 4 = moderately exceeded expectations; 5 = substantially exceeded expectations. We averaged the scores to give a final rating for each “E”. We draw up from the narrative and the ratings to provide an overall assessment for the “internal” VFM of Dreampipe II.

We explored the external VFM assessment for Dreampipe II. However, this did not go ahead due to the lack of a suitable comparator programme that would provide an appropriate thematic comparison (i.e. NRW reduction), and for which data was readily available. We considered comparisons with performance-based contracts, pilot projects, and hackathons, including exploration of DFID, Water and Sanitation for the Urban Poor (WSUP), World Bank and UNICEF projects; however a comparable programme was not found. This absence of any projects with comparable aims to Dreampipe was also highlighted by the Prize Team during the Prize design stage; a result of the specificity of the Prize problem.^{lxviii}

Sustainability assessment

We collected and analysed additional data to understand the sustainability of Dreampipe II solutions, sources of financing and ways of working, beyond its lifetime. The aim was to assess progress along the ToC, in the context of Phase 3 not going ahead. The sustainability assessment primarily provides data for PEQ2 (which focuses on sustainability), though it has also been used to answer the other PEQs. The four overall winners of the Prize were interviewed to understand the sustainability of the Prize’s effects: we spoke to the main representative for three of the winning solvers of Phase 2; as well as conducting a team interview with the other winning solver.

In preparation for these interviews, we consolidated the primary and secondary data available for each of these solvers and their “solutions”. This provided a basis for the interviews to build on to complete the Dreampipe “story” for the winners and helped identify priority areas to specifically ask about within the framework of a standard set of interview questions. See Annex 2 for the prompts used by the interviewer.

Data collection and analysis

Secondary data

We reviewed a collection of over 250 documents related to the Prize. This included:

- 16 Preparation & Design documents
- 116 Phase 1 documents
- 117 Phase 2 documents
- 10 Miscellaneous documents

The document review was taken in two parts: the first to inform the two rounds primary data collection; and the second through asking direct questions of the data in order to fill “data gaps” and seek further evidence at the analysis stage.

Primary data

We completed a series of stakeholder interviews, through two rounds of data collection at 4 months after the award of Phase 2 and then 10 months after award (this marked a full year since final submissions under the Prize). Our sample is indicated in Table 18. We conducted the interviews remotely for both rounds of data collection.

Table 18: Interview sample sizes

Sample group	Target number	Actual number	Initial interviews	Sustainability interviews
Solvers	10	7	6	4 (of 4)
Prize Team	3	3	3	N/A
Judges	7	7	7	N/A
Total	20	17	16	4

Data analysis

We coded the data and used qualitative analysis methods to triangulate between sources and draw out findings. After a first round of data analysis, we presented emerging findings back to the Prize Team in a validation workshop (January 2019), which represents an additional data source. We used this and the second round of data collected (i.e. the sustainability interviews) to build on the first round of data analysis and produce a final set of findings. We then shared a near-final draft of the report with the Prize Team for their feedback and final validation.

Limitations and biases and implications of these

We have identified a number of limitations and biases to the methodology used and the data available. We have used triangulation in both data collection (asking the same question different ways and at different times) and data analysis (through use of different methods and different questions) to mitigate these limitations, as in Table 19 below.

Table 19: Limitations and biases of this evaluation

Limitation / bias	Implication
Lack of secondary data, including the key information of the solvers and their submitted “solutions”, in collated form	The evaluation team were provided with direct access to the Prize’s centrally stored documentation. It has been very time consuming to navigate through all of the Prize documentation, and finding the key information directly. In instances where answers were not clear from the secondary data, the Prize Team were receptive and responsive to questions of clarification
Lack of monitoring data for internal VFM assessment and appropriate comparator for external assessment	This meant the internal VFM assessment takes its basis (i.e. the expectations and the results against these) from a variety of sources and uses proxy and estimated values where the originals were not available. It was not possible to undertake an external VFM assessment for reasons explained in Section 1.1
Small population and sample size	Though there is fairly good coverage of the small population of the Prize, the consultation lacks the non-winner view and there is a bias towards the overall winners, three of whom were interviewed twice (in both rounds of data collection). Phase 1 winners who did not go on to win Phase 2 were interviewed via email (at their request), and so we do not have the same depth of data for these solvers
The interview schedules for the initial primary data collection included a long list of questions	It was difficult to cover all of the questions within the interviews, even when these were extended. This means that, for specific questions, we have not necessarily got full information for that question for every stakeholder interviewed. This has affected the ability of this evaluation to confidently provide counts for each finding. Instead, we have used the SoE terminology to indicate the level of evidence
The sustainability interviews could not go into depth with all winning solvers (i.e. those who won a prize under Phase 1 but did not win in Phase 2) within the evaluation resources	This adds to the data bias towards the experiences of the four overall winners of the Prize
It was beyond the evaluation’s remit to evaluate the results of the individual projects involved in the Prize, and beyond the evaluation’s resources to fully explore these. And yet their performance determines the overall success of the Prize	We used a combination of secondary data (e.g. reports submitted by each solver, judges’ scores and comments from both phases, the independent verifier’s view of the reliability of data) and primary data (interviews with stakeholders with differing perspectives – solvers themselves, judges and members of the Prize Team) to triangulate and provide a fuller picture. However, it was a challenge to definitively understand what happened on the ground for each solution, both during and since the Prize. For example, it was difficult to establish the actual level of commitment to reducing NRW and related activity since the Prize closed for each solver, including Dreampipe’s contribution to this

Main changes to evaluation design

The SEQs were reduced from the long list originally proposed to simplify these and be more aligned to the budgetary scope of this evaluation. This was done in consultation with the Prize Team. Field visits were part of the original evaluation design and were to be undertaken after Phase 3. When the decision was made for the Prize to close early before Phase 3, the evaluation methodology was revised accordingly. It was agreed to keep the evaluation scope small in favour of doing a sustainability assessment. The verification agents visited all solvers in Phase 2 and the evaluation team drew on their findings.

Annex 2: Interviewer guide for sustainability interviews

The following question areas were covered in each interview, along with a list of “priority things to find out” from each solver, based on a review of the available secondary and primary data. The interviewer used these as a guide for each conversation – the intention was not to ask the questions directly but to ensure we collected the answer to each question through a semi-structured conversation.

1. Prize’s effect(s) on the solution

- What happened next? Has work on the “solution” / demonstration project continued or the expansion project started?
 - IF YES, in what way / at what scale / with what results? What is the same / what has changed? Who / what has driven this?
 - IF NO, why not [anything to do with the feasibility / effectiveness of the solution?]
- What have been the enabling factors / barriers to continuing work on the solution?
- How has being part of (and winning) the Dreampipe II Prize affected what you did next?
- Did Dreampipe closing early / a lack of “Phase 3” affect what you did / were able to do next?

2. Prize’s effect(s) on financing

- What happened next? Did you seek / secure further financing for your expansion project (or some other follow-on work from your demo project)?
 - a. IF YES, how much and from who/where? Was it enough? Who/what has driven this?
 - b. IF NO, why not [anything to do with the feasibility / effectiveness of the solution?]
- What have been the enabling factors / barriers to securing further funding?
- How has being part of (and winning) the Dreampipe II Prize affected your securing further funding?
- Did Dreampipe closing early / a lack of “Phase 3” affect the financing of the project?

3. Prize’s effect(s) on ways of working

- What did you/the team do differently as a result of being part of the Dreampipe Prize process? [examples below if need to prompt or bring back on track]
 - Different partnerships / relationships or approaches to collaboration
 - Different ways of working e.g. due to the quality assurance role of Dreampipe
 - Different focus – e.g. finding financing solutions for NRW reduction and control
 - Different motivations – did motivation of key stakeholders change?
- How did being part of the Dreampipe Prize lead to these different ways of working?
- Have these different ways of working continued? E.g. have you continued to work together / collaborate with the demo project partners?
 - IF YES, in what way and with what result? Who/what has driven this?
 - IF NO, why not?
- Did Dreampipe closing early / a lack of “Phase 3” affect your way of working?

4. Is there anything else you would like to tell us about what has happened [or not happened] since Dreampipe Challenge closed?

Annex 3: Dreampipe I Prize evaluation findings

The following findings and recommendations are adapted from the Dreampipe I evaluation report, which was produced for an internal audience (the Prize Team, broader I2I programme team, including other prize teams, and the funder, DFID). The evaluation focused on the process and output-level results of the Prize.

Prize process

The Dreampipe Prize Team demonstrated an impressive level of flexibility and creativity in adapting the Dreampipe I Prize process to fit the situation, making the best they could of the small number of applications received. Much of this investment in designing a prize process that works should pay dividends in Dreampipe II (particularly Phase 1 of this, which is most similar to Dreampipe I).

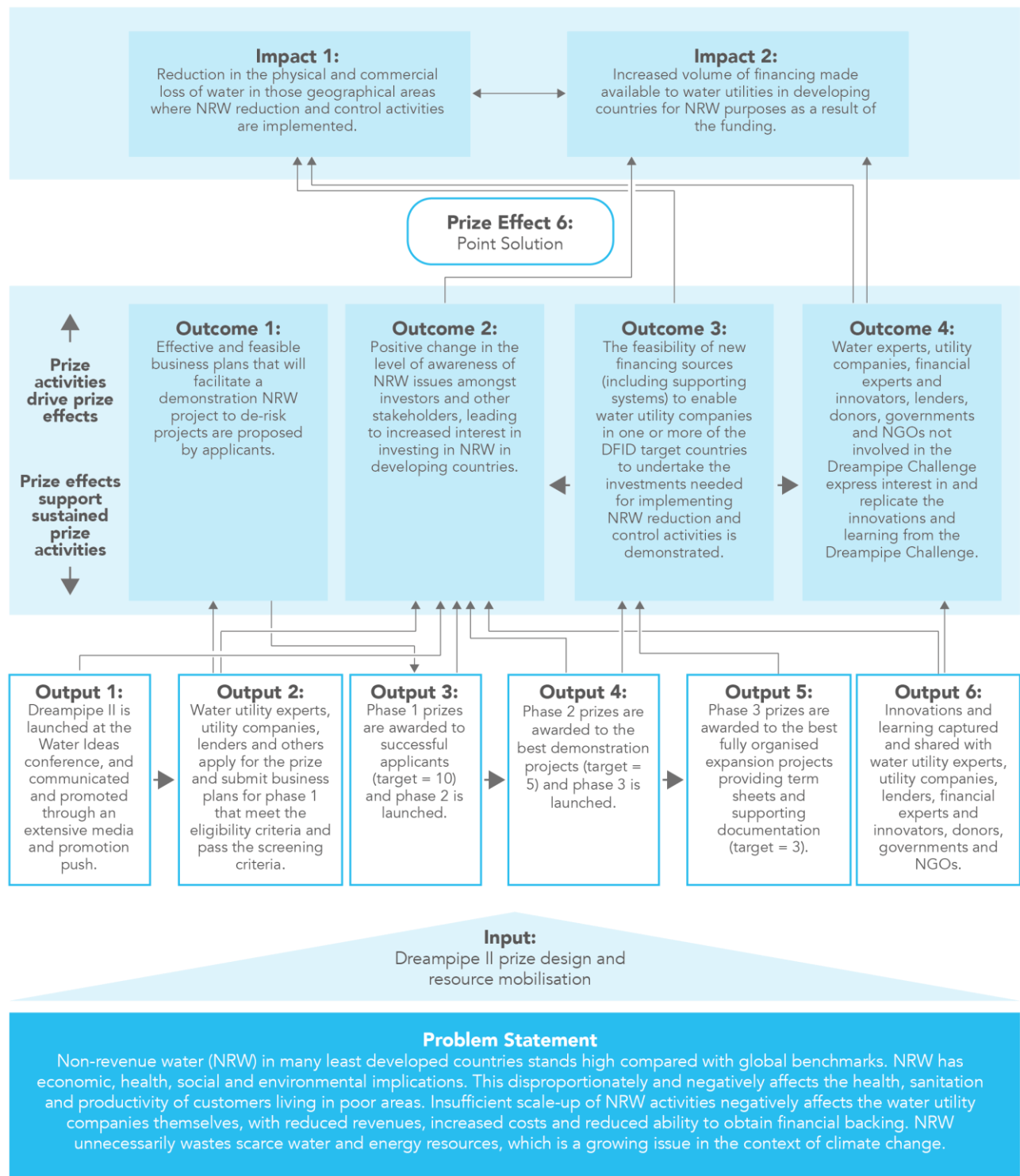
The evaluation process, based on initial findings, identified practical lessons on what worked well and less well in running a global “point solution” prize that targets new groups of solvers. These were shared with the Prize Team to inform the re-design and running of Dreampipe II during a learning workshop in September 2016, prior to Dreampipe II being launched.

The evaluation further recommended that, for Dreampipe II, the Prize Team should:

- consider ahead of time how they will deal with various scenarios, particularly in the case that a significant number of applications is received, i.e. how to scale up Dreampipe I approaches.
- enhance transparency and communication in the prize process by thinking about the experience from an applicant’s perspective.
- build in pauses and review points between the three phases of Dreampipe II to identify and act on learning.
- **Prize reach and prize results**
- The evaluation found that the Prize had limited success in reaching financial and non-NRW professionals, and in sufficient numbers. This was at least in part due to the skew in promotion towards the water sector. The Prize’s global scope may have diluted the outreach compared with if the Prize had focused its promotional activities on a smaller number of countries and actors. The intended prize results depended on the Prize reaching a sufficiently large pool of the right combinations of people, so that enough of these were converted to registrants and applicants with high-quality and novel solutions. The results were therefore greatly affected by the Prize not attracting sufficient numbers of applications. It is unknown what factors most affected this, i.e. was it: that the right people didn’t know about the Prize; due to the attractiveness or accessibility of the Prize itself; or because of other external factors beyond the Prize’s control.
- As Dreampipe II was seeking to reach similar audiences to Dreampipe I, the evaluation recommended that the Prize Team significantly change their approach in the targeting of new solvers – whether this is finding ways to reach the non-traditional stakeholders directly or through intermediaries. It advised that these efforts should build on the positive brand awareness achieved in Dreampipe I. It suggested that ongoing monitoring of prize awareness would be critical in order to tailor and target promotion of the Prize before applications to Phase 1 closed – particularly as the participants of Phases 2 and 3 of Dreampipe II were to be drawn from those involved in Phase 1. The evaluation also recommended that the Prize Team should have a strategy for raising awareness of NRW issues with specific target groups if this was primary to the Dreampipe II ambition.

Annex 4: Dreampipe II theory of change

Figure 3: Dreampipe theory of change (and assumptions – next page)



ASSUMPTIONS

IMPACT

Implementation of the phase and prizes goes ahead as planned.
 Other strong submissions are also implemented.
 Dealing with physical losses of water creates momentum to deal with the commercial losses.
 No other external factors affect the level of physical and commercial loss of water.
 Poor people benefit from the NRW reduction and control activities as expected, including that these benefits associated with prize participation are sustained.
 Water utilities use increased revenues as expected (to slow down tariff increases, to increase maintenance and investments and to bring more of the poor into the piped water system). Successful ventures raise public and investor awareness of opportunities.
 Prizes launched are effective in stimulating investment.
 International and local investors are willing to invest in the deployment of solutions in countries.
 Winning projects are replicated and scaled up and costs to be reduced.
 Water utilities in developing countries demonstrate sufficient capacity to manage external funds.
 Financing is of the sufficient level and type for NRW reduction and control activities, including that access to this funding is sustained.
 NRW is primarily a result of lack of finance.
 The mechanisms and lessons from the winning solutions can be readily adopted by other systems.

OUTCOMES

Financial experts and innovators have an appetite to be involved in the water sector.
 Water utility experts and utility companies are willing to work with applicants. Solvers have a sufficient understanding of the context and what will work in developing countries.
 The messages and media used to communicate about Dreampipe are appropriate and reach the intended audiences.
 Financial investors previously had a lack of awareness and understanding of the issues and risks of NRW for developing countries.
 A lack of awareness and understanding about NRW in developing countries is affecting perceptions and behaviours towards investing in reducing NRW. Those who specialise in the water sector already know about the NRW problem but do not have the resources or capacity to tackle it on their own.
 Winners from Phase 2 are able to link up with appropriate financiers and convince them to participate in funding the expansion project. Expansion projects have merit and are successfully developed.
 The results from Dreampipe II are summarised in a sufficiently useful way and disseminated to reach the appropriate audiences.
 Results from Dreampipe II receive media attention and coverage in relevant sectors, allowing experts to access the information.
 Ideas are replicable across geographies, reducing costs and risks, and encouraging private investment.

OUTPUTS

The messages and media used to communicate about Dreampipe II are appropriate and reach the intended audiences.
 The more people that are aware of the Dreampipe II Challenge the better chance there is of an appropriate and feasible business plan being put forward.
 Monitoring data provides sufficient and timely information and feedback for the design team to understand the effectiveness of the communications activities and adapt these accordingly.
 Water utility experts, utility companies, financial experts and innovators from around the world know about the Prize in time to apply.
 Applicants from different sectors and with different expertise (notably, technical and financial) are able to identify appropriate partners and self-organise into consortia.
 Non-utility applicants are able to interest a selected utility to cooperate with them and the utility staff are able to obtain the formal agreement of management.
 The prize value (£30,000) and any other perceived benefits (e.g. prestige, Return on Investment) are appropriate to attract a sufficient number of the target audience and for them to justify the risk of investing upfront.
 The Prize application content and process is accessible and of sufficient duration for interested parties to apply with concepts of sufficient quality. The prize team has allocated sufficient resources to respond to enquiries.
 The Prize is able to attract a credible judging panel drawn from recognised industry leaders, financing specialists (both conventional and unconventional financing of various kinds), specialists in water company operation, specialists in NRW reduction and experts in performance contracting.
 Judges with sufficient time, expertise and no conflicts of interest can be found and consistently interpret the judging criteria to make an award. Applicants pass due diligence.
 Prize winners are able to attend the event (if one is held).
 Winners from Phase 2 are able to link up with appropriate financiers and convince them to participate in funding the expansion project.

INPUTS

Sufficient resources are deployed to ensure the robust and timely design of the Dreampipe Challenge.
 The Prize is designed to address sufficient aspects of the prize problem statement. The Dreampipe Challenge design draws on lessons from other 121 prize experiences to date. Further, Dreampipe II draws on the experience and lessons of Dreampipe I.
 Research and analysis contribute to the limited evidence base on prizes.
 Evidence on failures provides valuable lessons learnt for the sector and is a global public good. ss the information.

PROBLEM STATEMENT

NRW is one of the most pressing issues that water sector operators are currently facing.
 Lack of sufficient and appropriate financing is one of the main challenges currently limiting the scale-up of NRW reduction and control activities in developing countries.
 Other barriers limiting the scale-up of NRW reduction and control activities in developing countries (e.g. staff productivity, social and political) will be addressed by other initiatives (outside of the programme).
 Existing NRW reduction and control approaches will be effective in developing countries, and minimal to no further technical innovation is required. This will take place outside of the programme.
 Solutions identified through Dreampipe are realisable by water utilities in developing countries (once resources are available). These can then act as an example for others. In general, larger utilities (as well as those with lower operating costs or no water scarcity) tend to have the fewest incentives to decrease NRW.

Annex 5: The story of the Prize against its ToC

Table 20: The story of the Prize against its ToC

Intended results	Finding	Result achieved
<p>Output 1: Dreampipe II is launched at the Water Ideas conference and communicated and promoted through an extensive media and promotion push (October 2016) [Phase 1]</p>	<p>The Prize was launched as planned in October 2016. The Prize Team then spent the following month promoting Dreampipe II. There is limited, anecdotal evidence that awareness of the Prize among water professionals in the field was high.</p> <p>According to the Prize Team, the promotional push involved a two-pronged strategy: approaching IWA and others to get the Prize mentioned in media (e.g. blogs, websites and LinkedIn groups); and emailing specific organisations and people. This was predominantly to reach stakeholders from the water sector; promotion with financial stakeholders was to come later. By early November 2016, the Prize Team reported they had emailed 105 people; some of whom are known to have shared these emails onwards. In addition, the African Water Association (AfWA) sent an email to its members on the Prize’s behalf. The Prize Team also explored how they might reach utilities in Asia; however, an equivalent organisation did not exist and other organisations, such as the IWA and development banks, were not in a position to contact prospective participants. Therefore, in Asia, the Prize Team relied on emails, IWA blogs, and other media. To avoid bias, the Prize Team did not do any country-specific promotion.</p> <p>According to the I2I annual report (for Period 2017) a tweet in relation to the opening of Dreampipe II registrations was one of two “most engaged” tweets for the I2I Twitter account in 2017 (generating over 1,625 impressions and 44 engagements – likes, retweets and clicks).</p>	<p>Yes, though noting that the global nature of the Prize limited the level of targeted promotion that the Prize Team could do.</p>
<p>Output 2: Water utility experts, utility companies, lenders and others apply for the Prize and submit business plans for Phase 1 that meet the eligibility criteria and pass the screening criteria [no specific target] [Phase 1]</p>	<p>77 individuals “registered” their interest to participate in Dreampipe II.³⁴ Of these, 39 individuals started an application on the online prize platform. 14 of these submitted a business plan for Phase 1 by the deadline of March 2017. 10 of these submissions met the eligibility and screening criteria.^{lxxiv} Promotion of the Prize through IWA channels potentially led to a bias in the recruitment of solvers towards the water industry. The Prize Team uphold that participants needed to have expertise in the water sector and NRW management. This is further explored in response to SEQ1.2 and 3.1 in Sections 6.2 and 8.2 of the main report.</p> <p>There was not a specific target for how many registrations and submissions would be received, however the I2I annual report for the Period 2016 suggested the Prize expected “at least 10 good concepts in Phase 1”. It is beyond the scope of this evaluation to assess the number of applications received and to</p>	<p>Yes</p>

³⁴ Note, these registrations do not represent the potential number of applications for Phase 1 as multiple individuals from one solver team could register.

Intended results	Finding	Result achieved
	<p>understand the reasons that the level was not higher. This could have been, for example, because participation was limited to utilities serving more than 150,000 individuals (this was to achieve the intended scale of the Prize). As reported in the annual report for Period 2016, <i>“this has unfortunately meant that some utilities or cities were not eligible”</i>. Other potential reasons for the low number of applications are: not enough or not the right people heard about the Prize (it is a relatively small community); the focus and format of the Prize did not appeal; and the Prize was asking or expecting too much within the timeframe and/or prize purse. However, there is no evidence to confidently substantiate this.</p>	
<p>Output 3: Phase 1 prizes are awarded to successful applicants (Target = 10) and Phase 2 is launched (June-July 2017)</p>	<p>From the 10 eligible applications received, eight solvers were awarded £30,000 prize money each for their business plans at the end of Phase 1 in May 2017. Phase 2 was launched with 10 participants in June 2017 i.e. with the full number of intended competitors. The two non-winning solvers were offered feedback and the chance to participate in Phase 2: <i>“because we had originally allowed for up to 10 [participants] in Phase 2, we invited two high-scoring non-winners to continue in the competition”</i> (I2I annual report for Period 2017).</p> <p>The judging panel was made up of NRW and utility specialists. Unlike Dreampipe I, it did not explicitly include financial specialists. According to a Prize Team member, this judge profile would have been introduced in Phase 3, had they felt it was useful at that stage. Note that one judge of both Dreampipe I and II also participated in the Dreampipe II Prize as a solver. The potential conflict of interest was explored by the Prize Team, who decided that, the reason the solver had left the Prize (after Phase 1) would not affect their judging in Phase 2.</p>	<p>Yes, though noting that there were only eight rather than the target 10 winners.</p>
<p>Output 4: Phase 2 prizes are awarded to the best demonstration projects (Target = 5) and Phase 3 is launched</p>	<p>Six of the seven demonstration projects submitted by the deadline of March 2018 were eligible for judging. Three solvers left the competition during Phase 2 (including the two who had not received prize money at the end of Phase 1). At the time of annual reporting to DFID (for Period 2017), the I2I team reported that they had had: <i>“three dropouts (including one winner), so there [was] now a pool of seven competing. The dropouts have been due to extenuating circumstances”</i>. The reasons for these solvers leaving the prize process are largely unknown. Four solvers were awarded with prize money: 1st place £70,000; 2nd place £50,000; and joint 3rd place received £30,000 each. The Prize award took place at the 2018 IWA Waterloss conference in South Africa, with the Prize funding the four winning solvers’ attendance. Phase 3 was cancelled.</p>	<p>Partially – Phase 3 was not launched because it was cancelled. The reasons for the early closure of the Prize are explored in Section 5.2 of the main report.</p>

Intended results	Finding	Result achieved
<p>Output 5: Phase 3 prizes are awarded to the best fully organised expansion projects providing term sheets and supporting documentation [Target = 3]</p>	<p>Phase 3 of Dreampipe II did not run.</p>	<p>No</p>
<p>Output 6: Innovations and learning captured and shared with water utility experts, utility companies, lenders, financial experts and innovators, donors, governments and NGOs [Phases 1, 2 & 3].</p>	<p>The names of the eight winning solvers of Phase 1 and headline details of the four winning solutions of Phase 2 were shared on the Dreampipe and Ideas to Impact websites, including an interview with one of the winning solvers. According to a Prize Team member, more detailed information was not shared about the winning solutions <i>“because it was an active competition, so sharing too much might have had an impact on competitive advantage that any solver had”</i>. The Prize Team also shared learning informally with their networks. Otherwise, there has been limited activity for this output both during and since the Prize. According to a Prize Team member, this was partly due to time availability (they were a small team and occasionally overloaded). It was also due to the Prize’s experience that finding replicable solutions for the issue of financing NRW reduction is not straightforward. The bigger push for replication would have come if/when the expansion projects of Phase 3 had demonstrated the feasibility of non-traditional financing for NRW reduction activity.</p> <p>Soon after the Prize’s launch, the Prize Team requested additional budget of £20,000 <i>“to spread the message about Dreampipe II, both to encourage replicability and to get as many financing institutions involved as possible”</i> during Phase 2 and 3 (I2I annual report for Period 2016). This was to be done through Prize Team members attending relevant conferences, events and workshops. This activity did not go ahead, except on an ad hoc, small-scale basis. For example, the Prize Manager attended the Global Leakage Summit in 2018 shortly before Phase 2 was awarded. This was due to the activity being planned for the end of Phase 2 (had the Prize have been continuing) and Phase 3. Information on the winning solvers could have been shared since the Prize’s closure, however, the Prize Team have been awaiting this evaluation report to use as a basis for promotion.³⁵</p>	<p>No</p>
<p>Outcome 1: Effective and feasible business plans that will facilitate a demonstration NRW</p>	<p>Eight business plans were deemed effective and feasible by the judges to continue to implementation in Phase 2. Two solvers were provided with feedback on their business plans, which were not deemed eligible to win, and offered the opportunity to progress to Phase 2. These applicants <i>“were judged highly</i></p>	<p>Yes</p>

³⁵ The I2I programme team are currently scoping a piece of work to capture some of the learning from the demonstration projects.

Intended results	Finding	Result achieved
<p>project to de-risk [expansion] projects are proposed by applicants [Phase 1].</p>	<p><i>enough by the judges to permit their participation in Phase 2, if they wish to do so (and can raise the needed funds)”</i> (Phase 2 guidance document).</p> <p>The solutions put forward in Phase 1 were largely focused on the technical aspects of specific NRW reduction projects, rather than the challenge of finding new ways to finance NRW projects. This was a source of debate both at the time of judging, and during interviews with all judges as part of this evaluation. This issue and the overall achievement against this outcome are further explored in relation to SEQ1.1 in Section 6.1 of the main report.</p>	
<p>Outcome 2: Positive change in the level of awareness of NRW issues among investors and other stakeholders, leading to increased interest in investing in NRW in developing countries [Phase 1 & 2].</p>	<p>Most of the activity to raise awareness of the issue of (financing) NRW reduction was planned for later in the Prize’s lifetime and was contingent on there being replicable “solutions” to promote and expansion projects under way. The goal, as captured in the I2I annual report (for Period 2017) was <i>“for more to be published and accessed by key stakeholders once [Dreampipe II had] winners and expansion projects”</i>. In other words, little raising awareness activity was planned besides the original prize launch until later in the Prize’s lifetime. The level of awareness and attitudes of specific stakeholders were not routinely tracked as part of the Prize, which makes this outcome difficult to assess. There is limited, anecdotal evidence of awareness being raised within the utilities involved in the Prize.^{lxv} A Prize Team member reflected: <i>“[it was a] surprise to me that utilities didn’t know what their NRW values were – they knew what the concept was but didn’t [know] what was happening in their utility”</i>.^{lxvi} Based on interviews with judges and solvers, it seems that the Prize’s reach to non-water, financial audiences was limited. However, it is to be noted that the Prize Team contacted a list of possible financiers for Phase 3; preparing an information note to promote the Prize and explore their interest in working with the Prize and its contestants. The results of this approach on these stakeholders’ level of awareness of NRW issues are unknown.</p>	<p>Partially (to a limited extent)</p>
<p>Outcome 3: The feasibility of new financing sources (including supporting systems) to enable water utility companies in one or more of the DFID target countries to undertake the investments needed for implementing NRW reduction and control activities is demonstrated [Phase 2].</p>	<p>This outcome equates to the primary intended prize effect of “point solution”. There is limited evidence that the Prize showed the feasibility of new financing sources. In Phase 2, the demonstration projects were effectively one of several pieces that would be needed to show the feasibility of funding NRW reduction activity using non-traditional financing sources. Their purpose was to demonstrate the technical feasibility to de-risk NRW reduction for potential financiers; it was not a requirement to use non-traditional financing at this stage in the competition. According to the Prize Team: <i>“There were other things in the submission for Phase 2 that should have given support or not to the feasibility of financing. Unfortunately, contestants gave little attention to these requirements”</i>. The demonstration projects were mostly run with internal funds from the solver teams (with the exception of the first-place winning solution, which used non-traditional, commercial financing). This internal funding provides an indication of</p>	<p>Partially (to a limited extent)</p>

Intended results	Finding	Result achieved
	<p>the extent to which the Prize stimulated solver motivation and suggests alternative/new funding sources for small-scale projects, for example from water utilities themselves. The Phase 2 activity by solvers demonstrated the feasibility of the different stakeholders working together as teams to implement technical NRW reduction activities (both internally within utilities, and externally between consultancies, utilities and private sector/financial organisations). This is further explored in relation to SEQ1.2 in Section 6.2 of the main report.</p> <p>It is worth noting that, at the time of Dreampipe (I and II), at least one other initiative was exploring the feasibility of new financing sources for NRW projects. The World Bank financed and/or promoted six performance-based contracts for NRW initiatives in five African countries and West Bank. The team presented their learning at the Waterloss conference in 2018, the same event at which Phase 2 was awarded. Similar to Dreampipe II, the World Bank project found that this is a new approach for utilities and that budgets are limited, <i>“reinforcing the need of successful experiences to attract additional financing sources”</i>.^{lxxvii}</p>	
<p>Outcome 4: Water experts, utility companies, financial experts and innovators, lenders, donors, governments and NGOs not involved in The Dreampipe Challenge express interest in and replicate the innovations and learning from The Dreampipe Challenge [ex post]</p>	<p>Based on the evidence reviewed for this evaluation, there is more scope for applying the learning from Dreampipe II on how to approach the issue of financing the reduction of NRW in developing countries than there is for replicating the solutions developed as part of the Prize. This is in part due to the majority of solutions not identifying and testing alternative financing models (the latter was planned for Phase 3). It is also due to the solutions being relatively context-specific and not obviously replicable in new locations with new actors. For one of the winning solutions, judges and the solver in question disagreed in the potential for replication across geographies.^{lxxviii} As mentioned against output 6 above, the results of the Prize have not yet been widely shared by the Prize or I2I programme team. A Prize Team member recognised this lack of intention to do post-award activity as a gap, when considering progress against the ToC at the evaluation validation workshop.</p>	<p>No (noting that this was expected to happen ex post)</p>
<p>Impact 1: Reduction in the physical and commercial loss of water in those geographical areas where NRW reduction and control activities are implemented [ex post]</p>	<p>Reduction at scale of physical and commercial losses was expected to come as a result of the implementation of three successful expansion projects in Phase 3 of the Prize, as well as other strong submissions (from other phases of the Prize) going on to implement an expansion project. However, the demonstration projects explicitly targeted both physical and commercial losses, albeit on a smaller scale.^{lxxix} Physical and commercial loss of water was reduced in the geographical areas of the six demonstration projects. This activity has continued at a small scale within two utilities. The first-place winner of Dreampipe reported further savings. It is unknown to what extent other external factors have affected the level of physical and commercial loss of water in the implementation areas.</p>	<p>Partially (albeit at a very small scale, noting that this was expected to happen ex post)</p>

Intended results	Finding	Result achieved
<p>Impact 2: Increased volume of financing made available to water utilities in developing countries for NRW purposes as a result of the funding [ex post]</p>	<p>There is no evidence that Dreampipe II has contributed to this impact. The first-place winner of Dreampipe reported that 6 million rand (~£325,000) has been invested in their “expansion project” since the Prize closed. However, they would likely have achieved this without Dreampipe II stimulating action through Phases 1 and 2. The other three winners of Phase 2 have not sought external funding.^{lxxx}</p> <p>Based on learning from Dreampipe II, increasing the volume of financing made available to water utilities for NRW purposes would have required the expansion projects and other replication projects to stimulate non-traditional sources of financing to fund NRW reduction activities. It was also reliant on the performance of utilities in both managing the funds and in implementing NRW reduction projects of a sufficient scale to provide the required results for both the funder and utility.</p>	<p>No (noting that this was expected to happen ex post)</p>
<p>Prize effect 1: Point solution</p>	<p>The Dreampipe II Prize did not uncover a new model or approach for financing NRW reduction activities in developing countries that is feasibly replicable by the same actors and/or others in different geographic areas. It did however stimulate water experts and utilities to explore the issue of NRW and how this could be financed and implemented differently. The Prize also “surfaced” initiatives, stimulating solver teams to make public and share their ideas and projects that they may not have done otherwise (though this effect is limited due to the limited sharing of the Prize results and learning so far). This is further explored in relation to SEQs 1.1 and 1.2 in Section 6 of the main report.</p>	<p>Partially (through uncovering unexpected solutions from unforeseen sources)</p>

Annex 6: Dreampipe II theory of change assumptions

Table 21: Key assumptions against the intended Prize results

Intended results	Key associated assumptions from the Dreampipe II theory of change
Output 1: Phase 1: Dreampipe II is launched at the Water Ideas conference and communicated and promoted through an extensive media and promotion push (October 2016).	<ul style="list-style-type: none"> ▪ <i>“the more people that are aware of The Dreampipe II Challenge the better chance there is of an appropriate and feasible business plan being put forward”.</i>
Output 2: Phase 1: Water utility experts, utility companies, lenders and others apply for the Prize and submit business plans for Phase 1 that meet the eligibility criteria and pass the screening criteria.	<ul style="list-style-type: none"> ▪ The target solvers from around the world would know about the Prize in time to apply; applicants from different sectors (technical and financial) would be able to identify appropriate partners and self-organise into teams; ▪ Non-utility applicants would be able to interest a selected utility to cooperate with them and the utility staff would be able to obtain the formal agreement of management; the prize value and any other perceived benefits (e.g. prestige, ROI) would be appropriate to attract a sufficient number of the target audience and for them to justify the risk of investing upfront; ▪ The Prize application content and process would be accessible and of sufficient duration for interested parties to apply with concepts of sufficient quality.
Output 3: Phase 1 & 2: Phase 1 prizes are awarded to successful applicants (Target = 10) and Phase 2 is launched (June–July 2017).	<ul style="list-style-type: none"> ▪ <i>“the Prize [would be] able to attract a credible judging panel drawn from recognised industry leaders, financing specialists (both conventional and unconventional financing of various kinds), specialists in water company operation, specialists in NRW reduction, and experts in performance contracting”.</i> ▪ <i>“judges with sufficient time, expertise and no conflicts of interest [could] be found [who would] consistently interpret the judging criteria to make an award”.</i>
Output 4: Phase 2 & 3: Phase 2 prizes are awarded to the best demonstration projects (Target = 5) and Phase 3 is launched.	N/A
Output 5: Phase 3: Phase 3 prizes are awarded to the best fully organised expansion projects providing term sheets and supporting documentation (Target = 3).	<ul style="list-style-type: none"> ▪ <i>“winners from Phase 2 [would be] able to link up with appropriate financiers and convince them to participate in funding the expansion project”. It also assumed that “expansion projects [would] have merit and [be] successfully developed”.</i>

Intended results	Key associated assumptions from the Dreampipe II theory of change
Output 6: Phases 1, 2 & 3: Innovations and learning captured and shared with water utility experts, utility companies, lenders, financial experts and innovators, donors, governments and NGOs.	<ul style="list-style-type: none"> ▪ Based on an assumption in the theory of change, the intention was to provide valuable lessons learnt for the sector and a global public good.
Outcome 1: Phase 1: Effective and feasible business plans that will facilitate a demonstration NRW project to de-risk [expansion] projects are proposed by applicants.	<ul style="list-style-type: none"> ▪ <i>“solvers [would] have a sufficient understanding of the context and what will work in developing countries”.</i>
Outcome 2: Phase 1 & 2: Positive change in the level of awareness of NRW issues among investors and other stakeholders, leading to increased interest in investing in NRW in developing countries.	<ul style="list-style-type: none"> ▪ <i>“Those who specialise in the water sector already know about the NRW problem but do not have the resources or capacity to tackle it on their own” and that “a lack of awareness and understanding about NRW in developing countries [was] affecting perceptions and behaviours towards investing in reducing NRW”.</i>
Outcome 3: Phase 2: The feasibility of new financing sources (including supporting systems) to enable water utility companies in one or more of the DFID target countries to undertake the investments needed for implementing NRW reduction and control activities is demonstrated.	N/A
Outcome 4: ex post: Water experts, utility companies, financial experts and innovators, lenders, donors, governments and NGOs not involved in The Dreampipe Challenge express interest in and replicate the innovations and learning from The Dreampipe Challenge.	<ul style="list-style-type: none"> ▪ <i>“Ideas are replicable across geographies, reducing costs and risks, and encouraging private investment”.</i> ▪ The results from the Prize would be summarised in a sufficiently useful way, disseminated to reach appropriate audiences and that these results would receive media attention and coverage in relevant sectors to reach experts.
Impact 1: ex post: Reduction in the physical and commercial loss of water in those geographical areas where NRW reduction and control activities are implemented.	<ul style="list-style-type: none"> ▪ <i>“By dealing with physical losses of water, this [would cause] momentum to deal with the commercial losses”.</i> ▪ Poor people would benefit from the NRW reduction and control activities. ▪ Water utilities would use increased revenues, for example, to slow down tariff increases, increase maintenance and investments, and bring more of the poor into the piped water system.
Impact 2: ex post: Increased volume of financing made available to water	N/A

Intended results	Key associated assumptions from the Dreampipe II theory of change
utilities in developing countries for NRW purposes as a result of the funding.	

Exploration of the Prize assumptions

The Prize Team were perceptive in many of the assumptions they made about the Prize, the potential solvers and these stakeholders' likely motivations for participation. These were generated during, and as a result of experiences and results from, Dreampipe I. They were also based on consultations during the re-design stage of the Dreampipe Challenge, when Dreampipe II was conceived. **In some cases, the assumptions did not hold on account of the Prize not being designed to explicitly support them. Others became obsolete when the Prize closed early.**

This evaluation has considered to what extent Dreampipe II was designed to address aspects of the Prize problem statement by reviewing related assumptions in the theory of change (ToC). **The Prize ToC made a series of assumptions in relation to the focus of Dreampipe II on specific parts of the problem statement that were challenged by the Prize experience:**

- *"NRW is one of the most pressing issues that water sector operators are currently facing"; "lack of sufficient and appropriate financing is one of the main challenges currently limiting the scale-up of NRW reduction and control activities in developing countries"; and*
- *"Other barriers limiting the scale-up of NRW reduction and control activities in developing countries (e.g. staff productivity, social and political) [would] be addressed by other initiatives (outside of the [Prize])".*

Interviews with utilities and non-utilities that made up the solver teams revealed that **non-revenue water reduction is not a routine organisational priority for utilities** and that, even once there were potential opportunities to gain external funding, they were **resistant to exposing inefficiencies and prioritised improving internal performance before approaching external funders**. Even though utilities may not see NRW reduction as a priority, this does not make the statement that it is a significant/pressing issue false.

The Dreampipe II ToC also assumed that: *"In general, larger utilities (as well as those with lower operating costs or no water scarcity) tend to have the fewest incentives to decrease NRW"*. Assessing comparative size of the utilities that took part in Dreampipe in relation to their perceived level of motivation towards reducing NRW goes beyond the scope of this evaluation. However, **Dreampipe II discovered the importance of gaining management buy-in from within utilities** in order to enable organisational participation in the Prize (stakeholder interviews). **The success of the first place winning solution that was not reliant on the participation and support of the water supplier / utility is to be noted.**

The Dreampipe II ToC made two assumptions in relation to technical approaches and capacity that held true:

- *"Existing NRW reduction and control approaches [would] be effective in developing countries, [...that] minimal to no further technical innovation [would be] required [and that] this [would] take place outside of the [Prize]"*. Though it is to be noted that the technical approaches taken were in some cases "new" to the solvers, as explored in response to SEQ1.1 in Section 6.1 of the main report.
- *"Solutions identified through Dreampipe [would be] realisable by water utilities in developing countries (once resources are available). These [could] then act as an example for others"*. This is seen through the successful completion of six demonstration projects in Phase 2.

Annex 7: Value for money assessment results

Table 22 below summarises evidence against selected indicators to provide an internal value for money (VFM) assessment in terms of “Economy”, “Efficiency” and “Effectiveness”. The sub-criteria, against which VFM is assessed, were developed by the evaluation team for the purposes of this assessment, based on the expectations set out in the Prize theory of change (ToC). The ToC expectations have been adjusted to those that could reasonably have been achieved under Phases 1 and 2 (i.e. without Phase 3 going ahead). The criterion “Equity” has not been assessed due to a lack of specified expectations and data. This, along with the overall results are discussed in Section 8.1 of the main report.

The ratings are based on DFID’s VFM rating scale where 1 = substantially did not meet expectations; 2 = moderately did not meet expectations; 3 = met expectations; 4 = moderately exceeded expectations; 5 = substantially exceeded expectations.

The ratings given based on this scale should not all be considered as a score out of 5. For some indicators, it is not possible to achieve a rating of 4 or 5. For example, as a prize programme, the planned schedule cannot exceed “met expectations” – if a schedule is changed this has implications for participants and so delivering earlier than intended would not be considered above expectations as it might be for other programmes. Where a rating above 3 is not possible, the scale has been “greyed out”.

As highlighted in the main report, the ratings for each criteria and sub-criteria are only indicative. The supporting narrative provided here and in the main report is key to understanding the true performance of the Prize.

The strength of evidence (SoE) is indicated using a RAG rating, where red is limited SoE, amber is moderate SoE, and green is strong SoE.

Table 22: Internal VFM indicators and ratings for Dreampipe II

Sub-criteria/ expectation	Indicator	Summary of evidence	Rating					SoE
			1	2	3	4	5	
Economy – Did the Prize cost what we expected it to cost?			OVERALL RATING					
The Phase 1 and Phase 2 prizes are launched, closed and awarded as planned <i>[Phase 3 was cancelled and so is not considered here]</i>	1.1 Date of launch, deadlines and award of Phase 1 and Phase 2	Both Phase 1 and Phase 2 were launched, closed and awarded as planned (see timeline (Table 3) in the main report, Section 2.5)	1	2	3	4	5	
The Prize is implemented within budget – £289,045. ³⁶ <i>Note: The Prize Team requested and was granted an additional £74,606 in business cases as part of the I2I annual report for Period 2016. Due to the majority of this covering additional planned activity in Phase 3³⁷ it has not been included in the total expected budget figure.</i>	1.2 Total cost of implementation	£197,431.21 i.e. £91,613.79 (32%) below budget. This total expenditure breaks down as 36% Phase 1 and 64% Phase 2. It also breaks down as: Prize launch in Bologna £2,386.50; ³⁸ Prize Team fees incl. some verification fees £110,048; Judges’ honorarium £18,000; Phase 2 verification £44,718.49; Prize award event in South Africa £7,752.96; Prize promotion £588.26; Prize purse financing fee ³⁹ £13,650; and miscellaneous expenses £287. <i>A portion of the underspent budget has been allocated to a learning activity, to be led by the I2I programme team, to capture relevant technical learning from the Prize. The purpose, audience and focus of this activity is currently being scoped. Its focus will be partially informed by this evaluation (I2I team member).</i>	1	2	3	4	5	

³⁶ A total expected budget figure was provided to the evaluator by the I2I programme team. This is based on an original budget for the Prize, with anticipated costs for Phase 3 removed. Note that the allocation of budget across activity lines and across Phases was to be relatively flexible, depending on what was needed, and so the figure covering Phases 1 and 2 is more of a proxy than a finite figure.

³⁷ The additional funds were to cover additional days for the Team Leader, new solver support activity, a time extension and outreach activities.

³⁸ Phase 2 was launched online and so did not have a related cost beyond Prize Team fees.

³⁹ The prize purse financing fee is the fee of 0.035% that IMC adds onto the prize purse to DFID. This is to cover the risk of cash flow and costs of transfer.

Sub-criteria/ expectation	Indicator	Summary of evidence	Rating					SoE
The prize purse allocated is the amount expected – £550,000 <i>[Phase 3 cancelled; related prize purse not included here: £450,000]</i>	1.3 Total prize purse	£420,000 was allocated and £390,000 was disbursed , i.e. £160,000 (29%) below budget. This breaks down as £210,000 Phase 1 and £180,000 Phase 2 (see prize purse Table 14 in the main report, Section 8.1). The main reason for the under-allocation was fewer than anticipated submissions being worthy of a monetary prize in both phases. Also, in Phase 1, one winning solver was allocated the prize money (£30,000) but did not provide the supporting information to trigger disbursement. In Phase 1, each prize awarded was at the amount expected: £30,000. In Phase 2, the prizes awarded were in line with the parameters set in the Phase 2 guidance, with the top prize being £70,000 and no prize being less than £30,000. The original guidance was very clear that “up to” the total number of prizes would be awarded for each phase and so the solver teams were not “misled”. <i>According to the I2I programme team, the majority of the under-allocation of prize purse (including from Phase 3) is being used to fund a new I2I prize.</i>	1	2	3	4	5	
Efficiency – Were prize inputs converted into the expected outputs? ⁴⁰	OVERALL RATING		1	2	3	4	5	
10 prizes awarded for Phase 1	2.1 # of awards	Eight business plans were awarded prize money in Phase 1. The Prize intended to award “up to” 10 prizes (Phase 1 guidance document). Eight were deemed worthy of winning a prize by the judges. Total Phase 1 cost/initiatives awarded = £8,785.39	1	2	3	4	5	
5 prizes awarded to the best demonstration projects in Phase 2 <i>[Phase 3 cancelled; related award not included]</i>	2.2 # of awards	Four demonstration projects were awarded prize money in Phase 2. The Prize intended to award “up to” five prizes (Phase 2 guidance document). Total Phase 2 cost/initiatives awarded = £31,787.02	1	2	3	4	5	

⁴⁰ The sub criteria of “Eligible business plans submitted” was not included in the VFM assessment due to there not being a specific target for this output.

Sub-criteria/ expectation	Indicator	Summary of evidence	Rating					SoE
<p>Innovations and learning captured and shared with water, finance and development stakeholders.</p>	<p>2.3 Evidence of learning documented and shared</p>	<p>Only high-level details of the winning solver teams and their solutions for Phases 1 and 2 were shared⁴¹ during the Prize (so as not to affect solver teams' competitive advantage). Innovations and learning have not been captured and proactively shared since the Prize, in part due to the Prize's experience that finding replicable solutions to the issue of financing NRW reduction is not straightforward. In addition, much of this activity was planned to take place during/after the cancelled Phase 3 – for this reason this sub-criterion is rated 2 rather than 1.</p> <p>See Section 5.4 of the main report for more information: Results and learning against the theory of change, Output 6.</p>	1	2	3	4	5	Red
<p>The Prize stimulates new investment⁴² in non-revenue water reduction initiatives (the demonstration projects): £21,000 in Phase 1 and £400,000 in Phase 2 not including prize purse and International Financial Institution (IFI) money.⁴³</p>	<p>2.4 GBP leveraged and contributed by participants</p>	<p>Estimated total of £824,613 investment stimulated.⁴⁴ This breaks down as £18,900 in Phase 1 and £805,713 in Phase 2. These figures include the prize money disbursed as solver teams made the investments without guarantee of being awarded prize money. To help ensure consistency in methodology, the rating has been made based on an adjusted "expected" figure for Phase 2 that includes the £550,000 prize purse for Phases 1 and 2.</p> <p>The SoE has been rated red given the high level of estimation and subjectivity.</p>	1	2	3	4	5	Red

⁴¹ Names of the winning solver teams under Phase 1 and high-level details of the Phase 2 solutions were published on the I2I and Dreampipe II websites (the latter has now closed).

⁴² The I2I annual report for Period 2016 defined investment leveraged as: "applicants' time in solving the problem as well as follow-on investment into winning [solutions]".

⁴³ The Prize Team expected £21,000 to be invested in Phase 1 (based on the amount reportedly invested by solvers in the development of their proposals for the predecessor, Dreampipe I). They expected £400,000 to be invested in Phase 2, in addition to the prize purse and IFI money (I2I annual report for Period 2017). The original basis of this calculation is not known; however, it is considered the best estimate available for the level of investment expected by the Prize.

⁴⁴ Note the figure differs from the estimate provided in the I2I annual report for Period 2017. There, the investment stimulated was reported as £2,779,366. This was based on the intended budget figures solver teams included for their demonstration projects in the 10 submitted eligible business plans under Phase 1. Though all 10 solver teams were invited to participate in Phase 1, in fact only seven did, and the demonstration projects were completed to varying degrees. The figure considered by this evaluation (£824,613) comes from estimates provided by the Prize Team, based on a rule of thumb calculation for the 14 eligible submissions received under Phase 1 and what is known about the solvers teams' level of implementation in Phase 2 (with data for 9 solver teams included).

Sub-criteria/ expectation	Indicator	Summary of evidence	Rating					SoE
Effectiveness – Did prize outputs convert to the expected outcomes?⁴⁵			OVERALL RATING					
			1	2	3	4	5	
509,857 direct “beneficiaries” of NRW reduction activities (through planned demonstration projects in Phase 2). ⁴⁶	3.1 # of people served	489,269 people were “served” by the Phase 2 demonstration projects.⁴⁷ This equates to 96% of the target population, despite only seven of the nine demonstration projects continuing through to implementation. The SoE has been rated amber due to the independent verifier deeming some of the data on “population served” by solver teams to be unreliable.	1	2	3	4	5	
The Prize stimulates effective and feasible business plans that will facilitate a demonstration NRW project to “de-risk” projects.	3.2 Judging scores and comments on the feasibility of business plans	Eight business plans were deemed effective and feasible by judges to continue to implementation in Phase 2; and seven of these went on to be implemented. However, it is to be noted that the solutions put forward in Phase 1 were largely focused on the technical aspects of specific NRW reduction projects, rather than the challenge of finding new ways to finance NRW projects (with the latter being the overall purpose of the Prize – this was to be further explored in Phase 3). See Section 5.4 of the main report for more information: Results and learning against the theory of change, Outcome 1.	1	2	3	4	5	

⁴⁵ One of the outcomes from the Prize ToC – replication of ideas and learning by others not participating in the Prize – has not been included in the VFM assessment. This is because it was expected to happen ex post, i.e. after the close of Phase 3, had that phase gone ahead. Evidence against the outcome is explored in Section 5.4 (Table 7) of the main report.

⁴⁶ This figure has been calculated based on the “population served” figures provided as part of the Prize submission process by nine solver teams for their demonstration projects, before implementation began. These figures were sourced from the verification collation spreadsheet for the 7 projects that had their data verified at baseline and endline, and the Form 1 figures for the other two projects. Note that, in some instances, the independent verifier adjusted the “baseline” figures for population served to align with the figure calculated/provided at endline, where they felt this to be a more reliable methodology. Also note that this figure differs from the expected direct beneficiaries figure of 1,771,875 quoted in the I2I annual report for Period 2017. There was no record of how this previous figure was calculated; based on consultation it appears to include Phase 3, which is not being considered as part of this VFM assessment.

⁴⁷ This figure has been calculated based on the “population served” figures provided by seven solver teams at the end of Phase 2. These were self-reported; though some have been verified as “reliable”, others were deemed “unreliable” by the independent verifier. The figures were sourced from the verification collation spreadsheet. Note that this figure differs from the estimated figure of 2,171,860 beneficiaries quoted in the I2I annual report for Period 7. As with the equivalent expected figure, there was no record of how this previous figure was calculated; based on consultation it appears to include Phase 3, which is not being considered as part of this VFM assessment.

Sub-criteria/ expectation	Indicator	Summary of evidence	Rating					SoE
			1	2	3	4	5	
The Prize raises awareness of the issue of NRW. This was a secondary intended prize effect.	3.3 Evidence for raised awareness	There is limited, anecdotal evidence that awareness of the Prize among water professionals in the field was high. The Prize Team undertook a promotional “push” shortly after the launch of the Prize to raise awareness and the profile of Dreampipe II. Most of the activity to raise awareness of the issue of (financing) NRW reduction was planned for later in the Prize’s lifetime and was contingent on there being “solutions” to promote and expansion projects underway. ⁴⁸ There is some anecdotal evidence of awareness being raised within the utilities involved in the Prize. See Sections 5.4 and 9 of the main report for more information: Results and learning against the theory of change, Outcome 2; and Analysis of intended and unintended prize effects.	1	2	3	4	5	
The Prize shows the feasibility of using new financing sources to fund NRW reduction activity. This equates to the primary intended prize effect of “point solution”.	3.4 Demonstration projects completed as planned 3.5 Judging scores and comments on Phase 2 submissions	There is limited evidence that the Prize showed the feasibility of new financing sources. In Phase 2, the demonstration projects were effectively one of several pieces that would be needed to show the feasibility of funding NRW reduction activity using non-traditional financing sources. Their purpose was to demonstrate the technical feasibility to de-risk NRW reduction for potential financiers; it was not a requirement to use non-traditional financing at this stage in the competition. According to the Prize Team: <i>“There were other things in the submission for Phase 2 that should have given support or not to the feasibility of financing. Unfortunately, contestants gave little attention to these requirements”.</i> See Section 5.4 of the main report for more information: Results and learning against the theory of change, Outcome 3.	1	2	3	4	5	
Equity – Were prize outcomes equitable for those intended?			OVERALL RATING					

⁴⁸ Soon after the Prize’s launch, the Prize Team requested additional budget of £20,000 “to spread the message about Dreampipe II, both to encourage replicability and to get as many financing institutions involved as possible” during Phase 2 and 3 (I2I annual report for Period 2016). This was to be done through Prize Team members attending relevant conferences / events / workshops. The majority of this activity did not go ahead.

Sub-criteria/ expectation	Indicator	Summary of evidence	Rating					SoE
<p>The “Equity” of Dreampipe II has not been assessed: Equity considerations were an explicit requirement for Phase 3, i.e. not for Phases 1 & 2.</p>	<p>N/A</p>	<p>The decision to not require solver teams to consider distributional impacts in the targeting and implementation of their demonstration projects, and to instead focus on solving the issue of financing NRW reduction, was an explicit one, to further the potential for success of the Prize. Because it was not a requirement, solver teams did not provide information on whether the demonstration projects were targeting and benefiting low-income households as part of their submissions under Phase 2. The submissions were not judged against equity considerations – this was to become a requirement under Phase 3.</p>	1	2	3	4	5	

Endnotes

- ⁱ <http://www.ideastoimpact.net/about-us>
- ⁱⁱ I2I annual report for Period 2016
- ⁱⁱⁱ Dreampipe II Prize design document
- ^{iv} Dreampipe II theory of change, based on Dreampipe II overview document
- ^v Dreampipe II Evaluation methods note
- ^{vi} Dreampipe II Evaluation methods note
- ^{vii} Dreampipe II Evaluation methods note
- ^{viii} <https://www.dreampipe.org/news/> (this website has now closed).
- ^{ix} Dreampipe II theory of change – central hypothesis
- ^x Export from the Prize platform and I2I annual report (for Period 2017).
- ^{xi} Stakeholder interviews
- ^{xii} Phase 2 solver reports
- ^{xiii} Prize Team evaluation report validation
- ^{xiv} Evaluation validation workshop
- ^{xv} Dreampipe II Phase 1 guidance document
- ^{xvi} I2I annual report for Period 2017
- ^{xvii} Prize verification collated solver data
- ^{xviii} Dreampipe II Phase 1 guidance document
- ^{xix} Based on a review of the independent reviewer’s reports for the 4 winning solver teams.
- ^{xx} Dreampipe II guidance documentation and theory of change, and stakeholder interview.
- ^{xxi} Dreampipe II Phase 2 guidance document
- ^{xxii} Phase 2 solver reports
- ^{xxiii} Dreampipe II theory of change
- ^{xxiv} Overview of Phase 3 within Dreampipe II Phase 2 guidance document
- ^{xxv} Phase 2 solver reports
- ^{xxvi} Stakeholder interview
- ^{xxvii} Sustainability interviews with 4 Phase 2 winners
- ^{xxviii} Phase 1 judges feedback document
- ^{xxix} Sustainability interview
- ^{xxx} Evaluation validation workshop
- ^{xxxi} Sustainability interview
- ^{xxxii} Stakeholder interview
- ^{xxxiii} Sustainability interview
- ^{xxxiv} Sustainability interview
- ^{xxxv} Sustainability interview
- ^{xxxvi} Sustainability interview
- ^{xxxvii} Stakeholder interviews
- ^{xxxviii} Stakeholder interviews
- ^{xxxix} Sustainability interviews
- ^{xl} Evaluation validation workshop
- ^{xli} Stakeholder interviews
- ^{xlii} Sustainability interview
- ^{xliiii} Sustainability interviews
- ^{xliv} Sustainability interview
- ^{xlv} Sustainability interview
- ^{xlvi} Stakeholder interview
- ^{xlvii} Dreampipe II Phase 1 and 2 guidance documents
- ^{xlviii} Dreampipe II Prize design document
- ^{xliv} Dreampipe II overview document
- ^l Dreampipe II Phase 2 guidance document

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- li Prize Team evaluation report validation
 - lii Evaluation validation workshop
 - liii Sustainability interviews with 3 Phase 2 winners
 - liiv Stakeholder interviews
 - liiv Evaluation validation workshop
 - livi Dreampipe II Prize design document
 - liiii Stakeholder interviews
 - liiii Stakeholder interview
 - lix Sustainability interview
 - lix Stakeholder interviews
 - lxi Dreampipe II theory of change
 - lxii Prize verification collated solver data
 - lxiii Independent reviewer reports to solvers
 - lxivlxiv Stakeholder interview
 - lxv Evaluation validation workshop
 - lxvi Stakeholder interviews
 - lxvii Evaluation validation workshop
 - lxviii Independent reviewer reports to solvers
 - lxix Evaluation validation workshop
 - lxx Evaluation validation workshop
 - lxxi Evaluation validation workshop
 - lxxii Evaluation validation workshop
 - lxxiii Dreampipe II Prize design document
 - lxxiv Export from the Prize platform and I2I annual report (for Period 2017)
 - lxxv Stakeholder interviews
 - lxxvi Evaluation validation workshop
 - lxxvii World Bank presentation, Waterloss conference, 2018
 - lxxviii Stakeholder interviews
 - lxxix Phase 2 solver reports
 - lxxx Sustainability interviews with 4 Phase 2 winners



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