



Department
of Energy &
Climate Change

Global Calculator

Second Annual Review

March 2015

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Executive summary

The Global Calculator project has been successful so far, and has achieved or surpassed nearly all milestones set out in the project logframe. The project was completed on schedule and an independent project evaluation from Ricardo-AEA states that the model itself is successful in terms of meeting the original brief, particularly given its very challenging nature.

Summary

This Summary Sheet captures the headlines on programme performance, agreed actions and learning over the course of the review period. It should be attached to all subsequent reviews to build a complete picture of actions and learning throughout the life of the programme.

Title: Global Calculator		
Programme Value: ICF Budget of £550,000 with £480,000 from Climate-KIC. Spent £395,779.88 of ICF budget in 2013-15	Review Date: 03/15	
Programme Code: ?	Start Date: 08/12	End Date: 12/14 originally, extended to 03/15 and will extend again

Summary of Programme Performance

Year	2014	2015						
Programme Score	-	A+						
Risk Rating	-	Low						

Summary of progress and lessons learnt since last review

The Global Calculator project has been successful so far, and has achieved or surpassed nearly all milestones set out in the project logframe. The project was completed on schedule and an independent project evaluation from Ricardo-AEA states that the model itself is successful in terms of meeting the original brief, particularly given its very challenging nature.

Stakeholder engagement has been a particularly successful aspect of this project, both during the launch and build periods. Since its launch the tool has received a considerably higher number of hits than we had anticipated - the website received 30,149 hits between the launch on 28th January 2015 and the end of March 2015, and the webtool received 17,785 hits with a total of 13,483 unique users. A number of positive articles appeared in the press around the world and online. The tool was well received by the UK domestic press with positive stories in most of the big national newspapers. In China, media activities reached an estimated audience of at least 2.3 million people. The work has been quoted in Parliament, and organisations like Shell, Friends of the Earth, the World Energy Council and Mott MacDonald have actively engaged with the tool and built pathways that are published on the website. We know that universities around the world are already using the tool in courses, and it will be included in a new International Baccalaureate science course, showing its considerable potential as an educational aid and providing an avenue for its use in the long term.

At this stage, however, there is little evidence that businesses, non-governmental organisations (NGOs) and governments have taken action on climate change because of the influence of the Global Calculator (although we do know some people from these organisations have used it). There has been little engagement in some of our key target countries (e.g. India and South Africa, as well as influential countries like the USA), and only a few businesses have really taken on the messages of the calculator. Also, feedback has shown that the finished tool is initially quite difficult for the average person to use, but that with a small amount of guidance most people find it simple to use and easily navigable.

We believe that the project was successful because of its uniquely collaborative nature. This was very challenging but ultimately had huge benefits because of the vast network of experts we could engage with, which built trust in the project and buy-in into our aims. It would not have been possible without strong leadership from the project manager and head modeller, and the use of digital communication and file sharing techniques, as the multi-organisation and multi-disciplinary team was spread across the world.

Engagement with our target audience and target countries has been limited so far firstly because there has been very limited time to do outreach work following the launch in January. To ensure that the calculator becomes an influential tool in policy making we must continue to communicate and promote the tool and its findings. It will be especially important to maximise the impact of the Global Calculator in the run-up to the UNFCCC negotiations in Paris in December 2015.

Over the next year, the DECC project team will focus on engagement with our target audience, particularly in our target countries (China, India, Brazil, South Africa and the USA). This will give us the best chance of broadening our reach while offering value for money. To do this we will utilise the vast networks of our partner organisations where possible and make the best use of available digital channels. We have secured a £200,000 budget for 2015-16 for this project and for the 2050 Pathways project (covering country-level calculators), which will cover this work. In early 2016 we will develop a framework to continue work on the Global Calculator model going forward, working with our funding partner Climate-KIC and other partners. The model will need to be updated to improve usability given the feedback we have received. The cost sector has also been identified as an area that could be further developed. This work will be the focus of the project team after COP and potentially into the next financial year.

DECC will be making a project extension request in mid-2015, which will include further funding for country calculators in 2015-16 as well as potential further funding for country calculators and the Global Calculator in 2016-17 and beyond. This will be subject to the outcome of the spending review, the enthusiasm of the wider Global Calculator team to continue the project, and an evaluation of the value for money of this further work.

Given the very ambitious ultimate goal, we need to consider if the indicators in the logframe were set high enough to be really stretching, or if they accurately represent the spread of stakeholders the project team needs to engage with. Few indicators in the logframe properly measure whether the tool is influencing users to change their behaviour, or if the project is only reaching the “low hanging fruit”. The team will work to revise the logframe over the coming months to make sure that the indicators are stretching and properly reflect all parts of the ambitious theory of change.

A. Introduction and Context

Link to Business Case:	
Link to Log frame:	.

Outline of the programme

The Global Calculator is a model of the world's energy, land, and food systems that allows users to explore the options for reducing global emissions up to the year 2050. The model allows you to see the global climate consequences of your choices to up to 2100 and build your own “pathway” that meets the 2°C target. It is a free, interactive and open-source tool, and is particularly aimed at businesses, NGOs and policy makers.

The project is a spin-off of the UK's 2050 Calculator, and the other country calculators DECC is supporting (e.g. in China, India, Brazil and South Africa). The project is funded by the ICF and the EU's Climate-KIC, and has been built by an international team from the following organisations:

- Department of Energy and Climate Change (project management and modelling)
- Climate-KIC
- International Energy Agency (data and advice)
- World Resources Institute (transport)
- Energy Research Institute of the National Development and Reform Commission and Energy R&D International of China (buildings)
- EY India (electricity and fossil fuels)
- London School of Economics (climate science)
- Imperial College London (land, food and bioenergy)
- Climact (manufacturing)
- Climate Media Factory (visuals)

The team also consulted hundreds of experts whilst building the model to make sure that it is as robust as possible. Workshops were held around the world on different sectors, and an early version of the model was released in summer 2014 as an open call for evidence. The finalised model was released on the 28th January 2015 with simultaneous launch events held in Beijing and London. A report was released at the same time which presents some of the findings of the Calculator. In particular:

- The world could eat well, travel more, live in more comfortable homes *and* prevent dangerous climate change.
- But to do so, we need to transform the technologies and fuels we use.
- Land use change is vital to avoiding catastrophic climate change. We need to make smarter use of our limited land resources and expand forests by around 5-15% by 2050.

The intention of the model is that businesses, NGOs and policy makers will use the tool, which will cause them to be more involved in the climate change debate and better understand the trade-offs and scenarios for low carbon development. We anticipate that this political consent of business and civil society created by the Global Calculator will enable politicians around the world to feel empowered to take action on climate change.

B: Performance and Conclusions

Annual outcome assessment

The Global Calculator has had a very successful year and was completed on schedule and under budget. Stakeholder engagement has been a particularly successful aspect of the project, considerably exceeding our expectations. During the build phase over 100 stakeholders took part in workshops globally – more than double the number we anticipated – and 22 experts from the project's key countries came to the workshops or provided input into the project. Building the Global Calculator in this open and collaborative way has been vital to building buy-in and trust in the project. This is a fundamental building block of the project as it increases the likelihood that the Global Calculator will be used to inform government policy in developed and developing countries through increased support and pressure from NGOs and businesses.

Since the launch, the number of users of the website has been considerably higher than we anticipated. Independent research from Ricardo-AEA has found that the model itself is thought to be successful by stakeholders and the team, particularly given the very challenging brief and the need to balance simplicity and accuracy. The launch itself got significant coverage in the press, particularly in the UK, and almost all of it positive. This is encouraging, as continued interest and buy-in is critical for the Global Calculator maintaining momentum and gaining influence.

With regard to the Global Calculator's impact on existing national calculators there is no evidence to suggest this is taking place. Without the Global Calculator team's encouragement it has not been used to sense check national calculators as we had hoped. We are aware, however, that some countries are looking at the Global Calculator's methodology when developing their own tools. There is also no evidence to suggest that any new countries have been inspired to begin a new calculator based on the Global Calculator model. With the reduction in team size we need to consider if this milestone is still something we wish to pursue or if we should focus our resources on disseminating the Global Calculator and stakeholder engagement.

Despite the significant work that has been achieved in launching the Global Calculator and engaging stakeholders, there is significant work to be done in ensuring that we are able to achieve our high-level impact of empowering politicians in developed and developing countries to take action on climate change because businesses and NGOs are willing to give their political consent.

Since the Global Calculator was launched relatively recently it is only now that we can begin to work on this aspect properly, but we have built a good foundation through our previous stakeholder engagement and consultation. This will be the focus of the next stage of the project, particularly in the run-up to the COP in Paris. This will require work to disseminate the tool to our target audience and our target countries.

Now that the building and initial launch stage has been completed, the 2050 Calculator team at DECC has been significantly reduced in size. Consequently, we will be thinking of how to best utilise the knowledge and networks of our global partners to help publicise the tool and its key messages. Our stakeholder engagement plan will form part of our project extension.

Overall output score and description

A+

Outputs moderately exceeded expectation

The project has over achieved on its milestones relating to building and launching the model and stakeholder engagement. The project has been less successful in influencing in-country calculators, but this work has largely been left to the country calculator project teams without formal encouragement from DECC.

Work needs to continue to ensure that the momentum gained in the initial stages of the project is translated into influence in the real world.

Key actions

We have a number of plans for outreach/engagement activities this year, and a budget has already been agreed based on the underspend from previous years. The activities include:

- Supporting our partner the World Resources Institute (WRI) to hold a workshop for NGOs and businesses in Washington DC by September where they will learn to build pathways, with a follow-up event at the COP (Laura Aylett and Kerenza McFaul).
- Supporting the WRI to do analysis using the Global Calculator of pledges around transport made at the Bank Ki-moon Summit in September 2014. This will show whether more ambition is needed in this sector. There could also be a follow-up event at the COP in December or at New York Climate Week in September, to be decided by August (Laura Aylett and Kerenza McFaul).
- Holding workshops in the UK with stakeholders over the autumn, possibly in conjunction with London School of Economics (Kerenza McFaul).
- Organising an event in Brussels at the European Parliament in June (Kerenza McFaul).
- Webinars with green business organisations and other climate change groups before COP in December (Laura Aylett).

Has the logframe been updated since the last review?

No. Project progress has been added to the logframe but no alterations have been made to the content of the milestones.

The logframe will need to be updated as part of the project extension to add milestones, outputs and outcomes that reflect the focus of the project beyond March 2015, and to make sure that the indicators are sufficiently stretching. The project's theory of change is very ambitious in its latter stages, and better indicators may need to be added to reflect this. For example, some indicators that the team has used internally as markers of the success of our outreach work will need to be added, like the number of example pathways from other organisations that we have received, the number of universities that are using it, or the number of people attending presentations by members of the Global Calculator team.

C: Detailed Output Scoring

Output Title	<i>Completing Global Calculator model: Global Calculator tools: web tool and spreadsheet. Expert stakeholder engagement during build phase. Documentation setting out how the Calculator works. Launch event and presentation materials.</i>		
Output number per LF	1	Output Score	A++
Risk:	<i>Low</i>	Impact weighting (%):	45%
Risk revised since last AR?	-	Impact weighting % revised since last AR?	-

Indicator(s)	Milestones	Progress
1.1 Adherence to project plan set out in annex 2.	Early 2014: Hold select call for evidence. Mid-2014: release web tool as call for evidence.	Achieved – Workshops were held in spring. The call for evidence, with a spreadsheet and webtool online, was launched on 17/07/14.
1.2 Key countries: number of stakeholders (businesses, NGOs and government officials) from Brazil, India, China and South Africa attending workshops or meetings to help develop the Global Calculator.	By end 2014: 20 stakeholders from Brazil, India, China and South Africa help develop the Global Calculator by attending workshops or meetings on it.	Surpassed – At least 22 experts from these countries attended our workshops (5 from businesses, 7 from NGOs and 10 from governments), and 1 responded to our call for evidence (a government organisation from South Africa).
1.3 Globally: total number of stakeholders (businesses, NGOs and government officials) attending workshops or meetings to help develop the Global Calculator.	By end 2014: 40 stakeholders globally help develop the Global Calculator by attending workshops or meetings.	Surpassed – Over 100 unique stakeholders took part in our workshops. We received 44 comments during the call for evidence. Various presentations were held, including a cross-Whitehall event attended by around 60 people.

Key Points

Despite the considerable complexity the project was completed on schedule. In part, this was because of extremely well-organised project management from the project leader, Sophie Hartfield, and the

excellent utilisation of online document sharing and communication tools which allowed a team spread across numerous countries and time zones to keep in contact.

Thanks to our partner organisations' good links with businesses, universities and NGOs we were able to consult considerably more experts than we had initially anticipated. Using this network well and in a targeted way meant that we were able to expand our reach significantly with little resource from the central DECC project team. To expand this reach even further we held an online call for evidence which allowed experts who were unable to attend workshops in person to input into the project.

This wide consultation of experts built buy-in to the project, building enthusiasm and trust. The Global Calculator project has been successful so far, and has achieved or surpassed nearly all milestones set out in the project logframe. The project was completed on schedule and an independent project evaluation from Ricardo-AEA states that the model itself is successful in terms of meeting the original brief, particularly given its very challenging nature.

, which is fundamental ground work for the next stage of the project. Being open and transparent in this way allowed these experts to analyse the underlying data and assumptions, which also improved the accuracy of the model.

Summary of responses to issues raised in previous annual reviews (where relevant)

This is the first annual review to be completed.

Recommendations

The model has now been developed and launched so this part of the project is complete. We recommend, however, continuing to gather feedback from stakeholders so that the model can be improved during its next update. This is part of our commitment to openness, transparency and collaboration.

To do this, the 2050 Calculator engagement lead (Laura Aylett) and the Global Calculator team will record all feedback using our Huddle document sharing site over 2015-16. This will then be considered when the model is updated, which is likely to be in 2016-17.

Our next steps are to build on the ground-work completed during this stage of the project to disseminate the Global Calculator more widely to ensure it has maximum impact over decision making.

Output Title	<i>Businesses, NGOs and governments use the Global Calculator. Also, they better understand the trade offs and scenarios for low carbon development pathways.</i>		
Output number per LF	Outcome 2a and 2b	Output Score	A+
Risk:	Medium	Impact weighting (%):	45%
Risk revised since last AR?	-	Impact weighting % revised since last AR?	-

Indicator(s)	Milestones	Progress
Outcome indicator 1 - Globally: number of businesses, NGOs and government officials that are aware of the Global Calculator.	By end 2014: Globally, 80 businesses, NGOs and government officials have seen a presentation on the Global Calculator (e.g. at the public launch event, 1:1 meetings, webinars etc.).	Surpassed - 62 people from businesses, NGOs and governments attended our workshops where they saw an early version of the tool. Around 60 officials attended a cross-Whitehall presentation in September. We held two events in Peru in December - one for Peruvian government, NGOs and businesses attended by c.30 people, and a side event at the COP attended by c.50. The tool actually launched on 28/01/15 with 149 people attending the launch event in London, and others from government, business, NGOs and the media at the simultaneous event in Beijing. Following the launch we also presented it at international events in India and Taiwan.
Outcome indicator 2 - Target countries: number of businesses, NGOs and government officials in Brazil, India, China and South Africa that are aware of the Global Calculator.	By end of 2014: 40 businesses, NGOs and government officials from target countries have seen a presentation on the Global Calculator (e.g. at the public launch event, 1:1 meetings, webinars etc.).	Surpassed by March 2015 – We do not have data on exactly how many businesses, NGOs, and government officials from our target countries have been made aware of the Global Calculator. However, we feel confident from the range of stakeholders attending DECC-led workshops that we have achieved this milestone. 22 experts from priority countries attended. We have also held a launch event in Beijing, a presentation at the Delhi Sustainable Development Summit, and a series of events in Brazil which attracted a wide range of stakeholders.
Outcome indicator 3 - Number of people who have used the Global Calculator, as measured by the number of unique users of the web tool.	By mid-2015: 1200 unique users of the Global Calculator web tool.	Surpassed - The website received 30,149 hits between the launch on 28 th January and the end of March, and the webtool received 17,785 hits with 13,483 unique users.
Outcome indicator 4 - Number of businesses, NGOs and government officials who have commented on the assumptions in the Global	By end of 2014: 30 businesses, NGOs and government officials have commented (e.g. via feedback to the IEA) on the assumptions or messages from the	Surpassed - At least 80. 62 of the participants in our sector workshops who commented on the assumptions were from businesses, NGOs and

Calculator.	tool. By end of 2015: 40 businesses, NGOs and government officials have commented (e.g. via feedback to the IEA) on the assumptions or messages from the tool.	governments. We also received 44 comments through the call for evidence, of which 18 identified themselves as being in one of these groups.
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Key Points

The project has surpassed all indicators for this output, as the tool has had considerably more users than expected and numerous presentations have been made to people from business, NGOs and governments (our target groups), particularly during the build of the model. In addition (although not covered in the logframe), thousands more people were exposed to the messages of the Global Calculator through press coverage. The launch received significant press attention, with seven pieces of print coverage in the UK (including a lead article in The Times), reaching an audience of 510,217 readers, and an article in Le Monde in France. In China, media activities reached an estimated audience of at least 2.3 million people. Additionally, there are dozens of online articles and blog posts about the tool, including American websites Huffington Post and Vox. One of the Global Calculator team members from Imperial College held a series of workshops in different cities around Brazil. The work has been quoted in Parliament, as an MP raised the impact of meat eating on climate change, which the tool clearly shows.

The Global Calculator was well received by a number of stakeholders both domestic and international. Shell, Friends of the Earth, the World Energy Council, Mott MacDonald, the Vegan Society, the World Nuclear Association and Chatham House have actively engaged with the tool and have built pathways that are published on the website. These stakeholders have been overwhelmingly positive in their response to the tool. For example, Friends of the Earth said, "With crucial climate talks due in Paris later this year, this Calculator demonstrates to our political leaders that a cleaner, safer and fairer future is possible."

Mot MacDonald stated:

"The tool addresses a wide range of areas that are really quite critical to our business and for us it's really helpful to be able to look at impacts and balances between the drivers in the tool to think about how we face the future."

Even though the project has overachieved on these milestones, there is little evidence to suggest that individuals or a large number of groups are using the finished tool to inform their work on carbon pathways and energy. There is also no reason to believe that the tool has become influential on political decision making based on the increased awareness and pressure from our key stakeholders. Critical mass in terms of awareness and use of the tool has not yet been reached.

Given that the tool was only recently launched and finalised it is too soon to expect the Global Calculator to have these wide reaching effects. We need to consider as part of the on-going Global Calculator work how we can encourage the key stakeholders to take on board the messages of the calculator.

Summary of responses to issues raised in previous annual reviews (where relevant)

This is the first review to be completed

Recommendations

In order to ensure that the Global Calculator fulfils its potential to be used in decision making we will continue to present the Global Calculator to our target audience particularly those in our target countries. To do this we will use our partners and other organisations that are already working in this space. For example, the FCO's Climate Change Attaché Network stretches across the world and engages with businesses, NGOs and governments. We will provide them with information on the tool as well as guides on how to use it.

We will also hold a day-long workshop in Washington organised by our partner the WRI with businesses and NGOs, and will evaluate how successful this is at engaging our target audience. If it is successful, this is a model that could be rolled out to other countries.

One way of measuring engagement would be to count how many organisations develop pathways using the tool that we can publish, as this shows that they have used the tool in detail and support it. So this should be added to the log-frame as an indicator.

In order to accurately measure our success in this area we will need to develop indicators to measure these outputs as part of the project extension.

Output Title	<i>Where national Calculators already exist, the Global Calculator helps make them more robust.</i>		
Output number per LF	Outcome 2d	Output Score	B
Risk:	<i>Medium</i>	Impact weighting (%):	10%
Risk revised since last AR?	-	Impact weighting % revised since last AR?	-

Indicator(s)	Milestones	Progress
Outcome indicator 5 - Number of Country Calculators that the Global Calculator has helped to sanity check.	By mid-2015: The Global Calculator has been used to sanity check the results from 4 Country Calculators by mid-2015. (By survey of Country Calculator teams and expert stakeholders.)	Not achieved – there is no evidence that countries have used the Global Calculator to sense check their work. They are, however, aware of it, and some are learning from the modelling approach used (for example land use and costs). We have not done a survey of teams because this seems unnecessary given our regular contact with them and the importance of this indicator. This is more of an added bonus of building the Global Calculator, rather than part of the main theory of change.
Outcome indicator 6 – Number of countries to report that the Global Calculator helped persuade them to develop a Country Calculator.	By end of 2015: 2 Calculator teams by end of 2015. (By survey of Country Calculator teams.)	In progress – No new country or regional projects have started so far that we know of because of inspiration from the Global Calculator. However, some Canadian regions have approached us after hearing about the tool and it is a topic that is raised during events, so it is causing people to think that it would be a good idea to build their own.

Key Points

So far we are not aware that the Global Calculator has impacted the country calculator work in any meaningful way, for example by “sense checking” the other calculators. This was a hope of the original project team, however we have found that in practice it is hard to compare the information in the Global Calculator to any one country because it looks at world averages and total only. To do this properly would require detailed analysis that would be time consuming.

Up until the beginning of this year, the Global Calculator team was focused on the more pressing priority of completing and launching the tool and did not have the capacity to devote to this. Most country teams were also finishing their models, and so did not have capacity to do it themselves. In the initial logframe there was a failure to understand the pressure that teams would be under during the launch period and an underestimate of the amount of resource this indicator would require.

We have, however, shared the methodology used in the Global Calculator with existing teams, for example when they are working on building costs into the model or land use. So it is possible that it could have a positive impact on the structure of other models in the future.

The Global Calculator is proving more successful at inspiring people to develop 2050 Calculators for their country or region rather than improving existing models. People around the world have been hearing about the Global Calculator, and we have been contacted from some that are interested in adapting it to their country or region. However, this is actually a more complex thing to do than people initially expect. Canadian provinces have approached us, for example, and this has been partly sparked by them hearing about the Global Calculator rather than the UK's 2050 Calculator. We know that an NGO in Slovenia has shown it to their government as part of their discussions to get a 2050 Calculator project going there, and the Hungarian government seemed interested after hearing about the Global Calculator. None of these potential new projects are yet in progress.

Summary of responses to issues raised in previous annual reviews (where relevant)

This is the first review completed.

Recommendations

We do not recommend pushing the “sanity check” idea on existing 2050 Calculator teams around the world at this stage, as the focus this year should be on engagement. Given the reduction in the DECC calculator team, we would have to choose between encouraging engagement with the existing Calculator or encouraging sense-checking of other country calculators. We believe that it will be of more benefit to the project to focusing on engagement and ensuring that the Calculator can reach its potential of being used to inform decision making.

This is potentially an interesting area for research, and could be revised next year, but is not a priority at this stage.. The milestones around this should be revised when the log frame is next updated.

To try to encourage the further development of the 2050 Calculator community through the Global Calculator, we will continue to mention the country work in presentations about the Global Calculator and vice versa. This has already become part of the standard presentation pack on the Global Calculator website. We will also respond to queries about new potential 2050 Calculator queries by sharing the modelling methodology and possibly putting them in touch with existing teams.

D: Value for Money and Financial Performance

Key cost drivers and performance

The main cost drivers identified at the beginning of the project were the costs of analysis from each of our partner organisations, and the cost of travel for team meetings and workshops. The project came in under budget by 28% in terms of ICF funds.

Now that the modelling work has finished, these costs have mostly come to an end. The key cost drivers going forward will be the cost of engagement work, particularly the cost of holding and attending events. Our partners will be holding workshops with businesses for us (for example the WRI), and require payment for the work. Travel costs will still make up a significant part of the total cost of this work. We will need to make further payments to our web developer as well, as some of the translation work was delayed and still needs to be implemented online.

VfM performance compared to the original VfM proposition in the business case

Part of the original value for money case in the business case was that the project could leverage extra support (financial and otherwise) from other organisations. In these terms, the project offered greater value for money than projected – over £400,000 extra financial support was received than expected, more experts reviewed the work than expected, and a number of organisations provided pathways that we have published in the tool.

The business case said the project could get £75,000 match funding, training from Google, support from Climate-KIC on climate science, IEA promotion, and data from the World Bank, WEC and UNEP. In the end, no contractual partnerships were made with Google, the World Bank, UNEP and WEC. In most cases this was because it turned out that the data and support they offered wasn't that relevant or necessary for the success of the project, or there were alternative sources available. However, Climate-KIC saw a lot of value in the project and provided £480,000 in funding – much more than expected in the business case – which paid for the modelling of the land and climate impacts sectors, and for the development of the webtool. They also did outreach work, like hosting an event at their conference in Valencia and providing communication support. The IEA provided highly useful expert advice, data and peer review rather than just promoting the tool, and became one of the project's partner organisations. WEC provided two pathways that we published in the tool. As originally expected in the business case, many other experts were consulted during the build of the tool, giving free comments on the tool and its assumptions.

The budget did not need to change after the signing off of the business case, as there were no increases in costs. The project came in under budget by 28%. However there is more outreach work that could be done.

The value for money proposition in the business case also compared the cost per user and cost of development to other models that the UK uses – MARKAL (\$15,000 licence per user) and ESME (which cost £2 million to develop). For the £395,779.88 ICF spend and 13,483 users of the tool between the launch and the end of March, the cost per user was £29.35. The extensive press coverage in the UK, China and around the world means that thousands more people have heard about the messages of the Global Calculator even if they haven't used it. So in this way it does represent value for money.

At the launch of the Global Calculator, the then Secretary of State Edward Davey said that of the Global Calculator and 2050 Calculator work: "I believe it's probably the best value for money investment the UK has made in climate change."

Assessment of whether the programme continues to represent value for money

The Global Calculator was built on schedule and under budget, and since its launch has been well-received and has had more users than expected. Given the criteria in the business case, it represents good value for money.

However, if it is to have maximum impact as per the theory of change, more time, money and effort needs to be put into spreading the word about the tool. Because of the very tight schedule and two-year funding time frame, there was limited time for an engagement period beyond our launch and press briefing. Such engagement could represent even greater real value for money given the most cost-intensive part of the work to date was developing the tool. We plan to do this with the modest calculator budget that has already been agreed for 2015-16, and possibly some extra funding through a project continuation request.

A programme of engagement for 2015-16 needs to be agreed, making best use of our partner organisations and DECC's existing engagement work in the lead up to the COP in Paris, and our access to the FCO Climate Attaché Network to maximise value for money. The log frame must be updated to reflect this stage of the project. The plan must be aligned to the original objectives of the project. It would be useful to reflect on the successes and learning to date, and to revisit our target audience and target countries. We have already identified a number of opportunities, for example holding workshop in Washington and London for businesses, holding webinars with business groups, and speaking at the Climate Diplomacy Day event in Berlin.

Quality of financial management

Normal DECC budget and reporting procedures were followed throughout the project, and auditors looked at the accounts. The project was originally supposed to finish in December 2014, and this was extended to March 2015. At the end of the 2014-15 financial year, the project was approximately £154,000 underspent (around 28%) due to lower than expected costs in most areas of the project.

Date of last narrative financial report	-
Date of last audited annual statement	-

E: Risk

Overall risk rating:

Low

Overview of programme risk

Description of risk	Initial risk	Current risk	Comment at 2 year review stage
1. Users do not find “average global citizen” concept very useful	1	1	This has been raised as an issue with users. Removing any country distinctions or the difference between developed and developing populations has both positives and negatives. It allows people to concentrate on what we physically need to do to tackle climate change, but does not answer some of the questions users have about who is responsible for action. The model has been developed now and we cannot change this at this stage, but an explanation of this is included on the website, in the FAQ document and video etc. to try to explain to people why it works this way. In future versions of the tool we will consider whether anything can be done to make this clearer in the tool itself.
2. Negative impact on international negotiations (nefarious use of the Global Calculator by countries to argue that their	1	1	This remains low because the Global Calculator doesn't distinguish between different

share of the burden should be reduced)			countries and only looks at global averages, making it difficult to tell who should do what and reducing its direct usefulness in the negotiations process. We presented positive development messages using the tool at its launch.
3. Global Calculator not trusted. It is perceived as a UK tool and is not used by any other countries, international businesses or organisations.	1	2	The tool was presented as belonging to the UK government in most of the coverage after the launch, and mentions of Climate-KIC and our other partners was minimal. However, DECC wasn't criticised particularly strongly for any of the messages coming out of the tool (e.g. eating less meat makes tackling climate change easier) as they are based on information that is already known and coverage was positive. Having UK government involvement actually seems to increase trust and the interest of our audience. However, press coverage and engagement activities have been quite focused on the UK so far and work needs to be done to involve our international partners so that more people around the world can find out about the GC. This is the basis of our plans for the next year.
4. Virtual working risk - it may increase the chance of delays, non-delivery or inconsistent modelling across sectors which could make the tool less robust.	2	1	The modelling process is now complete so this risk no longer applies. Some communication challenges remain because our team is so dispersed. The benefits gained from having access to a team embedded around the world with a wide network of contacts balanced this risk.
5. Calculator generates some difficult "hard truths" – if the Calculator shows that when the world reduces its emissions, its energy supply and demand patterns will in some sense not appear aspirational	2	1	The report published with the tool presented an aspirational vision for the future in terms of lifestyle, but also covered the "hard truths" of the significant changes we will need to see. So any fear that the GC wouldn't allow an aspirational future was unfounded. People can use the GC in many different ways and can design different visions of the future, some that may be less "aspirational", but that is so linked to the strengths of the tool (i.e. how interactive and flexible it is)

			that it isn't really a risk.
6. Failure to co-brand the tool – we fail to secure buy in from other governments and international organisations to the Global Calculator and they are not willing to co-brand it.	1	0	The tool was published with clear co-branding from our partners.
7. Conflict of interests – The international organisations / other country governments that are formally part of the Global Calculator team may have a conflict of interests between their own objectives and those of the Global Calculator. For example, a partner may wish to highlight their country as a “success story” for, say, rapidly rolling out a technology.	1	1	The model is now complete and this didn't arise during the build of the tool. In ongoing engagement work, it could still happen, but seems unlikely and the impact would be very low.
8. Project delays – Delays could be due to delays agreeing sector contracts with partner organisations, visa problems, or analytical challenges	1	1	The project was completed on schedule (the plan was always to release it in December or January and it was launched on January 28 th). So this did not materialise. But it is still important to make sure that the majority of engagement work this year happens before the COP in December for maximum impact, so there are some new targets to work towards.

Outstanding actions from risk assessment

We need to concentrate on building awareness of the Global Calculator in the target audience, particularly in the target countries. The association of the tool with the UK Government has not had a negative impact in and of itself, and sometimes it can be beneficial because organisations like to engage with government and have speakers from government at their events. But our expertise and experience of talking to audiences in the UK – coupled with the UK press's understandable interest in covering UK government projects – has meant that engagement has been focused here, which was not the intention.

To avoid fraud, payments to partners are made in instalments, after evidence of pre-agreed outputs and activities have been supplied.

F: Commercial Considerations

Delivery against planned timeframe

The project was delivered on time.

Performance of partnership (s)

Partnerships worked well, and this is perhaps the biggest success story of the project. The team were able to work closely despite being geographically dispersed and the project benefited from having such a wide variety of organisations involved. We were able to directly consult experts all over the world and gain a variety of perspectives which was vital for creating buy-in to the Global Calculator.

Each organisation took on a sector of the model, and DECC acted as the project manager and lead modeller, bringing together all the information. Strong project management was needed to keep track of all the different parts of the project and keep everything on schedule. Having a central modeller was very important as it allowed the model to stay coherent despite all the different authors involved.

Huddle worked well as a project management and file sharing service, and Skype allowed for regular communication. We would recommend that more collaborative projects similar to this should be considered in the future as the networks and communities the DECC team built up were invaluable.

However, DECC IT systems did make using Skype and other software very difficult, and the 2050 Calculator project needed to purchase separate computers to operate them. The possibility of purchasing a DECC ICF based laptop with more advanced communicating programmes should be considered as an option. The benefits of being able to communicate with our partners in this way were numerous.

Asset monitoring and control

N/A

G: Monitoring and Evaluation

Evidence and evaluation

Ricardo-AEA has been contracted to produce a full analysis of the project so far. This has been delayed but we have received a final draft of the report so it is nearly complete. They interviewed a number of stakeholders around the world to produce this. However, in the draft report they state that it is still too early to judge the impact of the project as it has only just launched.

The theory of change and log frame are still relevant, though in developing the KPI15 (transformational change) methodology, a few indicators that were not included in the log frame needed to be added. The theory of change and log frame will need to be adjusted further when the plan for the next year is finalised. The theory of change is very ambitious, and the logframe must reflect this by being sufficiently stretching. The indicators used should also take what we have learnt about who uses the tool and how they access it into account (for example, reflecting the interest from universities and schools, and the creation of pathways by companies).

Monitoring progress throughout the review period

We get feedback throughout the year and record it, and keep a list of press mentions, and blogs about the Global Calculatur, a list of universities that are using it, and a list of presentations that have taken place.

H: Transformational Change

Rating

2 - Some early evidence suggests transformation likely

Evidence and evaluation

The Global Calculator project has been completed on schedule and independent research suggests that the model itself is successful, especially given the very challenging nature of the project. Engagement with stakeholders during the build exceeded expectations. Since its launch, in many ways the communications and outreach work has again exceeded expectations, with the tool receiving many times the number of hits we expected and a number of articles appearing in the press around the world and online. The press coverage in the UK, in particular, could not have gone much better, with positive stories in most of the big national newspapers.

However, at this stage there is little evidence that businesses, NGOs and governments have been persuaded to take action on climate change because of the Global Calculator, or that its influence has reached “critical mass”. There has been little engagement in some of our key target countries (e.g. Brazil and South Africa, as well as influential countries like the USA), and only a few businesses have really taken on the work.

More work therefore needs to be done to communicate about the tool and its findings, and to present it directly to our target groups. This will be the Global Calculator team’s focus for the rest of 2015, rather than working on improving the model itself.

For a fuller explanation, see Spring 2015 results collection.

Monitoring progress throughout the review period

Progress is monitored now for transformational change every 6 months as part of the ICF results collection process.

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URN 15D/500