Net Zero Societal Change Analysis:

WP2 – International Review

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About the Energy System Catapult

Part of a world-leading network of innovation centres, Energy Systems Catapult (ESC) was set up to accelerate the transformation of the UK's energy system and ensure UK businesses and consumers capture the opportunities of clean growth.

ESC is an independent, not-for-profit centre of excellence that bridges the gap between industry, government, academia and research – with around 200 staff based in Birmingham and Derby with a variety of technical, commercial and policy backgrounds.

ESC takes a whole system view of the energy sector – from power, heat and transport to industry, infrastructure and consumers – helping us to identify and address innovation priorities and market barriers to decarbonise the energy system at the lowest cost.

To overcome the systemic barriers of the current energy market, ESC work to unleash the potential of innovative companies of all sizes. Helping them to develop, test and scale the products, services and value chains required to achieve the UK's clean growth ambitions as set out in the Industrial Strategy.

Disclaimer

This study was commissioned by the Department for Business, Energy and Industrial Strategy (BEIS) and the Department for Environment, Food and Rural Affairs (Defra). The conclusions and recommendations do not necessarily represent the view of BEIS or Defra.

Contents

Executive Summary

This report covers the outcomes of Work Package 2 of the Net Zero Societal Change Analysis project. The project was undertaken by Energy Systems Catapult (ESC) for Her Majesty's Government (HMG) - primarily the Department for Business, Energy and Industrial Strategy (BEIS) and the Department for Environment, Food and Rural Affairs (Defra).

In June 2019 the UK government implemented a legally binding target of net zero for UK greenhouse gas (GHG) emissions by 2050. Achieving this target will have implications across the whole of the economy and society. Major changes are required to the upstream energy infrastructure that is typically hidden from consumers, but other changes will involve people more directly. We will need to adopt a variety of low carbon technologies to do the things we do today, but also be prepared to think and act differently about how we get around, how we heat and power our homes, and what we consume.

It has been estimated that over 60% of changes needed to achieve net zero will involve either behaviour change or a combination of behaviour change and technology solutions[1]. In order to make informed policy decisions that encourage and enable change supportive of net zero, an in depth understanding of the implications, costs and feasibility is required.

Overall, this Net Zero Societal Change Analysis project will provide significant evidence to support that understanding. The primary aim of this particular work package – Work Package 2: International Review – is to assess the available evidence for relevant initiatives, specifically in relation to public engagement and participation, which have been undertaken in other countries related to promoting low carbon behavioural and societal change.

This aim was achieved through an initial review of available evidence, followed by further investigation of six initiatives, leading to the development of case studies. The categories of initiative investigated through the work were **Public Engagement**, **Public Participation** in decision making and cross-cutting **Policy Packages**.

Insights

Evidence Review

Through the Evidence Review, over 50 individual initiatives were identified along with high level descriptions of their objectives and impact (where available). The completed Evidence Review can be found in Appendix 1.

[1] CCC. (2019). Net Zero – The UK's contribution to stopping global warming. https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/ (Accessed: Aug 2020)

A number of high-level insights can be drawn from this Evidence Review. These include the following key insights:

- Although a wealth of evidence was found on the initiatives taking place and their aims and objectives, there is significantly less information available evaluating the impact that those initiatives had. It is therefore difficult to be clear on the extent to which they have been effective and what can be learnt from them.
- In most (if not all) countries, the changes needed to people's lives span multiple policy areas / government departments. Therefore, some degree of collaboration and coherent policy making is required to ensure a consistency in approach.
- Many of the public engagement initiatives have shown that effective engagement requires more than just information provision.
- While many approaches to public participation in decision making have been employed in the past, there has been an increased interest in citizens' assemblies over recent years[2].
- The initiatives identified were relatively small in scale in comparison to, for example, the UK's Change4Life campaign, which is thought to have cost £74 million over three years[3].

Case Studies

Figure 1: Case study initiatives

[2] openDemocracy (2019). Citizens assembly: towards a politics of 'considered judgement'. https://www.opendemocracy.net/en/citizens-assembly-towards-a-politics-of-considered-judgement/ (Accessed: Dec 2020)
[3] https://www.thensmc.com/resources/showcase/change4life (Accessed: Feb 2021)

Case studies were carried out on the six initiatives shown in Figure 1. The key findings of each are presented in Figure 2. The missing information in the summary table reiterates the difficulty in finding reliable evaluations of initiatives after they have taken place. The majority of the literature surrounding them is concerned with their objectives and initial roll-out. When it comes to reporting penetration and impact, little is available in the public domain.

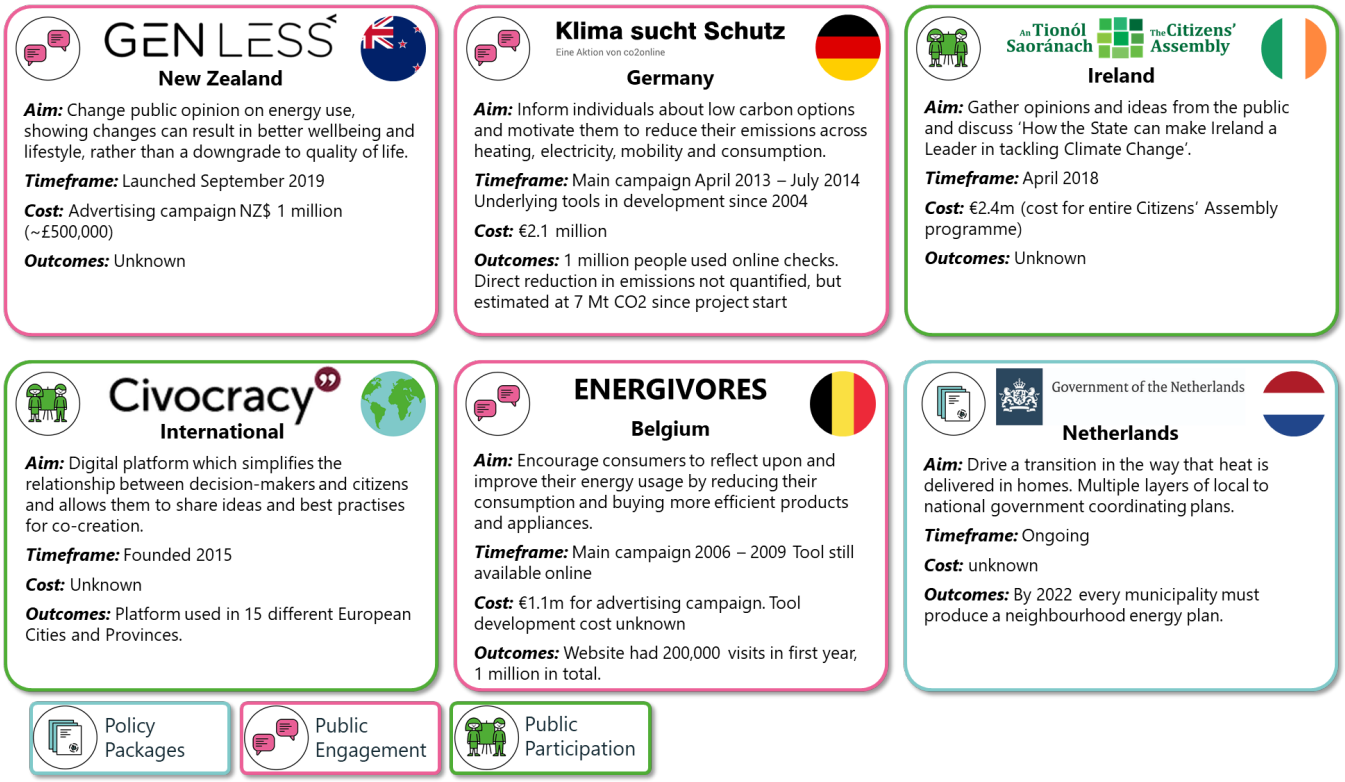


Figure 2: Case study overview

This lack of impact evaluation makes it difficult for others to learn from the initiatives which have gone before. In most cases, it is unclear whether this is because impact evaluations were not planned into the initiative from the start, or whether the evaluations were not made publicly available. However, it is recognised that it would be a complex undertaking to determine the resulting change in individual's behaviour as a result of such an initiative. Nothing happens in isolation, and to gather sufficient evidence to conclude that there is a direct correlation between a particular initiative and a response from individuals in society, would be difficult. This challenge is exacerbated when the ultimate aim is the carbon emission reductions resulting from those changes in behaviour.

Some of the public engagement initiatives which have broader aims of increasing the prominence of the issues in the minds of the general public have looked at impact through measuring the number of interactions. The number of visits to the initiative website, for example. This can give an indication of the reach of the initiative, but without follow up surveys

looking at the impact of that visit, little can be said about the material impact on behaviour and the resulting emissions. This is, perhaps, understandable given the relatively low budget of the initiatives identified.

Where such initiatives are undertaken in the future, an important consideration during the planning phase should be evaluation of impact. Given the challenges of doing so, multiple forms of evaluation may be relevant – both qualitative and quantitative.

The case study on the multi-level approach to public engagement in the Netherlands demonstrates that even with tight coordination, multiple initiatives are required. These are spread over many sectors; targeted in different ways to the diverse population; involving organisations at the national, regional, city and community levels; and are targeting issues where there are no one-size-fits-all solutions.

Introduction

This report covers the outcomes of Work Package 2 of the Net Zero Societal Change Analysis project. The project was undertaken by Energy Systems Catapult for multiple bodies from Her Majesty's Government (HMG) (primarily BEIS and DEFRA) following a successful proposal in response to a competitive tendering process for the work.

Context

Following the recommendation by the Committee on Climate Change (CCC), in June 2019 the UK government implemented a legally binding target of net zero for UK greenhouse gas emissions by 2050. Whichever pathway is taken to achieve this target, there will be far-reaching implications for the whole energy system and beyond, into areas of our lives that have traditionally been largely outside the scope of such work. While many of these implications fall on the way we produce energy and the pipes and wires that deliver it to the consumer, the fabric of our society and the behaviour of those within it have a significant impact on the chances of meeting the target in the timeframe needed.

It has been estimated that over 60% of changes needed to achieve net Zero will involve either behaviour change or a combination of behaviour change and technology solutions[4]. In order to achieve this, it will be necessary to support many of those actions and choices. In ESC's Innovating to Net Zero work[5], detailed modelling was conducted on some of the potential pathways to delivering net zero. This showed that there are fewer options than there were for delivering the previous 80% target. Therefore, the actions and choices that are made by individuals have an even more prominent impact on the levels of greenhouse gas emissions. In order to reduce those emissions such that the net zero target is reached, it will be necessary to introduce mechanisms to support the change of some of those actions and choices.

The increase in rate of decarbonisation required to meet the net zero target also adds to the importance of the role of people's actions and choices. There are real technical and economic scalability limits on the rate of decarbonisation delivered through market and technology lifecycle replacements, so the onus on the actions of citizens will increase.

Although one of the first nations to implement such ambitious greenhouse gas emission reduction targets, the UK is not alone in recognising the importance of doing so. Many other countries have now followed suit. This, along with action towards previous targets, provides an opportunity to learn from initiatives which have been carried out elsewhere to try to bring about the behavioural change that is required if we are to achieve the net zero target. In particular,

[4] CCC. (2019). Net Zero – The UK's contribution to stopping global warming. https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/ (Accessed: Aug 2020)
[5] ESC (2020). Innovating to Net Zero. https://es.catapult.org.uk/reports/innovating-to-net-zero/ (Accessed: Aug 2020)

this report explores relevant international efforts in public engagement, public participation and 'packaging' of climate policies.

Recognising the importance of the actions and behaviours of people in reducing greenhouse gas emissions, communicating the issues and challenges is critical. Many countries have run **Public Engagement** initiatives, ranging from targeted campaigns on electricity use reduction to multi sector digital platforms aiming to engage the public in the issues.

One approach to both developing policy and building public engagement is to bring citizens into the decision-making process. This aims to reinstall trust in the political process. There are many approaches to this **Public Participation**, including large scale, national citizens' assemblies, and local citizen jury or town hall sessions. Each is an attempt to promote representation, deliberation and equity in the policy and decision-making process.

As discussed above, the need to reduce greenhouse gas emissions spans many areas of peoples' lives and (generally) decisions made across multiple arms of government play a part. This can often lead to a complex and confusing landscape of policies. The development and introduction of coherent **policy packages** can remove some of this complexity and ensure that the individual policies are simple and not contradicting/counteracting each other. It has also been suggested that the public want a comprehensive plan that is implemented consistently and want the opportunity to do their bit[6], and more so if others are doing theirs[7]. This climate policy integration is imperative in achieving climate goals[8]. A systems approach is one of the suggestions to achieve this, with co-ordination throughout government[9] [10]. The limitations of deliverability of this approach clearly need to be considered in the context of complex interactions between multiple key government departments and institutions, alongside the physical infrastructure.

Aims and Objectives

To date, there has been a considerable amount of work investigating individual changes in behaviour (e.g. moving to electric vehicles, reducing energy demand in the home). However, there is a significant gap in terms of work that is looking more holistically and collectively at the behavioural and societal change that may be required to reach net zero. The net zero Societal Change and Analysis project seeks to provide evidence to support that understanding.

[6] Green Alliance (2019). Understanding the public mandate for climate action. Retrieved from https://www.green-alliance.org.uk/resources/understanding_the_public_mandate_for_climate_action.pdf (Accessed: Dec 2020)
[7] 10:10 Climate Action (2019). Public attitudes to tackling aviation's climate change impacts. http://files.1010global.org/documents/Aviation_briefing_Jan2019_FINAL.pdf (Accessed: Dec 2020)
[8] Imran Habib Ahmad (2009). UN Department for Economic and Social Affairs – Climate Policy Integration: Towards Operationalization. https://www.un.org/esa/desa/papers/2009/wp73_2009.pdf (Accessed: Dec 2020)
[9] CCC (2020). Policies for the Sixth Carbon Budget and Net Zero. https://www.theccc.org.uk/wp-content/uploads/2020/12/Policies-for-the-Sixth-Carbon-Budget-and-Net-Zero.pdf (Accessed: Dec 2020)
[10] ESC (2020). Accelerating to Net Zero: A sector led approach to an economy-wide carbon policy framework. https://es.catapult.org.uk/reports/accelerating-to-net-zero-a-sector-led-approach-to-an-economy-wide-carbon-policy-framework/ (Accessed: Dec 2020)

The overall objectives of the project are to:

1. Identify the societal changes that are most relevant to net zero.
2. Identify and assess how different levels of societal and behavioural change can affect the feasibility and cost of transitioning to net zero.
3. Identify how and where cross-cutting interventions could be implemented to support the societal and behavioural changes necessary for net zero.

The wider project consists of two parallel workstreams. The first (work package 1 (WP1) and work package 2 (WP2)) will build a robust evidence-base through behaviour mapping and an international review. The second (work package 3 (WP3) and work package 4 (WP4)) will scope and build methods for improving the representation of behaviours in whole systems models.

The primary focus of the work package discussed in this report (WP2), will feed into Objective 3, shedding light on the feasibility and cost implications of behavioural/societal change, by drawing on examples of how other countries have sought to reduce emissions through **public engagement**, **public participation** in decision making and cross-cutting **policy**.

Approach

This work package is separated into two phases undertaken by subject matter experts from across ESC. These tasks were developed in consultation with HMG stakeholders and are detailed in the individual sections of this report.

The first section covers the work carried out to deliver a review of the available evidence on relevant initiatives taking place internationally. The focus in this was on OECD countries to make learning more easily transferrable to the UK. This resulted in a total of over 50 initiatives being identified across the three categories.

The second section covers the subsequent deep dive analysis carried out and the resultant case studies. Six initiatives were selected for further evaluation based on their novelty, learning potential and applicability to the UK context. Research for this was carried out through a combination of further literature reviews and interviews with individuals with working knowledge of the initiatives.

Evidence Review

Introduction

The initial task in this work package involved the identification of relevant international initiatives which have taken place (or are currently doing so) in the area of climate change. As discussed above, the relevant initiatives are any which fall into the categories of **public engagement**, **public participation in decision making** and **policy packages**. This Evidence Review sought to provide a high-level overview of the key points of a broad range of initiatives.

The country focus of this evidence review was primarily on OECD countries. This was done for two reasons; first, it limited the search to those countries which are most likely to have implemented initiatives which the UK can learn from to achieve the net zero target; and secondly, it helped to narrow the scope as this work package is intended to be a relatively high-level evidence review and not a comprehensive review of all international initiatives.

Methodology

A framework was developed to help identify initiatives. For each of the initiative categories discussed above, a table was prepared to allow researchers to record each initiative along with a number of other fields, as discussed below. The completed evidence review can be found in Appendix 1.

The fields included in the international review evidence framework were:

Initiative: Short title or name of the initiative under consideration.

Country: The country (or countries) in which the initiative was deployed.

Initiative Key Points: Further detail about the initiative including a description of what was implemented, who carried it out, relevant dates and, where possible, costs associated with the initiative.

Local / Country / Cultural Context: Highlighting any particular context that should be taken into account when considering the application of potential learnings to the UK.

Barriers / Resistance: Highlighting any particular issues that were encountered in the implementation of the initiative.

Outcomes: Where possible, details of the impact that the initiative had.

References: External evidence leading to the assessment.

The framework was populated by members of ESC's International team and strategy team. As can be seen from Figure 3, this was informed through previous internal work, literature

searches and engaging with a wider international network of contacts. These contacts, in particular, provided key insights into the initiatives from a local perspective. They were found through existing work within ESC, through contacts of the HMG clients and ESC's existing relationship with the Department of International Trade (DIT) and the Foreign, Commonwealth and Development Office (FCDO).

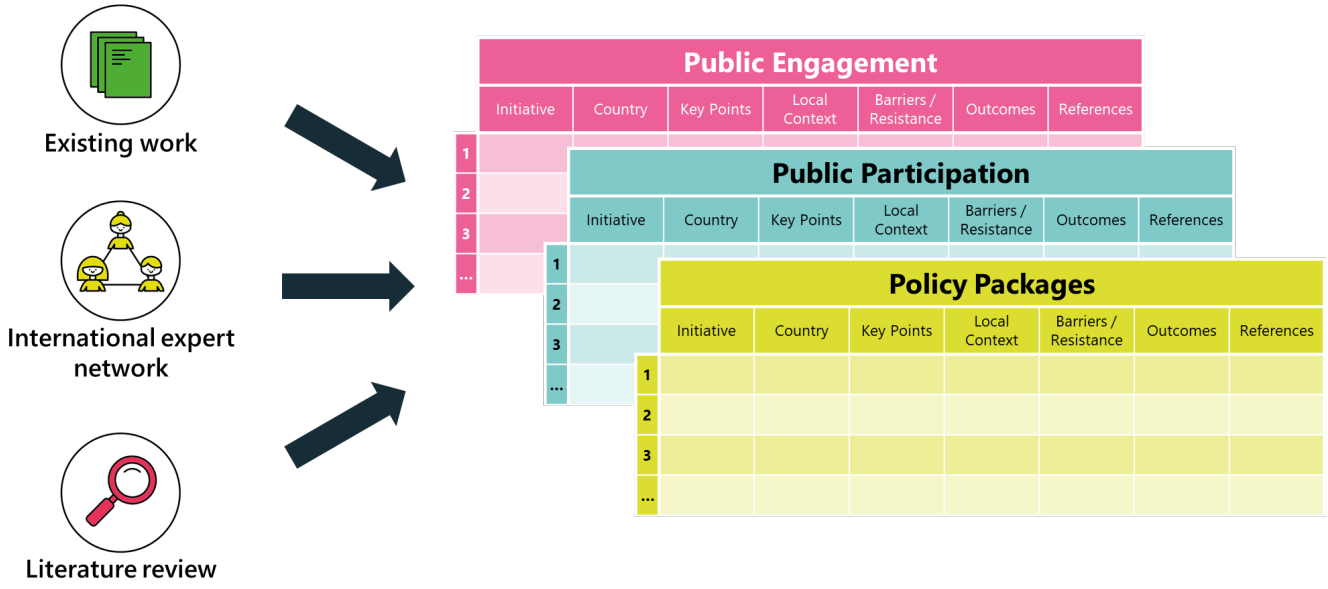


Figure 3: Evidence review process and framework

Insights

In total, over 50 individual initiatives were identified over the three categories. The completed framework can be found in Appendix 1. Many of the examples identified were from European countries, although there were initiatives from further afield. It is not clear whether this is a result of increased reporting and coordination within the EU or whether there are truly more examples there. Figure 4 picks out some of those example initiatives.

Of the approaches identified, none stood out as exemplars and they were relatively small scale. However, a number of general and category specific insights can be drawn from the information assembled:

Insights – General

- Although the local context in which the initiatives are operating is varied (e.g. New Zealand's emissions proportions from different sectors are very different from the UK's) actions by the public (whether through transportation decisions, heating, diet, etc.) are a critical part of delivering emissions reductions in all the countries in which initiatives were reviewed.

- Although a wealth of evidence was found on the initiatives taking place and their aims and objectives, there is significantly less information available evaluating the impact that those initiatives had and their persistence. It is therefore difficult to be clear on the extent to which they have been effective and what can be learnt from them.
- Nothing happens in isolation, and to gather sufficient evidence to conclude that there is a direct correlation between a particular initiative and a response from individuals in society would be difficult. It would be a complex undertaking to determine the resulting change in individual's behaviour as a result of such an initiative. This challenge is exacerbated when the ultimate aim is the carbon emission reductions resulting from this change in behaviour.
- When looking at international examples, local context is an important factor in any initiative. This presents challenges around transferability to the UK, even from other OECD countries.
- The initiatives identified were relatively small in scale in comparison to, for example, the UK's Change4Life campaign, which is thought to have cost £74 million over three years[11].

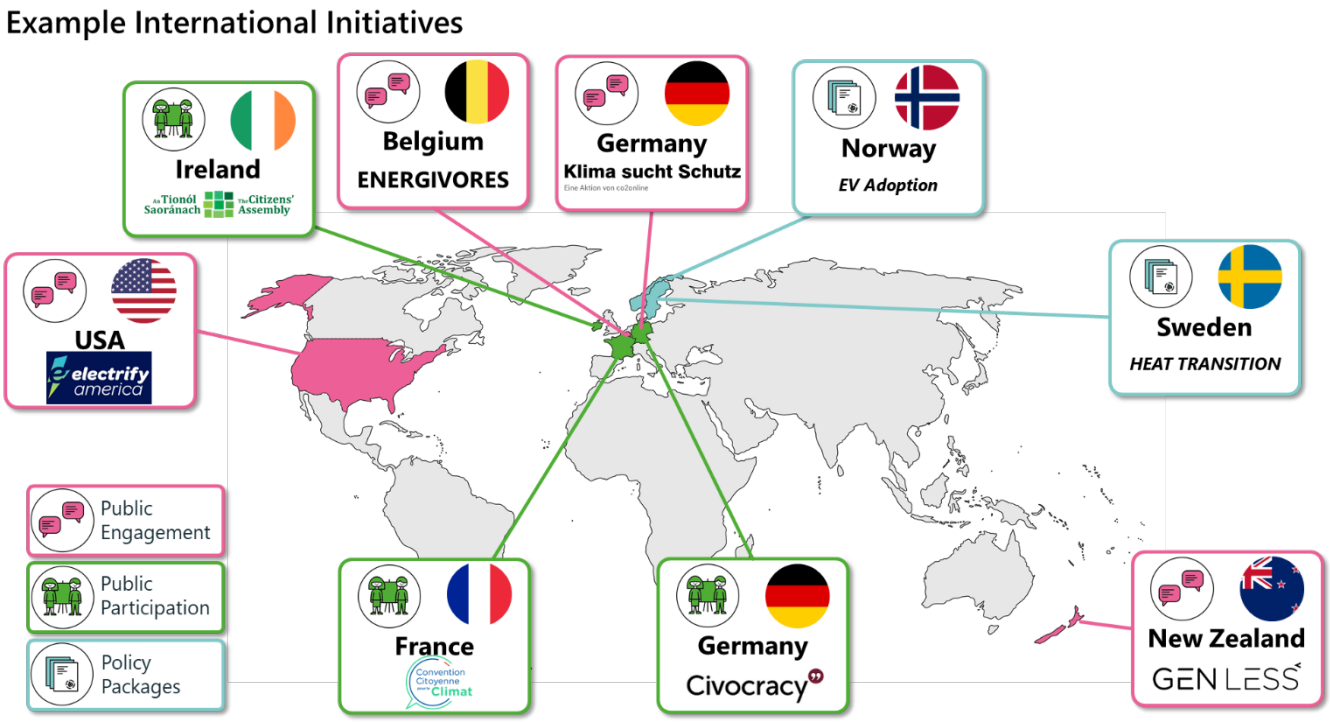


Figure 4: Example international initiative identified in the evidence review

[11] https://www.thensmc.com/resources/showcase/change4life (Accessed: Feb 2021)

Insights – Public Engagement

- Several of the countries we assessed in this evidence review had comprehensive government web pages with a wealth of information on how to decarbonise your home and lifestyle. The fact that we are not seeing rapid or large-scale shifts in behaviour suggests that effective engagement requires more than just information provision on its own.
- Some of the public engagement initiatives which have broader aims of increasing the prominence of the issues in the minds of the general public have looked at impact through measuring the number of interactions. The number of visits to the initiative website, for example. This can give an indication of the reach of the initiative, but without follow up surveys looking at the impact of that visit, little can be said about the material impact on behaviour and the resulting emissions.
- Within the public engagement initiatives which have been identified, there is large variation in the target audience, and therefore the approach taken. Some are sector specific; some are broader. Some are targeted at the general population; others are much more information based and targeted at already engaged individuals.

Insights – Public Participation

- While many approaches to public participation in policy and decision making have been employed in the past, there has been an increased interest in particular methods such as citizens' assemblies over recent years[12]. Prominent national programmes of this kind focussing on climate change have been undertaken in France[13] and the UK[14] while many others have been carried out at both national and regional levels elsewhere[15].
- Broadening the scope, it is clear that many more examples of public participation in decision making could be referenced if the search had looked beyond initiatives focussed on combating climate change. Particularly in areas such as electoral reform[16] and broader social issues[17].
- Holding debates or inviting citizens to participate through digital or other platforms isn't necessarily enough. Public servants also needed to be sensitised to the benefits of citizen participation in order to assimilate it into policy.
- Using digital platforms in parallel to on-site events can be a good way of widening demographic reach for public participation.

[12] openDemocracy (2019). Citizens assembly: towards a politics of 'considered judgement'. https://www.opendemocracy.net/en/citizens-assembly-towards-a-politics-of-considered-judgement/ (Accessed: Dec 2020)
[13] La Convention Citoyenne pour le Climat. https://www.conventioncitoyennepourleclimat.fr/ (Accessed: Dec 2020)
[14] Climate Assembly UK. https://www.climateassembly.uk/ (Accessed: Dec 2020)
[15] https://participedia.net/ (Accessed Dec 2020)
[16] For example, in the Netherlands, Australia and Canada.
[17] The Citizens' Assembly – Ireland. https://www.citizensassembly.ie/en/ (Accessed: Dec 2020)

Insights – Policy Packages

- In most (if not all) countries, the changes needed to people's lives span multiple policy areas / government departments. Therefore, some degree of collaboration and coherent policy making is required to ensure a consistency in approach. Related to this is the work by the OECD on policy coherence for sustainable development[18]. This has looked at the experiences of OECD countries in establishing supporting institutional structures to facilitate, among other things, policy integration and co-ordination, local involvement, and stakeholder participation.

[18] OECD. Policy coherence for sustainable development. https://www.oecd.org/gov/pcsd/ (Accessed: Dec 2020)

Case Studies

Introduction

Following the evidence review covered in the previous section of this report, case studies were carried out on six of the initiatives identified. The aims of these case studies were to gather more information into the objectives, implementation and outcomes of the selected initiatives. This was informed through further literature review and through semi-structured interviews with individuals in the countries concerned, with working knowledge of the initiatives.

The following were selected for the case studies, three of which are focussed on public engagement initiatives and two on public participation in decision making. The final one is on the general multi-level approach to climate initiatives taken in the Netherlands:

- Civocracy – Germany
- Genless – New Zealand
- Klima Sucht Schultz - Germany
- Citizens' Assembly – Ireland
- Energivores – Belgium
- Multi-level approach to climate initiatives– Netherlands

These initiatives were selected to represent a variety of approaches within each category; to give a mixture of historical, established initiatives and more recent ones; and initiatives that have potential for learning applicable to the UK context and targets.

Methodology

The case studies were compiled after a phase of deep dive analysis. They were selected on the basis that they offered particularly interesting insight to the topic areas of this review. This was carried out through further literature review, building on the information gathered in the evidence review, and through semi-structured interviews, where in-country experts were available.

Overview

The key findings of the case studies carried out are presented in Figure 5. The missing information in the summary table reiterates the difficulty in finding reliable evaluations of initiatives after they have taken place. The majority of the literature surrounding them is concerned with their objectives and initial roll-out. When it comes to reporting penetration and impact, little is available in the public domain.

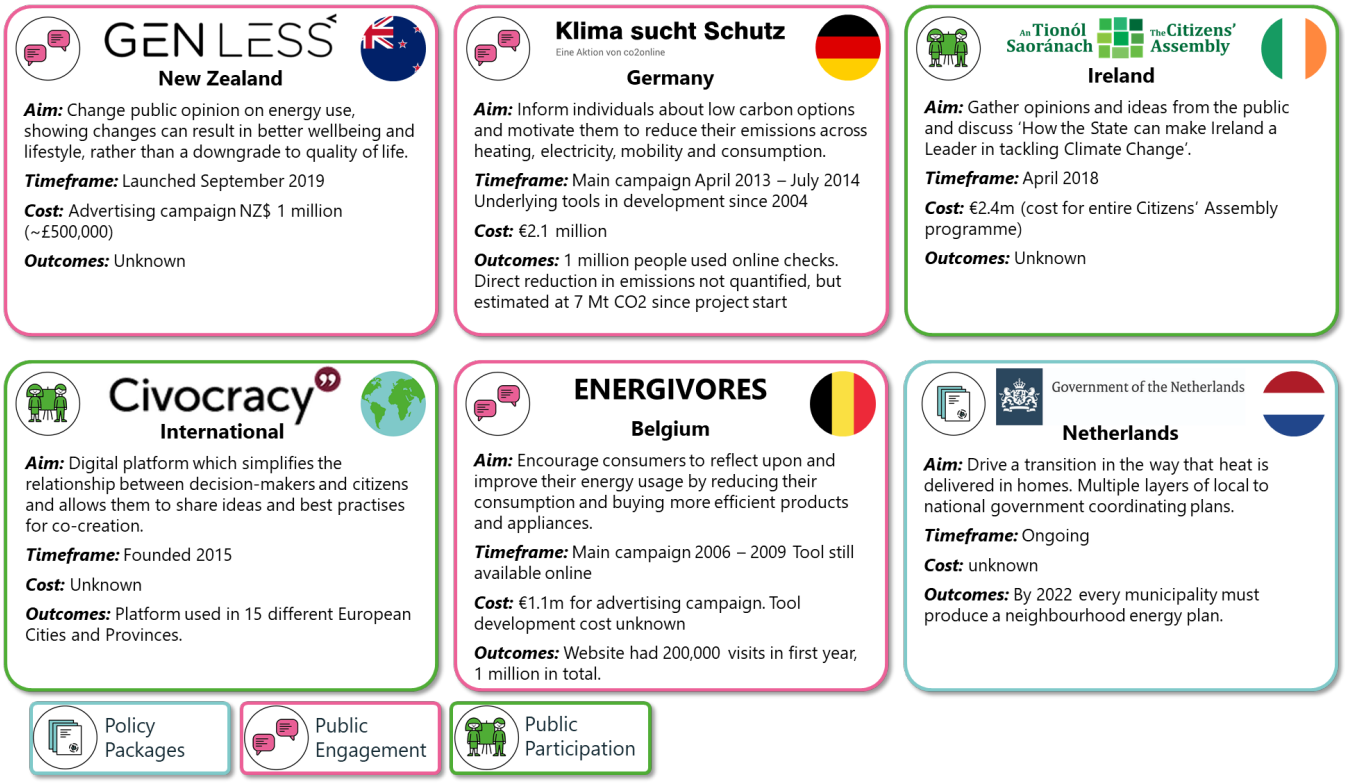


Figure 5: Case study Overview

This lack of impact evaluation makes it difficult for others to learn from the initiatives which have gone before. However, it is recognised that it would be a complex undertaking to determine the resulting change in individual's behaviour as a result of such an initiative. Nothing happens in isolation, and to gather sufficient evidence to conclude there is a direct correlation between a particular initiative and a response from individuals in society, would be difficult.

The case study on the multi-level approach to climate initiatives in the Netherlands demonstrates that even with tight coordination, multiple initiatives are required. These are spread over many sectors; targeted in different ways to the diverse population; involving organisations at the national, regional, city and community levels; and are targeting issues where there are no one-size-fits-all solutions.

Case Studies

Klima sucht Schutz (Germany)

Overview

Klima sucht Schutz (Climate Seeks Protection)[19] is a German national campaign and platform promoted by the not-for-profit consulting company co2online. It is part of Mein Klimaschutz (My Climate Protection), an initiative under the Federal Ministry for Environment, Nature Conservation and Nuclear Safety.[20]

The campaign aimed to inform individuals about climate mitigation options and motivate them to reduce their energy consumption, and therefore emissions. It did this through an online tool which provided tailored advice to users based on details entered about their home and situation. After giving advice on options, it then put users in contact with consultants and tradespeople registered on the platform to continue with implementation.

The tool was developed with 23 individual online modules to calculate potential energy savings on heating, electricity, mobility and consumption. Around 900 organisations registered to integrate the Klima sucht Schutz interactive advice platform into their website during the project period. These included energy suppliers, financial services providers, consumer portals, municipalities, energy agencies, professional organisations, manufacturers and tradespeople. There is also a funding check module, that shows a user all the local, regional and national financial incentive schemes they might be eligible for.

By setting up an account with the site, individuals are able to track their energy consumption over time by entering information from their bills. With around 80,000 accounts activated, this informed a database of consumption statistics for around one million homes, which was capitalised on by sharing with public institutions and advice centres.

There is also an area of the site that provides free downloadable resources for companies, schools and consumers on topics such as technology options, funding and energy saving tips.[21]

Although the website is still active, the primary campaign promoting it ran from April 2013 to July 2014 and cost just over €2m.[22]

[19] https://www.klima-sucht-schutz.de/ueber-uns/ (Accessed: Dec 2020)
[20] https://www.bmu.de/ (Accessed: Dec 2020)
[21] https://www.klima-sucht-schutz.de/service/multimedia-center/broschueren-und-faltblaetter/ (Accessed: Dec 2020)
[22] https://www.klimaschutz.de/projekte/klima-sucht-schutz (Accessed: Dec 2020)

Outcomes

During the project period, around 20,000 users per week used one of the energy saving checks online. In total there were almost one million users of the online checks during the project period of one year and around 1.2 million visited the campaign website.

Although the direct reduction in emissions were not quantified, analysis of survey data by co2online indicates that over seven million tons of CO2 could have been avoided since the overarching project started in 2004 and that "various external evaluations confirmed the high cost efficiency and CO2 effectiveness of the campaign" [23] (the rigour of these have not been assessed as part of this work). Furthermore, the analysis suggests that every third consumer planning a renovation or a new build had advice from the campaign.[24]

Finally, around 150 organisations ordered the "Heating Mirror" database of one million homes with energy consumption and emissions statistics populated from the online accounts. Around 4,400 tenants and owners also took advantage of a free heating report.

Insights

This complex project addressed several aims that are currently important in the UK. In addition to alerting and advising consumers to energy saving behaviour, it took the next step of facilitating the implementation of physical changes.

A similar project in the UK could raise awareness of energy saving measures [25]. Using consumption data from accounts is an interesting way of improving the understanding of the building stock and energy use patterns, as well as a way to measure the impact of policies or initiatives.

Having a central source of quality educational materials would assist local authorities, schools and companies in implementing their own initiatives and save them money whilst guaranteeing the advice is up-to-date and scientifically sound.

[23] https://www.klimaschutz.de/projekte/klima-sucht-schutz (Accessed: Dec 2020)
[24] https://www.klimaschutz.de/projekte/klima-sucht-schutz (Accessed: Dec 2020)
[25] Carmichael, R., et. al. (2020) Smart and Flexible Electric Heat, An Energy Futures Lab Briefing Paper, Imperial College London. https://www.imperial.ac.uk/energy-futures-lab/policy/briefing-papers/paper-6/ (Accessed: Dec 2020)

Civocracy (International)

Overview

Civocracy is a digital platform for personalised political forums, built to help local governments to connect with their citizens. Since 2015, Civocracy have been working with public sector clients to boost community engagement and also provide analytics on user's sentiment and semantics[26]. It has been used by 15 European cities and provinces to date. The platform enables citizens to discuss and act on political and social issues, including but not limited to, climate change and sustainability. The concept is built upon creating a more inclusive society by enabling users to collaborate[27].

Civocracy is a private firm classified as a part of 'Interest groups and associations' class under the German classification of economic sectors[28]. The company received funds from equity public funding, funds from individuals, corporate funds and accelerators/incubators[29]. A total of around €1.2 million was the initial launch cost.[30]

The company's vision is to simplify the relationship between decision-makers and citizens, and to promote inclusive and collaborative governance structures. Civocracy also aims to create a global civic network, in which citizens and cities can share ideas and best practises for co-creation.

Civocracy offers an untraditional approach to get as much public participation as possible from across the age spectrum. Particularly, the platform attracts younger population due to their familiarity with social media and digital technologies. Participation is made easier by allowing people to comment and interact with the local authority without being present in the same room, hence higher participation rate. Due to the culture and social similarities between the UK and other western European countries, there are common grounds on the importance of democracy and public participation in decision making.

Outcomes

As of 2018, Civocracy have 15 clients in various European cities and provinces. They are mainly active in four European countries; Germany (Hatten, Potsdam, Losser), France (Ville de Lyon, Strasbourg-Rythmes Scolaires, Metropole Nice Cote d'Azur, La Region Auvergne-Rhone-Alpes, Limoges Metropole, Sicoval), Belgium (Debating security Plus) and the Netherlands (Veere, Noord-Holland, Zuid-Holland)[31].

[26] Civocracy Impact Report 2019, provided by CEO of Civocracy
[27] https://www.civocracy.com/ (Accessed: Dec 2020)
[28] https://www.destatis.de/DE/Methoden/Klassifikationen/Gueter-Wirtschaftsklassifikationen/klassifikation-wz-2008.html (Accessed: Dec 2020)
[29] https://pitchbook.com/profiles/company/85089-43#funding (Accessed: Dec 2020)
[30] Conversation with Civocracy CEO, Chloe Pahud, January 2021
[31] https://library.ceu.edu/ (Accessed Dec 2020)

In 2016, the government of the Ville de Lyon (France) began working with Civocracy on a longitudinal transformation project. The city's public sector workers were consulting citizens on a range of sustainability and public service infrastructure subjects, such as the urban planning of green spaces, education structures, and improved public transportation.

One project was named "Réinventons le Clos Jouve", focusing on renewing a large city park in Lyon. A total project budget of €650k was set for consultation and implementation stages. Civocracy participation was highlighted in the consultation stage, where more than 500 citizens participated in ideas and sketches for architectural designs. The Clos Jouve project helped to prove to citizens that the city government was committed to take their ideas into consideration. By using the Civocracy platform, Ville de Lyon was able to read citizens' comments, respond to ideas and inputs, send project updates, and share project timelines[32].

Lyon also used Civocracy's platform as part of their 2017 consultation on making Lyon a sustainable city by 2030. A six-week online consultation phase happened in parallel to on-site events. By combining digital and offline participation methods, Lyon attracted 18,000 users to the platform and received 1,850 contributions. The exact methods aren't available at this time, Around 30% of the measures featured in the final Territorial Climate and Energy Plan were taken directly from citizen propositions. A policy officer at the participatory democracy department in Lyon also stated that teams within local government needed to be sensitised to the benefits of citizen engagement in order to get the responses incorporated into policy.[33]

Another example of Civocracy impact is in Monheim-am-Rhein, Germany, where the local community, encouraged by the mayor, submitted 117 propositions on topics addressing transportation, sustainability and urban planning & infrastructure. Once a proposition received 50 upvotes, it was opened for discussion on the platform. In relatively short time, citizens of in Monheim-am-Rhein submitted and discussed their suggestions for a greener Monheim-am-Rhein. Subsequently, three propositions passed project team review and are currently in the implementation stage (turning an unused road into a path for cyclists and pedestrians, transforming green patches into an insect-friendly habitat and developing an app for rubbish-collection[34]).

Insights

In the Clos Jouve project and Monheim-am-Rhein examples discussed above, challenges were faced with public participation through Civocracy, many of which relate to the local implementation. For example, communication plans for Clos Jouve and Monheim-am-Rhein could have been more concrete before the consultation launch. In the case of Clos Jouve, consultations lacked a firm timeline and link to the decisions made. Also, results were collected

[32] https://sustainablecities.eu/transformative-actions-database/?c=search&action_id=pzn4vss1 (Accessed: Dec 2020)
[33] Civocracy Impact Report 2019, provided by CEO of Civocracy
[34] https://bbf8d186-3ab8-4063-a8a8-e479ff20044a.filesusr.com/ugd/c88825_06e5147edc6948aebf8a247cc9c3ae7c.pdf (Accessed: Dec 2020)

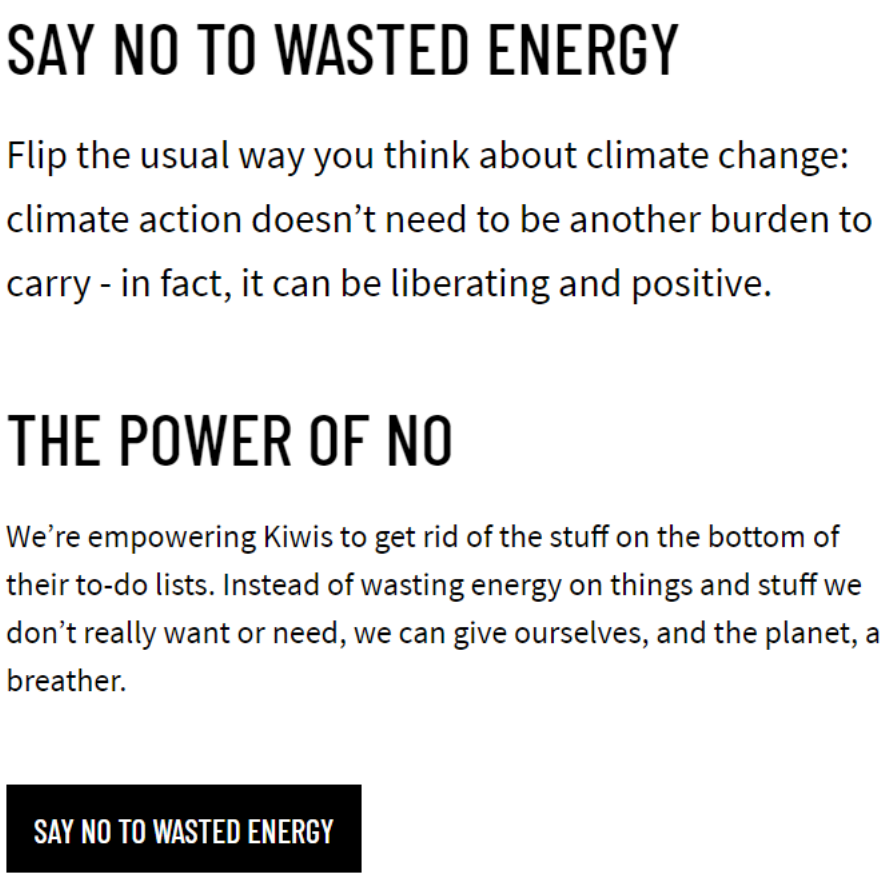
from both online and offline consultations but were not combined in a concise way. Other barriers appeared such as public participation was active but not all 'full-hearted'[35].

For the climate consultation held in Lyon, the local policy officer stated that one issue they had was that they collected so much qualitative data that they struggled to absorb it all.[36]

Cities in the UK who are planning similar consultations would benefit from the lessons learnt from Civocracy projects in Europe. City projects in Europe have shown that digital platforms are a useful tool in encouraging public participation when used alongside more traditional methods. The accessibility and connectivity of the platform are especially useful for engaging with segments of the population who are usually harder to reach, such as young people or the working population who don't have time to attend community meetings. Feedback from clients of Civocracy indicates that prior to the consultation, a concise communication plan, including posting regular updates and informing the users of the next steps and outcomes, is essential. Ways of combining and absorbing large volumes of qualitative data also need to be planned for. Additionally, local government teams need to be sensitised to the benefits of engagement for it to be effectively incorporated into policy.

[35] https://bbf8d186-3ab8-4063-a8a8-e479ff20044a.filesusr.com/ugd/c88825_06e5147edc6948aebf8a247cc9c3ae7c.pdf (Accessed: Dec 2020)
[36] Civocracy impact report 2019, provided by CEO of Civocracy

GenLess (New Zealand)



Overview

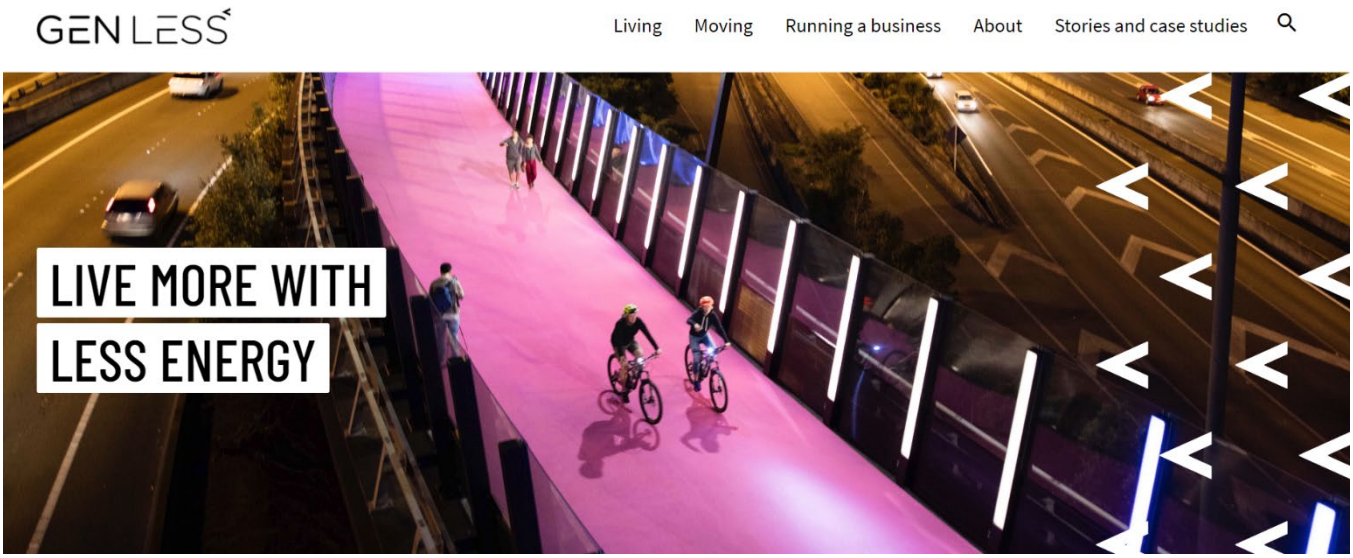
GenLess is a behavioural change initiative launched by New Zealand's EECA (Energy Efficiency and Conservation Authority) to galvanise action from the population to use less energy and reduce environmental impact and GHG emissions. GenLess is aiming to "engage hearts and minds" on the benefits of using less energy and reducing individual carbon footprints. The campaign focuses on behavioural changes in three broad categories;

- Residential lifestyle choices such as eating, heating homes and shopping
- Transport choices
- Choices for businesses to make in efficiency of buildings and equipment, as well as company transport options

Each section of the website is broken down into smaller bite-sized chunks with a link to tools to help users make these choices. This is in line with their messaging that "every little counts". Navigating the website links takes you to tools such as a CO_2 footprint calculator, sustainability lifestyle articles, meal planners and information about mobility, hot water usage, retrofit and appliances. There is also a "KiwiSaver Fund" comparison tool that allows users to select which sectors they wish to avoid investing in (fossil fuel, palm oil, etc). There are links to thematic external websites (for example on in-season produce, recipes for leftovers, ethical consumer

comparison website etc). The "Speak Up" section gives advice on how to become a climate influencer, with tips on posting on social media and creating 'green' branding etc.

The government-led initiative was launched in September 2019 and if successful, will "…be the public-facing brand of EECA for at least the next five years…".[37]



"Doing more with less" is a central message of the campaign. It encourages less consumerism and more focus on family, community and personal growth. The four overarching themes of this message are summarised below;

- Rethink your wants and needs – spending more time outside and with loved ones and less time in the shops
- Repair what you can – and learn new skills in the process
- Reuse what you have – channel your creativity in repurposing objects, or give them away
- Borrow, share, rent or hire – toys, vehicles, wedding dresses, tools[38]

"Saying no" to wasting energy frames a commitment to reducing energy consumption as a personally empowering and liberating experience.[39] The website and video commercial are peppered with quotes from inspirational and instantly recognisable people such as Steve Jobs, Martin Luther King, John Kennedy, Princess Diana, Anne Frank, Gandhi and many more in an emotive call to arms to New Zealanders to make more conscious choices about energy and join the 'Genless generation'.

[37] https://www.stuff.co.nz/environment/climate-news/115969730/gen-less-campaign-hopes-to-inspire-action-on-climate-change?rm=a (Accessed: Jan 2021)
[38] https://genless.govt.nz/living/living-gen-less/do-more-with-less/ (Accessed: Jan 2021)
[39] https://genless.govt.nz/say-no-to-wasted-energy/ (Accessed: Jan 2021)

The total cost of producing and running the commercial for five weeks amounted to $1 million (NZ$). $19,000 alone were spent on running the commercial at the All Blacks Rugby World cup opener. [40]

GenLess was launched with the backing of a number of New Zealand's top businesses, including Stuff, Miraka (dairy company), Ecostore, Ethique, Countdown, NZ Post, Westpac, Wishbone Design and Lewis Road Creamery (dairy company), Non-profit organisations WWF and the Jane Goodall Institute NZ also backed the campaign from launch.[41] Agricultural emissions are outside the scope of the campaign, but given that an estimated 40-50% of New Zealand's emissions come from agriculture,[42] the support of companies in the agricultural sector for the campaign is important.

Outcomes

The 60-second GenLess video commercial is estimated to have reached 1.3 million people, with 44% of the population saying they recall seeing it.[43]

It is not feasible to measure the final impact of GenLess as its main objective is a long-term one, which focusses on getting people and organisations to use less energy. The EECA conducted their annual survey in 2020 on around 3,000 people to ask them some qualitative, progress-measurement questions. The results show a very marginal increase in consumer awareness (around 2% increase). The EECA comments that this is positive given that Covid-19 effects might easily have lessened people's concern about climate change. The total expenditure for the year 2019/20 for the "engaging hearts and minds" programme was NZ$2.4m, with $1.2m coming from Crown funding.[44]

The campaign is relatively new and it is still not clear how public actions and behaviours have changed. There are several case studies published on the official website about individuals and businesses reducing their emissions, without evidence to support that GenLess was the kick-off starter of these changes[45].

Insights

GenLess is a cross-cutting campaign outlining what can be done across 'living', 'moving' and 'running a business' to use less energy. The EECA have built on their former service of

[40] https://www.stuff.co.nz/environment/climate-news/115980735/what-is-gen-less-explaining-the-new-milliondollar-climate-campaign (Accessed: Dec 2020)
[41] https://www.stuff.co.nz/environment/climate-news/115980735/what-is-gen-less-explaining-the-new-milliondollar-climate-campaign (Accessed: Dec 2020)
[42] https://climateactiontracker.org/countries/new-zealand/ , https://www.wri.org/blog/2019/07/5-questions-about-agricultural-emissions-answered , https://www.stuff.co.nz/business/114431409/nzs-biggest-greenhouse-gas-emitters-and-their-struggle-to-pollute-less
[43] https://www.eeca.govt.nz/assets/EECA-Resources/Corporate-documents/EECA-Annual-Report-2019-20.pdf
[44] https://www.eeca.govt.nz/assets/EECA-Resources/Corporate-documents/EECA-Annual-Report-2019-20.pdf
[45] https://genless.govt.nz/stories-and-case-studies/stories/ (Accessed: Dec 2020)

providing information and launched a “call to arms” to citizens. The Genless campaign is framed to appeal to all generations, but particularly the working-age population. They see the Covid-19 pandemic as an opportunity to make some behavioural changes as the “new normal” even after restrictions end.

The differentiating factor of this campaign is the way it is framed. Consumers are encouraged to think of reducing energy use as personal empowerment and liberation. Its headline video commercial strings together a host of the world’s most inspirational speeches and invites New Zealanders to join together in an heroic mission. The website itself reflects the second message that “every little counts” in that it breaks down all the behavioural changes into bite-sized chunks with links to support in making choices.

It’s too early to find quantitative data on emissions reduction as an impact of the campaign, qualitative annual surveys suggest that GenLess is at the very least keeping climate change at the forefront of New Zealanders’ minds.

Citizens' Assembly – "How the state can make Ireland a leader in tackling climate change" (Ireland)

Overview

Following the success of previous public participation initiatives in Ireland, which have led to the implementation of divisive policy (for example legalising abortion and gay marriage through the Constitutional Convention[46]), the citizens' assembly on climate change aspired to achieve similar level of success in climate action.

Ireland's structure around Citizens' Assembly was established in 2016 as a successor to the Constitutional Conventions, which ran from 2012 to 2014[47]. The total cost up to 2019, covering four assemblies, was €2.4 million[48]. This covered members' expenses, selection of the 99 members by polling company Red C Research, promotional material and broadcasting / administration during the events. It did not cover the salaries of administration or secretariat staff.[49]

The 99 members were chosen to represent the views of the people of Ireland and were broadly representative of society as reflected in the Census, including age, gender, social class, regional spread etc. Sub-contractor RED C carried out recruitment through door-to-door interviews in geographic areas that had been selected for recruitment[50]. This approach is consistent with others which indicate that door-to-door is still the most effective technique in Ireland for consumer engagement on electricity tariff switching, for example[51]. Citizens (or members) must also have been on the electoral register to vote in a referendum.

The assembly on 'How the State can make Ireland a Leader in tackling Climate Change' was held over two weekends in the autumn of 2017. In the consultation process, NGOs, representative groups, advocacy groups, political parties, commercial entities and academics submitted letters outlining their concerns. Over 1,200 submissions were received. Members were invited to read these submissions before the assembly. Due to the breadth in topics seen in the submissions, the assembly focused on three main areas; climate change and energy policy on the first weekend, and both transport policy and agricultural policy on the second. During the two weekends, members attended presentations from 15 expert speakers and six individuals in over 26 hours of listening, discussion and deliberation. The assembly culminated

[46] https://www.politico.eu/article/the-myth-of-the-citizens-assembly-democracy/ (Accessed: Dec 2020)
[47] https://www.citizensinformation.ie/en/government_in_ireland/irish_constitution_1/constitutional_convention.html (Accessed: Dec 2020)
[48] https://www.kildarestreet.com/wrans/?id=2019-03-26a.175 (Accessed: Dec 2020)
[49] https://www.irishtimes.com/news/ireland/irish-news/citizens-assembly-costs-run-over-initial-estimates-1.3138171 (Accessed: Dec 2020)
[50] https://2016-2018.citizensassembly.ie/en/About-the-Citizens-Assembly/Who-are-the-Members/ (Accessed: Dec 2020)
[51] https://www.cru.ie/wp-content/uploads/2017/07/CER17019-Review-of-Competition-in-the-Electricity-and-Gas-Retail-Markets-1.pdf (Accessed: Dec 2020)

in a ballot held on the second weekend, with the topics condensed into 13 questions. The recommendations of the assembly were based on the results of a majority vote on each. [52]

Outcomes

Overwhelming majorities were seen on all of the 13 ballots. These included the role of the state in leading and implementing policy, reducing subsidies for peat extraction and raising taxes on carbon-intensive activities, prioritising modal shift in transport away from private road vehicles, mandating food waste measurements at each point in the supply chain and legislating prosumers' rights, and encouraging community ownership of renewable energy projects. The wording and results of the ballots are detailed in the assembly final report.[53]

There were challenges specific to 'How the State can make Ireland a Leader in tackling Climate Change' citizens' assembly. Arguably, the time allocated (only two weekends) to discuss climate change issues was not sufficient to address the breadth and depth of the climate crisis[54].

Secondly, the level of public engagement differs from topic to topic, reflecting what concerns the Irish population the most. For instance,12,000 submissions were filed for the topic of abortion in Ireland in an earlier convention, compared to the 1,200 on the topic of climate change. Even with 'just' 1,200 submissions it was challenging to find a way to incorporate such a volume of submissions. The climate change assembly secretariat produced a signpost document aiming to capture the diversity of the public submissions. However, while this document summarised all group submissions, it only included 10% of the individual submissions and its use and impact in the citizens' deliberation and decision-making might be questioned.

Finally, there is a dilemma on how useful the recommendations are and their impact on the policy process. On one hand, citizens' assemblies may be seen as impactful if their recommendations are directly translated into policy. On the other hand, members lose confidence if their carefully considered decisions are not taken into account by policymakers.

Insights

The Citizens' Assembly Ireland was established to bring citizens together to discuss and consider legal and policy issues facing the country. Recommendations are produced based on

[52] https://2016-2018.citizensassembly.ie/en/How-the-State-can-make-Ireland-a-leader-in-tackling-climate-change/Final-Report-on-how-the-State-can-make-Ireland-a-leader-in-tackling-climate-change/Climate-Change-Report-Final.pdf (Accessed: Dec 2020)
[53] https://2016-2018.citizensassembly.ie/en/How-the-State-can-make-Ireland-a-leader-in-tackling-climate-change/Final-Report-on-how-the-State-can-make-Ireland-a-leader-in-tackling-climate-change/Climate-Change-Report-Final.pdf (Accessed: Dec 2020)
[54] https://www.climatechangenews.com/2019/06/27/irelands-world-leading-citizens-climate-assembly-worked-didnt/ (Accessed: Dec 2020)

the topics discussed and reported to the parliament to vote and eventually act upon. The citizens' assemblies can help to address politically contentious issues and increase the legitimacy of political decisions and actions. They can also help to educate the public and bring about a change in opinion, even on seemingly entrenched issues.

Full transparency about the selection process of members is vital to maintaining trust in the process. Adapting the recruitment process to local preferences is also important.

The breadth of the topic of climate change meant that the assembly had to focus on three sub-topics, which are arguably still very broad. A large volume of submissions from the wider public were received - these were summarised for members in a signpost document that potentially (and possibly inevitably) wasn't representative of all the submissions received.

Building on this last point, there is also a potential risk associated with citizens' assemblies, in general, that the expectations raised at the start of the process are not met, and no attributable action by decision makers can be linked back to the exercise. This would, therefore, delegitimise the process.

Overall, the Irish model is good example to replicate to empower the population and promote public engagement, particularly when taken with the lessons learnt from its implementation.

Energivores (Belgium)

Overview

In 2006 the Belgian Federal Climate Change Section launched an advertising campaign to direct the public to an online carbon footprint calculator named 'Energivores'.[55] The humorous advertising campaign featured images in magazines and radio spots. The online calculator was also appealing, taking the form of a doll's house that can be explored room by room.

Figure 6: One of the adverts from the Energivores campaign

The objective of the online calculator was to encourage consumers to find out their carbon footprint, reflect upon this and reduce their energy consumption and CO2 emissions. It does this through advice on behaviours and on buying the most efficient products and appliances. The calculator originally contained nine modules including household appliances (washing machine, tumble drier, dishwasher, fridge and freezer), lighting, insulation (roof and window) and cars. Televisions and wall insulation were added later. Drawing from a database, the calculator showed users:

- Their energy consumption in terms of cost (euros) and CO2 emissions compared to the national average and also what it would need to be to contribute to achieving the objectives of the Kyoto Protocol;
- The reduction possible with replacement appliances or measures;
- Availability, cost and environmental performance of appliances and measures in the Belgian market; and
- The payback time for replacing an appliance or installing insulation

The calculator took into account all available financial incentives (grants and fiscal deductions), probable use, local parameters (such as temperature, local distribution network) as well as the

[55] https://www.energivores.be/HouseClosed.aspx?lang=FR (In French) (Accessed: Dec 2020)

price of electricity and fuel.[56] The underlying database was created by Ecolife, a Belgian knowledge centre that supports governments, organisations and companies to achieve their ecological goals.[57] Unfortunately, it was not possible to determine the cost or impact of the calculator itself.

The advertising campaign cost around €1.5m, spread over five publicity releases in magazines and on the internet and radio between December 2006 and October 2009 [58]. The campaign spend profile and impact on website visits can be seen in Figure 7.

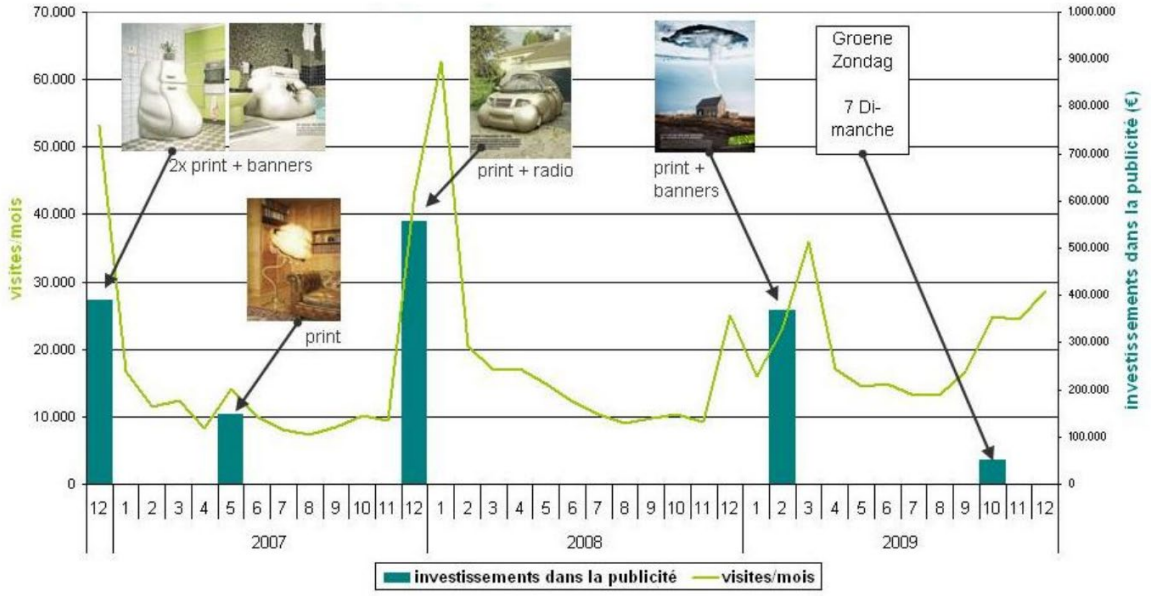


Figure 7: Energivores campaign investment versus site visits[59]

Outcomes

The website states it has had more than 1 million visits[60], 200,000 in the first year[61]. Although the Ministry of the Environment received several international awards for the campaign, and despite the high numbers of visits to the site, no study has been made into any correlation between the campaign and uptake of energy efficiency measures or reduction in energy consumption in Belgium.[62] Visits peaked sharply with each publicity release (see Figure 7), which provides evidence of the success of the campaign in generating interest in the calculator.

56 https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/19102815/Rapport_RFE_FR.pdf (In French) (Accessed: Dec 2020)
57 https://www.ecolife.be/project/energievreters-2/ (Accessed: Dec 2020)
58 https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/19102815/Rapport_RFE_FR.pdf (In French) (Accessed: Dec 2020)
59 Ibid.
60 https://www.energivores.be/Campagne.aspx?lang=FR (Accessed: Dec 2020)
61 http://www.unep.fr/scp/communications/ad/details.asp?id=6684417&cat=8 (Accessed: Dec 2020)
62 http://sircome.fr/hebergez-vous-des-energivores-chez-vous/ (Accessed: Dec 2020)

The divided nature of Belgian politics also reflects a divide between the French and Flemish-speaking populations. The campaign and calculator crossed these barriers by including locally specific data in the underlying database and operates in both French and Dutch.

The website is still available online although it isn't clear how often it is updated. Information on the home page suggests it has been at least 18 months since the last update.

Insights

Although many countries have developed emissions calculators, with varying degrees of depth of information, the Belgian 'Energivores' campaign and calculator stood out as particularly eye-catching. The advertising campaign was successful in driving visits to the website. Unfortunately, no evidence is presented which links those visits to increased uptake of energy efficiency measures and subsequent reduction in carbon emissions. What made the calculator different was that it not only provided information on energy consumption and reduction, but also provided a social incentive by comparing the user's consumption to the national average and that needed to make their contribution to meeting the objectives of the Kyoto Protocol.

Multi-level Approach to Climate Initiatives (Netherlands)

Context

To combat climate change, the Dutch government has a target to reduce the Netherlands' greenhouse gas emissions by 49% by 2030 compared to 1990 levels, with a further ambition of achieving a 95% reduction by 2050.These goals were set out in the Climate Act on May 28, 2019.[63] This was shortly followed by the publication of the National Climate Agreement[64] which sets out what each sector will do to help achieve the overall goals.

Like the UK, the Netherlands has traditionally been a fossil fuel producer, and therefore its energy infrastructure is dominated by natural gas and its economy has several very carbon-intensive sectors. The main gas field, Groningen, is now being phased out, and in 2018 the Netherlands became a net importer of gas for the first time[65].

As with other parts of Europe, much has been achieved in the Netherlands in terms of electricity supply decarbonisation, but significant challenges remain if the targets are to be achieved. Many of these challenges relate to the actions and choices taken at the level of individuals in the country.

The implementation of energy related initiatives in the Netherlands spans multiple government departments. For instance, spatial planning is the remit of one department, funding may come from another, and engagement will fall to the department of social and internal affairs. Additionally, policy is organised on several scales, from European to national to regional to local. The "Polder" is the Dutch name for a consensus-based policy making system.

This scale aspect manifests as requirements for regions of the country to produce regional energy strategies, and municipalities to produce 'heat transition visions' and ultimately 'neighbourhood energy plans'. These are intended to demonstrate how the regions and municipalities are planning to play their part in achieving the national target.

Initiatives

One of the biggest challenges facing the Dutch in meeting their emissions reduction target is the transition away from natural gas for heating. The National Climate Agreement sets out a target for the first 1.5 million existing homes to be natural gas free by 2030 – The drive to "Get-Off-Gas". This challenge forms a large part of the work being carried out by municipalities in

[63] https://www.government.nl/topics/climate-change/climate-policy#:~:text=To%20combat%20climate%20change%2C%20the,Act%20on%20May%2028%2C%202019 (Accessed: Dec 2020)
[64] https://www.klimaatakkoord.nl/documenten/publicaties/2019/06/28/national-climate-agreement-the-netherlands (Accessed: Dec 2020)
[65] https://www.iea.org/reports/the-netherlands-2020 (Accessed: Dec 2020)

the preparation of their **Heat Transition Visions**. By the end of 2021, every municipality in the Netherlands must have produced a Heat Transition Vision.

Each municipality is taking their own approach to developing their Heat Transition Vision, but there are underlying requirements to consider them in the context of the national energy system, and to consider the requirements of households and businesses. As an example of how municipalities are accounting for the latter of these, Utrecht are working with TU Delft on a public participation project to ensure different groups of stakeholders are involved in the process. They are using a Participatory Value Evaluation to facilitate the involvement of a large group of citizens in planning the transition. This utilises an online environment to present a series of different approaches which could be followed, which the users allocate values to and provide feedback on[66].

Beyond these Heat Transition Visions, Dutch regions are required to produce a wider reaching Regional Energy Strategy[67]. These draw together all of the best practice and discussions that municipalities are having in order to create a shared vision across regions on energy conservation and generation. It is a very condensed programme, with 30 regions and just two years to complete. The main lesson is that the challenge is enormous. For example, even if there wasn't any political resistance, if the Netherlands wish to electrify transport as well as heat, significant changes are required in the electricity infrastructure.

The **National Climate Agreement (Klimaatakkord)** of June 2019 outlines how the whole system must support this municipality-centred approach. It takes into account the views of a number of organisations and it lays out the responsibilities of each agent at all scales, including how market regulation must be reformed to make the approach feasible.

The **Energy Agreement for Sustainable Growth (Energie Akkord)**, concluded by the government with employers, trade unions, environmental organisations and others, contains provisions on energy conservation, boosting energy from renewable sources and job creation.[68]

Both the Klimaatakkord and the Energieakkord are the result of much stakeholder engagement and have resulted in integrated, cohesive policy. This includes building efficiency, EV rollout and transitioning heat away from gas. They are translating into laws and regulation that bind government departments to action, and are working well to get people discussing and moving in the same direction, in spite of the polarisation currently prevalent in society.

[66] https://www.tudelft.nl/en/tpm/pve/case-studies/heat-transition-vision-utrecht (Accessed: Dec 2020)
[67] https://www.klimaatakkoord.nl/documenten/publicaties/2019/06/28/national-climate-agreement-the-netherlands (p.26) (Accessed: Dec 2020)
[68] https://www.government.nl/documents/publications/2013/09/06/energy-agreement-for-sustainable-growth (Accessed: Dec 2020)

Insights

Many of the initiatives and approaches discussed above are still in the planning or implementation phase. This means that it is difficult to determine the impact they have been able to achieve. What is clear, however, is that the Dutch have committed to an approach of involving all levels of government (national, regional and local) in the challenge of emission reduction.

Being similarly reliant on gas for heating, and politically liberal, lessons from the Dutch approach may be applicable to the UK. The Netherlands has a long tradition of community cooperation due to its location and history as a major global trading centre.[69] Today, an educated and digitalised population makes navigating all the different government departments easier. The popularity of local energy systems was born out of the liberalisation of the energy market – seen as the middle ground between public and private ownership. Similarly to the UK, mandating is not very popular, although certain municipalities are in favour of mandating on housing – for instance in certain neighbourhoods in Rotterdam where high crime levels go hand-in-hand with poor building stock condition, and mandating renovations of derelict buildings is under discussion.

[69] Russell Sholto (2013). Amsterdam: A History of the World's Most Liberal City.

Summary

This work has gathered evidence around the types of initiative which are required as part of the challenge of achieving net zero. International examples of public engagement, public participation in decision making and the packaging of polices – all in the area of climate change – were captured.

It is known that significant behavioural and societal changes are needed for the UK to successfully achieve net zero greenhouse gas emissions by 2050. It has been demonstrated here, through the 50 individual initiatives identified and the case studies, that a wide range of international examples of engaging with and creating policy for the public have been attempted.

The work has shown the level of effort being invested into encouraging action from the public. Although the local context in which the initiatives are operating is varied, actions by the public (whether through transportation decisions, heating, diet, etc.) are a critical part of delivering the required emissions reductions.

One hurdle encountered throughout the work was that when it comes to reporting penetration and impact of initiatives, little is available in the public domain. This lack of impact evaluation makes it difficult for others to learn from the initiatives which have gone before. However, it is recognised that it would be a complex undertaking to determine the resulting change in individual's behaviour as a result of such an initiative. Nothing happens in isolation, and to gather sufficient evidence to conclude that there is a direct correlation between a particular initiative and a response from individuals in society, would be difficult.

The case study on the multi-level approach to climate initiatives in the Netherlands demonstrates that even with tight coordination, multiple initiatives are required. These are spread over many sectors; targeted in different ways to the diverse population; involving organisations at the national, regional, city and community levels; and are targeting issues where there are no one-size-fits-all solutions.

Appendix 1: Evidence Review

See attachment.

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