

Re-thinking energy efficiency in European policy: Practitioners' use of 'multiple benefits' arguments

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## Abstract

There is increasing interest in the idea that energy efficiency has economic, environmental and social impacts beyond energy and cost saving - a 'multiple benefits' perspective. However, present EU-decision making on energy efficiency is based on assessment of a very narrow range of costs and benefits. This paper investigates whether and how advocates of energy efficiency have used multiple benefits to frame their interactions with policy-makers at EU and UK level, and to broaden the appeal of energy efficiency. Nine semi-structured interviews were conducted with key practitioners from industry-backed or trade organisations and environment-focussed NGOs. All respondents regularly made use of multiple benefits arguments. Their experience is that these arguments are most persuasive when linked to the values and priorities of decision-makers and politicians, most of whom do not value energy efficiency as a benefit in itself. Different contexts and different benefits are more or less salient for different stakeholders. This framing sets energy efficiency decisions in a broad economic, environmental and social context. As such it requires more evidence than a simple focus on energy savings, and different sorts of evidence which can connect with a variety of decision makers. The importance of recognising differing contexts, actors, values, priorities has led to the development of an alternative visualisation of multiple benefits, which de-centres energy efficiency.

## Keywords

Energy efficiency; multiple impacts; multiple benefits; co-benefits; policy

## Highlights

- 'Multiple benefits' identifies economic, social and environmental impacts of energy efficiency
- Leading NGOs and trade associations use this framing to influence EU policy makers
- Multiple benefits arguments work best linked to values and priorities of policy makers
- Persuasive case studies as well as quantitative evidence are required
- A new visualisation of multiple benefits has been developed, which 'de-centres' energy efficiency

# 1. Introduction

Energy efficiency has featured in national and international policy for more than 40 years. The idea that energy efficiency should be an important part of government energy policy developed in response to the first oil price crisis in 1973, when reducing energy demand was seen as a route to greater energy security in many developed countries (Geller et al, 2006). As political and economic priorities have changed, government justifications for continuing to develop policy on energy efficiency have stressed different benefits, including energy security, affordability of energy, business competitiveness, and reducing greenhouse gas emissions (Mallaburn and Eyre, 2013). Thus, energy efficiency is already understood as a means to reach a variety of ends. Now, the 'multiple benefits' framing of energy efficiency seeks to expand the range of benefits which energy efficiency is recognised to deliver, and thereby to increase its role in policy making. This paper presents empirical evidence about whether and how the multiple benefits concept is being used by energy efficiency advocates to influence EU and UK policy makers.

The multiple benefits framing of energy efficiency proposes that energy efficiency has many environmental, social and economic benefits, such as improved health, new job creation, and increased productivity, and that these are not currently properly understood or taken account of in decision-making (IEA, 2014). This approach seeks to expand the perspective of energy efficiency beyond the traditional measures of reduced energy demand and lower greenhouse gas emissions by identifying and measuring its impacts across many different spheres. In their influential report, the International Energy Agency (IEA) brought together a wide range of empirical evidence on the benefits of energy efficiency (IEA, 2014). IEA identified fifteen classes of multiple benefits, represented by a 'flower' diagram (Figure 1). The report focused on bringing together evidence in five key areas - macroeconomic development, public budgets, health and well-being, industrial productivity and energy delivery. This report has been a landmark in establishing multiple benefits as a significant development in thinking about energy efficiency.

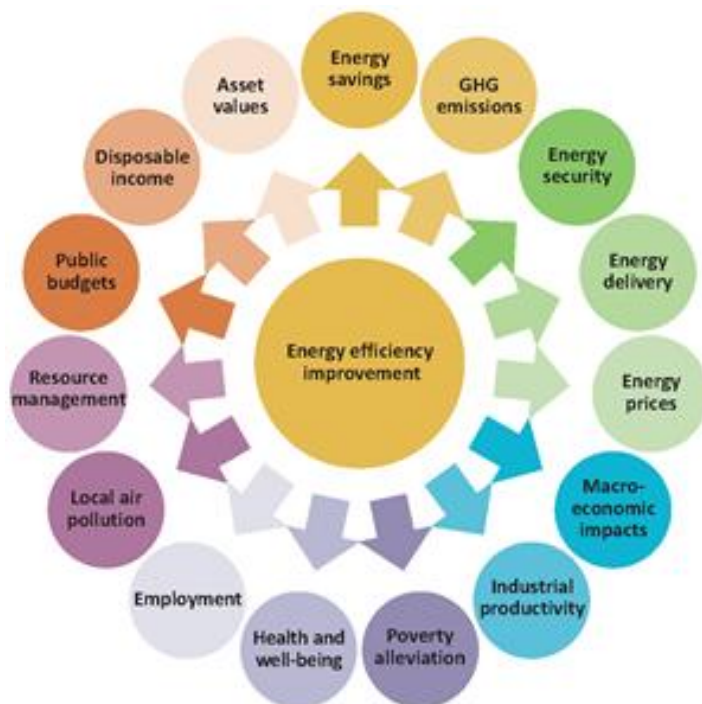


Figure 1 The multiple benefits of energy efficiency improvements (IEA 2014)

In order to examine whether this framing of energy efficiency is likely to influence policy making in the EU and UK, our research uses empirical evidence to look at how the idea is currently being adopted and used. The key research aim is to find out how the multiple benefits framing of energy efficiency is used in advocacy with politicians, civil servants and other decision makers by pro-efficiency non-governmental organisations (NGOs), energy efficiency trade associations and other promoters of energy efficiency. Further, to understand whether and how this framing changes how advocates communicate around energy efficiency, what evidence and arguments they use, what evidence is missing, how multiple benefits arguments play into the political debate, why these arguments might sometimes fail, and what advocates see as the future for multiple benefits thinking.

The rest of the paper is structured as follows: first, the paper provides contextual information on the extent to which a multiple benefits framing of energy efficiency is currently embodied within EU policy and a brief literature review (Section 2). Then, empirical interview evidence is used to explore whether and how multiple impacts arguments are being used by advocates to influence policy makers and politicians, and how those arguments are received (Sections 3 & 4). Finally, the results are discussed (Section 5), and conclusions presented (Section 6).

## **2. Context & literature review**

First the literature on multiple benefits is briefly outlined. This is followed by discussion of the use of cost benefit analysis in decision making about energy efficiency, a summary of the EU approach to efficiency policy and finally an explanation of the place of advocates in EU policy making. Together this provides the context within which this research was carried out.

### **2.1 Brief review of literature on multiple benefits**

Here a very brief review of some of the key issues in the multiple benefits literature is presented. IEA (2014) provides a comprehensive review of literature, with Freed and Felder (2017) exploring the 'non-energy benefits' literature in more detail.

Academic interest in multiple benefits has grown in recent years, although the peer-reviewed multiple benefits literature is relatively small (Fawcett and Killip, 2017). There has not yet been convergence of the language used, an indication that this field is at an early stage of development. Various terms have been used, including: 'multiple benefits' (IEA, 2014; Kerr et al., 2017), 'multiple impacts' (Ürge-Vorsatz et al., 2016), 'non-energy benefits' (Nehler and Rasmussen, 2016; Nösperger et al., 2015) and 'co-benefits' (Balaban and Puppim de Oliveira, 2017; Ürge-Vorsatz et al., 2014). To some extent, research focussed on different sectors and at different scales tends to use different phrases. For example, 'non-energy benefits' research tends to focus on individual or sector level investments in industry, whereas 'co-benefits research' typically includes sectoral, national or international framing (Rasmussen, 2017). This paper follows the IEA's use of 'multiple benefits'.

The concept of multiple benefits can be applied at different scales and in different contexts – from the negotiations about energy efficiency targets at EU level, all the way down to individual business investment decisions. Much of the literature is focused on society level benefits – with different benefits in focus depending on the project, programme or policy under consideration. For example, in addition to energy and carbon savings, Liddell et al. (2011) focus on benefits to householders, the installers and the local economy from a housing energy efficiency programme, Balaban and Puppim de Oliveira (2017) focus on health benefits to building users from sustainable buildings, while Zhang et al. (2018) calculate regional air quality benefits from more efficient cement production. From the United States, where some utility energy efficiency programmes include mandatory evaluation of 'non-energy benefits' there is a considerable literature on these benefits for utilities, participants

and society (Malgrem, 2013; Skumatz, 2016). There is also growing interest in analysis of the multiple benefits of energy efficiency investments to the organisations making them. These benefits can include increased worker productivity, higher capital and rental values for more efficient buildings and reduced industrial maintenance and production costs (Bleyl, 2017; Kluczek and Olszewski, 2017; Nehler and Rasmussen, 2016).

Within the literature, most attention has been given to quantitative assessments of multiple benefits and methods for extending the range of cost-benefit assessments. These impacts, positive and negative, range from those which are quantifiable with good quality data and agreed methodologies, to those which are intangible and hard to value. Studies using cost-benefit analysis show their value can be higher than direct energy cost savings, with monetised 'non-energy' effects up to several times the magnitude of the energy cost savings (IEA, 2014, Ürge-Vorsatz et al., 2015). Work is on-going to improve assessment methodologies – for example to evaluate the multiple benefits of efficiency investments in buildings (Borzorgi, 2015; Dalla Mora et al., 2018). However, robust methodologies for many potential benefits are not yet available, for example, productivity (Chatterjee and Ürge-Vorsatz, 2017) and job creation and macro-economic effects (Blyth et al, 2014). It is widely accepted that more research is needed to provide better evaluation methodologies and evidence for many of the multiple benefits of energy efficiency.

The multiple benefits framing is also being explored for other energy options, for example, in relation to renewable energy installations and to energy access programmes (IRENA, 2016), and more generally to local, regional and global action to combat climate change (Bain et al., 2016; Mayne, 2016). Mayrhofer and Gupta (2016) suggest that co-benefits have potential for advocacy work in climate policy.

## **2.2 Policy decisions and cost-benefit analysis**

The ubiquitous metric of cost-benefit analysis (CBA) has traditionally been the foundation stone of much discourse around energy efficiency. CBA compares the money invested to save energy with the energy cost savings over time, leading to calculations of simple payback periods (the time in which the investment 'pays for itself') or more sophisticated calculations applying economic discount rates to the value of future savings compared with present expenditure. These metrics are typically used by firms when making investments in energy efficiency (Banks et al, 2012; Nehler and Rasmussen, 2016).

Economic cost benefit assessment methods, looking at the costs of additional efficiency versus the benefits of expected energy savings, are also central to policy decision making. For example, in the EU, cost benefit analysis within the PRIMES economic-engineering energy system model is used to support decisions on setting energy efficiency standards and targets (European Commission, 2017). The energy efficiency targets which should be set, for everything from individual products to the whole EU to 2030, are often a matter of fierce debate (Brown and Wang, 2017; Ringel and Knodt, 2018). Much of this debate is centred around disputes about the expected benefits versus the costs, which benefits and costs should be considered, how they should be counted, and to whom they accrue. Introducing a multiple benefits approach would deliver more evidence on benefits (and costs in some cases) and would be expected to result in stronger energy efficiency targets.

The wish to include non-monetised costs and benefits within cost benefit analysis, for many different types of decision, is longstanding, and continues today with the controversial development of 'ecosystems services' as a way of monetising the value of the natural world to human society and economy (Raworth, 2017). Techniques for including previously non-monetised environmental impacts alongside economic costs and benefits became possible with the theoretical and methodological developments of environmental economics (Pearce et al., 1989; Pearce, 2002). Since then, a variety of frameworks which can include environmental, social and economic impacts have

been developed, a number of which have moved away from CBA as a basis (Tweed et al., 2015). Some of these methodological advances have influenced existing policy design and evaluation frameworks used by governments. For example, the UK government publishes guidance on how policy analysts should quantify and value changes in energy use and emissions of greenhouse gases (DECC, 2015). However, important benefits can still be hard to capture in quantitative, let alone in monetary, terms. So while some non-financial costs and benefits can be more easily included in decision-making frameworks (e.g. physical health changes) others (e.g. well-being changes) cannot.

## **2.3 EU policy**

Given that energy demand reduction is agreed to be a key component of low carbon strategies (Committee on Climate Change, 2015; IEA, 2016), energy efficiency should be increasingly important in policy mixes, as governments seek to meet their national goals and internationally agreed greenhouse gas reduction targets via the Paris Agreement (UNFCCC, 2015).

Energy efficiency is an important part of the European Union's energy policy portfolio: this is exemplified by its aim of delivering 20% improvement in energy efficiency by 2020. More specifically, it has a range of policies to require Member States (MS) to improve the efficiency with which energy is used, which have been implemented through three key Directives:

- Ecodesign (2009/125/EC) which covers the energy efficiency of products;
- Energy Performance of Buildings (EPBD - 2010/31/EU) which covers aspects of energy use in buildings, and;
- Energy Efficiency Directive (EED - 2012/27/EU) which sets binding national energy efficiency targets up to 2020, and includes additional policy requirements and tools which help MS to achieve their targets.

At the time of writing European energy efficiency policy is being reviewed, with the 'Winter Package' for post-2020 policy published in 2016 (European Commission, 2016). These proposals are based on the principle of 'energy efficiency first' and are, generally, a continuation and extension of existing policy. An overall target of 30% energy saving for 2030 is proposed. The level of this target has been debated extensively in advance of the Commission's proposals, with the European Parliament calling for a target of 40% in 2016 and 207 (European Parliament, 2016, 2017). In 2018, the Parliament endorsed committee proposals for binding EU-level targets of a 35% improvement in energy efficiency (European Parliament, 2018). There are concerns that the package may not deliver the 'efficiency first' promise (Bayer and Saheb, 2017; Rosenow, 2017) and questions as to whether it will be able to resolve long-standing tensions between member states who have higher and lower ambitions on energy efficiency and climate change mitigation (Ringel and Knodt, 2018). The final decision on targets and other legislative and non-legislative details, such as Sustainable Finance for Sustainable Buildings, is expected during 2018.

The work presented in this paper was one of several projects on socioeconomic aspects of energy efficiency funded by the EU's Horizon 2020 programme. At the kick-off meeting in 2015, Commission officials stressed the role of these projects in delivering new evidence for the PRIMES economic-engineering energy system model. They suggested that if quantitative evidence and suitable methods were agreed, some of the multiple benefits (and costs) identified could be incorporated in the model. This demonstrates an institutional openness, in principle, to incorporating quantifiable multiple benefits in policy making, but it has not yet occurred at EU-level.

## **2.4 The role of advocates in the policy process**

In developing its report, IEA consulted with hundreds of experts who formed a 'multiple benefits network'. Advocates and practitioners were a key part of IEA's network, which also included local, regional, national and EU-level civil servants, industry, academics, consultants and energy companies

(IEA, 2014:9-17). Whether and how an understanding of multiple benefits influences decision-making, now and in the future, will depend on each of these groups.

The focus in this paper is on key influencers in the EU and UK policy systems: pro-efficiency non-governmental organisations (NGOs) and energy efficiency trade associations. These organisations lobby politicians and civil servants at EU and nation state level, as part of the policy influencing process. In 2015, energy and environmental policy was the topic of more than 500 meetings between lobbyists and senior Commission officials (across multiple departments) held since December 2014 - 11% of all lobbying meetings (Cerulus and Panichi, 2015). Lobbyists and NGOs are important actors in the policy network, and often influential in bringing new ideas to the attention of policy makers.

### 3. Methods

The aim of our empirical work with NGOs and trade associations – practitioners – was to find out how the multiple benefits framing of energy efficiency is used in real-life advocacy with politicians, civil servants and other decision makers. To do this, nine semi-structured interviews were undertaken with a range of practitioners, selected through the authors' professional networks, based on the established reputation of each organisation and the interviewee's experience in using the multiple benefits approach with senior decision-makers.

Of the four relevant EU pro-environment NGOs listed as being within the top ten organisations lobbying the EU on energy since December 2014 (Transparency International EU, 2017) three were interviewed, with the UK branch of the fourth organisation also interviewed. This top ten list is based on the number of meetings held with senior EU officials, all of which must be publicly registered. While this set of interviews does not represent all pro-efficiency NGOs and trade associations seeking to influence the EU Commission and UK government on energy efficiency, many of the most influential are included in this sample.

Most respondents work primarily at the EU level, although two were UK-based, with one respondent from outside Europe. Interviews were undertaken with a guarantee of anonymity, so code letters are used instead of individuals' or organisations' names (Table 1). The organisations ranged from industry-backed or trade organisations to environment-focussed NGOs.

**Table 1: Description of organisation and code letter used in reporting**

<b>Code</b>	<b>Organisation description</b>
<b>A</b>	<b>An individual who had worked at three European energy &amp; environmental NGOs</b>
<b>B</b>	<b>European energy efficiency trade association</b>
<b>C</b>	<b>European environmental NGO</b>
<b>D</b>	<b>UK energy efficiency trade association</b>
<b>E</b>	<b>European energy sector trade association</b>
<b>F</b>	<b>European environmental NGO</b>
<b>G</b>	<b>UK environmental NGO</b>
<b>H</b>	<b>European business-backed efficiency advocacy organisation</b>
<b>J</b>	<b>Australian consultant to State Government (lobbying and policy implementation)</b>

The interviewees' reasons for promoting energy efficiency were varied, and included its role in reducing carbon emissions, alleviation of fuel poverty, as part of a wider pro-environmental transition, or to advance the business interests of their members. Brussels-based organisations generally focus on influencing policy at EU level, whether through talking to policy makers (e.g. within the Commission) or politicians, by working with national stakeholders to influence EU decisions, or by building alliances with other EU stakeholders who in turn can influence the decision makers. The UK organisations focus on influencing policy makers, politicians and other stakeholders nationally.

Seven of the nine interviews were conducted by phone, and two in person, with interviews being recorded and transcribed. Interviews typically lasted between 30 and 45 minutes, with the longest taking just over an hour. All interviews were carried out October 2016 - March 2017. The interview guide used is detailed in Appendix A. The content of the interviews was analysed thematically, and this is how the findings are reported. Where relevant, direct quotations from interviewees are reported. In other places, responses are summarised or paraphrased.

## **4. Results**

Overall there was considerable agreement between different actors about the ways in which messages are constructed and used and the importance of multiple benefits as an approach. The findings below highlight consensus messages and common themes. However, we have also included examples where respondents have different perspectives from the majority.

### **4.1 Use of the multiple benefits approach**

All the interviewees agreed that use of multiple benefits arguments has become more common in recent years. The general sentiment matched that expressed below:

*"There is a lot multiple benefits thinking around, but it is not yet mainstream." (A)*

This was particularly true at the EU level:

*"Since 'efficiency first' was adopted as a principle of the Energy Union, multiple benefits arguments are being used more frequently. However, demand side / energy efficiency solutions haven't yet sunk into the political mind - which is still focused on the supply side." (B)*

A similar sense of an ongoing evolution was observed in the UK:

*"I would say on the national policy level, most of the core influencing organisations almost routinely will use multiple benefits now but some of the more traditional trade associations are not quite as good at it yet." (D)*

### **4.2 Effective communication**

Most interviewees had carefully considered how important good quality communication was in delivering persuasive messages on energy efficiency and its benefits. Their thoughts on communication covered a number of topics: choosing salient arguments, attention to language, and enlisting the support of different kinds of messengers in order to increase the chances of getting a sympathetic hearing. The importance of having good quality evidence and arguments is covered separately in the following section.

#### **4.2.1 Choosing salient arguments**

Here we take 'salience' to mean the property of being important, relevant and timely from the perspective of the recipient of a message (Cash et al, 2002). The importance of understanding your

audience and choosing salient multiple benefits arguments came out very strongly in the interviews. This quotation characterises the approach of the interviewees:

*“Depending on who we’re speaking to, we’ll use whichever argument we think is going to work best.”* (D)

When asked whether this might be seen as being selective (in a manipulative way), respondents reported that it was not perceived like that, and indeed that was not their intention. Their experience was that enumerating all possible benefits could be confusing to audiences and counterproductive.

So, for example, communications with citizens might focus on their energy bills, air quality or local jobs, whereas with business the competitiveness benefits are more likely to be highlighted. In the UK, with a policy focus on reducing fuel poverty through energy efficiency, health and warmth benefits are particularly important.

*“Efficiency in itself is very unexciting. What’s exciting is making sure that grannies are warm.”* (G)

Other audiences have different priorities:

*“Finance ministries are a key audience, but very hard to reach. For them you have to reframe energy efficiency as an investment - or perhaps as infrastructure, which is being pushed in the UK.”* (F)

The multiple benefits arguments used vary with governance level, as well as with where political attention is and political outlook. None of the organisations were promoting energy efficiency as a benefit in itself, they were looking to find the benefits which matched the interests of those they were trying to persuade. This de-centres energy efficiency and even energy savings in terms of advocacy and communication:

*“...energy savings per se, it’s not really a benefit, it’s just a thing. I don’t see energy savings as a benefit.”* (D)

#### **4.2.2 The importance of case studies**

Case studies are seen by many as powerful tools in the task of communication and persuasion. Interviewees’ general experience is that careful presentation of good quantitative data is a necessary but insufficient tool in the process of engagement. It is the combination of numbers with more particular accounts or stories of change which make the case fully:

*“If you only come with figures, that’s really not enough.... Simply learning from the literature or looking at modelling projections of expected benefits isn’t enough to change decisions.”* (F)

*“Whilst health professionals at one level want to see the outcome of randomised control trials to prove to them that there is a health benefit, on the other hand, they want to hear about Mrs Jones who no longer goes into hospital three times a year. That human story has a value.”* (D)

However, the case studies used have to be salient to the audience, which can mean that a wide range of high quality case studies across different sectors, countries and scales is needed. This was recognised as a considerable challenge for research (to do the case study research in sufficient quantity and diversity) and for practice (to select and use the information effectively).

#### **4.2.3 Attention to language and presenting negative impacts**

Several interviewees have thought about the language they are using. Organisation B in particular has done a very thorough review of its communication strategy, right down to the use of individual words.



*“Particular multiple benefits arguments and even particular words work with different political groupings. So, for example, if pushing jobs - then ‘fair’ jobs work with greens and socialists and ‘local’ jobs with conservatives.” (B)*

The phrase ‘multiple benefits’ itself was thought to be useful within the energy efficiency community, but not tangible enough to use with other stakeholders. Interviewee J preferred the language of ‘multiple impacts’ to multiple benefits, because not all effects are necessarily positive.

Perhaps surprisingly, most interviewees did not identify negative impacts from energy efficiency as a major concern, nor report concern on this from those they were trying to influence. The exception was interviewee D:

*“The one that does come up is rebound. ... I just produce the solid evidence there is that a) that is not an entirely negative thing, depending on what the rebound is, and b) that there’s no good evidence to suggest that you get any kind of backfire.” (D)*

## **4.3 Selecting information & arguments**

### **4.3.1 Evidence and credibility**

All interviewees used quantitative evidence to support their arguments in discussions with decision-makers. They were very aware of potentially not being seen as ‘impartial’ and therefore needing to use independent information sources. When asked what they looked for in data sources, the qualities most frequently mentioned were: credible, objective, impartial, robust, transparent, factual. Data from government bodies, the European Commission, and international and academic organisations were valued. Interestingly, organisation G made the point that if they could get good data from an organisation not normally perceived as pro-environmental, that would be better than the same data from one of ‘the usual suspects’ (e.g. left-leaning or environmental think tanks). The organisations not only want to use credible data, they also want their data sources to be perceived as legitimate by those they are trying to influence.

Some of the data on multiple benefits is generated from rather complex models - particularly estimates of job creation and wider economic benefits. There was concern by some that the complexity of these models made them inherently difficult to trust:

*“you do see inherent scepticism about those kind of models. It makes people feel uncomfortable that they’ve no idea what’s going on and, therefore, they’re just minded not to believe the number at the end of it because they just don’t trust [the model]” (D)*

So although better information on the jobs and economic effects of energy efficiency is desired, there are questions about how it can be made credible.

### **4.3.2 Better data and methodologies are needed**

Respondents were asked where data and methodologies were currently inadequate. Quantitative data is acknowledged to be patchy – both by topic (economic sector or social issue) and by geography. Job creation and economic impacts were the impacts most commonly thought to be insufficiently evidenced at present. There was also a call for more case studies including ex post evaluation, for better geographically and temporally disaggregated analysis of benefits, plus the need for better understanding of how end users will respond to an energy efficiency programme and therefore what the benefits will be. Interviewee D raised more general problems of methodology, in particular the issue of whether some benefits are being double counted, e.g. benefits to the energy

supply infrastructure system overlapping with separately counted benefits to the energy user, and lack of clarity about the system boundaries used in analysis.

## **4.4 Politics**

Being alive to the wider politics of debates is an important part of the lobbyist's job. Two key themes emerged: the timeliness of messages and the ability to engage quickly as new opportunities arise; the importance of broad alliances to maximise the appeal of messages and to make sure that messages are broadly consistent.

### **4.4.1 Timeliness/opportunity**

The timeliness of interventions is seen as key. The key is to be prepared in advance with a variety of different types of information for different situations so as to be able to move quickly into new debates as and when the focus of political attention moves in any given direction:

*"[multiple benefits] have different levels of salience at different points in time and what matters one week may not matter in another week. What can be really important at one part of an electoral cycle can be really unimportant at another."* (J)

Effective engagement in politics is therefore multi-faceted. It needs to be based on good background research (to be credible) but it needs to be nimble in response to changing priorities, and sophisticated enough to engage convincingly with the viewpoint or interest of the interlocutor.

### **4.4.2 Alliances**

Most interviewees stressed the importance of making alliances around energy efficiency campaigning and influencing. Having multiple stakeholders, with different priorities, all wanting more ambitious energy efficiency policies and programmes, was felt to be persuasive for politicians. This could involve a lot of work on coalition building with partners who might not initially seem a good fit, or with partners who had not previously appreciated that energy efficiency could help solve a problem they cared about. Interviewees acknowledged that working in this way is not always easy.

Interviewee J was concerned that the process of coalition building and conversation might not move beyond the energy efficiency community and that the full transformative potential of energy efficiency would not be achieved. J had a broad vision of the social, economic and environmental transition needed to achieve the UN's Sustainable Development Goals - which would require broader coalitions perhaps than those sought to date to deliver increased benefits from energy efficiency.

## **4.5 Why multiple benefits arguments sometimes fail**

Even with the best communication strategies, high quality data, robust analysis and resonant stories, decision makers are not always persuaded that they should support or introduce energy efficiency policy, programmes or projects. One reason, mentioned by both UK interviewees, is the fragmented nature of energy efficiency actions, compared with other energy investments:

*"Sometimes the best evidence there is just falls completely flat, and this is terribly cynical but there is also the tendency for politicians to really like to be seen wearing hard hats and standing outside of something big."* (D)

*“The difficulty is obviously that you can’t see it happening because it’s lots and lots of tiny little budgets and not one major project.” (G)*

Sometimes politicians just don’t find the benefits compelling enough to take action on, even if they are persuaded by the arguments. The benefits may be too small in scale or too low on the politicians’ own set of priorities. In other cases, it was felt that there is disbelief, particularly around job creation numbers, which are usually very salient politically.

## **4.6 The future of the multiple benefits approach**

None of the interviewees suggested a move away from the multiple benefits framing - it is considered a big improvement on a narrow focus on energy saving as the single benefit of energy efficiency. There were several suggestions about how this framing could be better evidenced, and made more inclusive and broader:

- More systematic ex post monitoring and evaluation of the multiple impacts of energy efficiency programmes
- More sophistication of analysis, in both data gathering and modelling
- Understanding the time and geographical dimension of multiple benefits - because additional jobs at time A or location B might be particularly relevant to decision makers
- Involvement of business with this agenda, particularly because energy efficiency can deliver improved employee productivity, business performance and health, in addition to helping to meet corporate environmental commitments
- Moving from thinking about energy efficiency to focusing on resource efficiency, with energy efficiency as a part of that wider agenda
- Using multiple benefits to package different elements of an energy transition together (e.g. energy efficiency plus rooftop solar panels plus demand side management through smart metering)
- Looking at the links between a multiple impacts framing and the UN Sustainable Development Goals

## **4.7 Synthesis of empirical findings**

Respondents found a multiple benefits framing of energy efficiency policies, programmes or projects useful. It enabled them to connect with a range of stakeholders and decision-makers, who had different problems to solve, and to talk to them ‘in their own language’. They could demonstrate how energy efficiency could be a positive solution in a range of spheres.

In order to do this effectively, organisations had developed increasingly sophisticated communication methods. Their approaches included: communicating only the benefits of most interest to the audience; using the language that audiences respond to; linking to wider political discussions and concerns. This use of the right language, with the right focus at the right time, perhaps seems like ‘common sense’. But it represents a break with much past and current practice, where the dominance of CBA has led to the same arguments being repeated, or the same logic being used, even when the approach has failed to achieve results at the pace and scale expected. Using a more nuanced approach focused on the interlocutor’s perspective has been a learning curve for many of the organisations involved.

Organisations have identified what evidence would work best to support their arguments. They were keen to use reputable sources, particularly those respected by their audiences. However, there was general agreement that quantitative or modelling analysis alone was not sufficiently persuasive. Good quality, salient case studies were also required. This means that case studies from different types of intervention in various industries, sectors, governance levels and geographies are needed.

Respondents were asked to reflect on which approaches and arguments worked well, and which did not. Several reasons for arguments not gaining traction were identified, including energy efficiency not being as compelling to politicians as a single big investment on the supply side, and disbelief of key arguments around job creation. Some of these may be resolved by the availability of higher quality, more credible information - but others perhaps require longer-term cultural and political change.

Several respondents thought that the multiple benefits approach could be further broadened with possible development to encompass material efficiency, to integrate different elements of the low energy / low carbon transition, or to connect to the UN's Sustainable Development Goals.

## 5. Discussion

The 'multiple benefits' approach evidenced in the interviews has the potential to increase understanding and uptake of energy efficiency. However, it is not currently the basis of most formal decision-making or standards setting processes, which are based solely around financial costs and benefits. This means many important social, environmental and economic benefits are excluded from decisions, to the detriment of the quality of decision. These are the benefits which politicians often care about – jobs, health, air quality. As one of our interviewees said, energy efficiency or energy savings in itself is 'not really a benefit'. This illustrates the different perspectives of those working on energy efficiency (we include ourselves here) and the rest of the world.

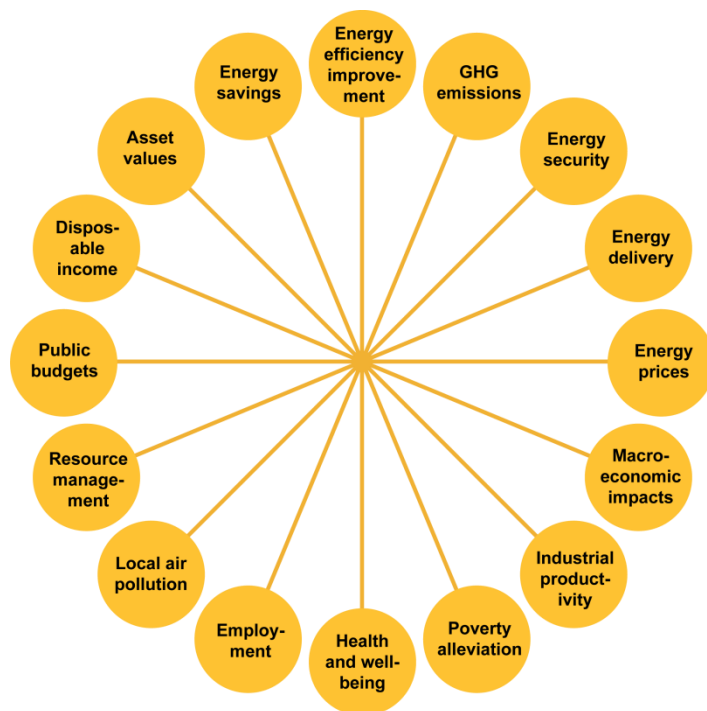
Credible, quantified data is an important element, so the lesson for CBA is that it may be necessary, but it is not sufficient. The list of additional considerations to add quickly begins to get long and complicated, and the need for messages tailored to each interlocutor mean that the task of advocating energy efficiency cannot be reduced to a single recipe or check-list. Even the best-presented arguments full of credible and salient facts still sometimes fail to be persuasive. However, the time and effort invested in learning what makes the interlocutor tick can also make the difference in getting a message heard more favourably and therefore increase the chance of consequent action. This extends as far as making the starting point of the conversation something other than energy efficiency. The task is one of persuasion and engagement, not simply repetition of a single argument based on a narrow, economically rational theory of decision-making, and an assumption of shared interests and policy priorities.

In light of this, the IEA's iconic diagram (Figure 1) begins to look too deterministic. That diagram represents possible impacts arranged graphically like a flower. At the centre sits the largest circle 'energy efficiency improvements' and arrows indicate the relationships with the impacts arranged like petals around the outside. Arrows are one-directional, suggesting a privileged status for energy efficiency as the issue of principal concern, with all the issues in circles around the edge being secondary. The mindset behind the design of the flower diagram is echoed in some of the terms used in the literature and by the energy efficiency community, which sometimes refers to 'ancillary' or 'non-energy' benefits. The colours of the flower diagram suggest that each type of benefit has its own identity (no two colours are the same) but there are shades of the same colour in several places, suggesting a closer similarity (for example, 'macro-economic impacts' and 'industrial productivity' are both in shades of blue). There is an implicit hierarchy of classification at play, where energy efficiency is the primary concern, and that other (secondary) concerns can usefully be classified into types (they might be broadly economic, or to do with well-being, for example). The IEA's representation places energy efficiency at the centre of things - literally and figuratively.

The experience of our interviewees is that successful engagement of stakeholders requires a different approach. Energy efficiency is not the principal issue in many cases, and the connection can be made in either direction: energy efficiency can be viewed as an ancillary benefit of something else. Equally, the assumption that issues can be clustered using colour may be misleading or counter-productive: not all stakeholders may agree with the classification. Finally, it has become clear that

different effects and issues can link to one another in multiple ways, some of which include energy efficiency, but many do not. There is no central node through which links have to pass; any issue can be a starting point or priority for someone, and it can be linked to one or more of the other issues, depending on the viewpoint of the stakeholder concerned.

Here we propose a new representation of the IEA's diagram in an attempt to capture conceptually these important points. Where the IEA's diagram resembles a flower, this new diagram is more like a bicycle wheel or a round meeting table, where none of the chairs is in a privileged position, and all chairs are visible from every point around the table. This new diagram deliberately uses no arrows and gives no priority to energy efficiency (Figure 2). The position of circles around the periphery is not hierarchical, so no importance or special status should be associated with the drawing of 'energy efficiency' top and centre. All of the circles are assigned the same colour in a deliberate shift away from pre-emptive classification. This is not to say that the IEA's diagram is wrong – simply to say that it represents one particular view. The key thing is to recognise that stakeholder viewpoints can be radically different from the viewpoint of the energy efficiency community.



**Figure 2: New representation of the multiple impacts highlighted by the IEA**

The multiple benefits approach shown in Figure 2 is not just a way of accounting for the benefits and costs of energy efficiency policy, programmes or projects. It is also an approach for taking into account the differing perspectives of decision-makers and stakeholders, and a framework for creating broad coalitions of interest. It sets energy efficiency decisions in a broad economic, environmental and social context. As such it requires more evidence than a simple focus on energy savings, and different sorts of evidence which can connect with a variety of decision makers. The findings of this research should be fed into thinking on research priorities.

One obvious counter-argument to the ideas developed in this paper is that genuine, detailed engagement with multiple stakeholders is messy and time-consuming, opening up the risk of deflecting the energy efficiency community from its primary purpose. That seems like a very real issue. However, the identification of a new risk should not be a cause for inaction, but rather a cause for risk management. Also, the dominant paradigm of discourse rooted in CBA has failed to deliver all the 'easy wins', 'low-hanging fruit' and other such colourful terms used to refer to what should, in theory, be achievable, but which, in practice, remains stubbornly out of reach. The discourse on energy efficiency is so strongly coloured by its historical association with CBA, that we believe a re-

think is both necessary and overdue. The message is not to throw away the traditional analytical tools, but to add new tools and skills to the analysts' available resources. What those resources might be is still an open question, but this research provides some pointers. There is a need for better communication and negotiation skills among the energy efficiency community, which raises serious questions for education, where the disciplines of engineering and economics still predominate as the formative experiences of many in the sector. This research also reveals a need for a greater quantity and diversity of research data to support the multiple benefits framing described here. There is a need for new methods of accounting for and comparing multiple impacts, including work to find methods for monetisation, but also work to take fair account of impacts which are hard or impossible to quantify. Just as important is the recognition that well-chosen case studies can provide salient detail as a compliment to data analysis and modelling. At this early stage of interest in the multiple benefits approach, it seems reasonable to say that there is a shortage of good-quality, relevant case studies, which present information in ways that are salient to interlocutors.

## **6. Conclusions**

The multiple benefits framing of energy efficiency is still under development as an area of research and practice - as exemplified by the diversity in language, and the modest academic research base. Introducing a multiple benefits approach in governmental policy making and evaluation would deliver more evidence on benefits (and costs in some cases) and change the terms of the debate. It would be expected to result in stronger energy efficiency targets.

As the empirical work with practitioners demonstrated, multiple benefits arguments are most persuasive when linked to the values and priorities of decision-makers and politicians, most of whom do not value energy efficiency as a benefit in itself. Different contexts and different benefits are more or less salient for different stakeholders. The importance of recognising differing contexts, actors, values, priorities has led to the development of an alternative visualisation of multiple benefits, which de-centres energy efficiency. Understanding how best to communicate and operationalise multiple benefits is equally important as improving the quantitative evidence base. To do this effectively researchers will need to co-create this knowledge with practitioners and decision-makers beyond the energy efficiency community. The research community should also broaden its focus to include work on case studies, recognising that further quantitative development alone may not be sufficient to effect change.

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## Appendix A

The interviews were undertaken using an interview guide which was shared with the interviewees prior to the discussion.

The following questions formed the basis of the interviews

What does your organisation do, and what is your role within it?

To what extent do you try to promote greater energy efficiency, and who do you try to influence?

When multiple impacts arguments are used, how do you / your organisation present the case?

How do you / your organisation select what information to present?

What tools, if any, are used to support multiple impacts arguments?

How are these arguments received by the decision-makers who you seek to influence?

Which other organisations / actors do you think are using multiple impacts arguments?

Are multiple impacts arguments being used more now than in the past?

Is there anything else you would like to tell me?