June 2018

DSM Spotlight

The Newsletter of the International Energy Agency Demand-Side Management Programme

ieadsm energy efficiency

Task 16 A New Take On Crowdfunding – CF4EE

Energy efficiency is a cornerstone of energy and climate policies, and at the IEA it is at the heart of their overall strategic focus. Why energy efficiency plays such a central role is because it provide benefits beyond energy savings, that is, it offers multiple benefits, including many cost-effective opportunities to reduce energy costs, fossil fuel dependency and CO2 emissions.

Despite these advantages, investment in energy efficiency is falling short of its potential for a number of reasons, one of which is a financing gap that limits access to affordable financing for the upfront investments in energy efficiency.

A Little Background

The IEA DSM Programme's Task 16: Innovative Energy Services is analyzing the use of crowdfunding for energy efficiency projects, and recently completed a feasibility study to explore crowdfunding for energy efficiency (CF4EE) projects in developing countries and emerging economies.

CF4EE was pioneered by Bettervest, a German crowdfunding platform, which since 2013 has hosted 39 energy efficiency projects, all of which reached their funding targets (which is quite an achievement in the crowdfunding world) ranging from €4,150 to over €200,000.

Over the past five years, crowdfunding has grown exponentially

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Task 24

Energy Saving Kit Programmes in Ireland and New Zealand

IEA DSM Task 24 Phase II, called "Behaviour Change in DSM – Helping the Behaviour Changers" has taken the behavioural theory that was analysed and developed in Phase I firmly into practice. Each participating country in this Task chose a real-life behavioural intervention to which the Task 24 "Toolkit for Behaviour Changers" could be applied to Behaviour Changers, which defined in this Task are the people or agencies tasked with the goal of designing, implementing, evaluating and/or disseminating interventions geared at changing energy end user behaviours.

Our Irish National Expert and funder, Josephine Maguire of the Sustainable Energy Authority Ireland (SEAI), is a Behaviour Changer in a "Decision-maker" position. She pulled together a pilot on Energy Saving Kits, in close collaboration with other Behaviour Changers – from **Codema**, Dublin's Energy Agency ("The Providers" of the kit); **SEAI** ("The Decision-makers" and funders of the more extensive roll out of the kit, representing government); **Dublin City**

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as a result of its advantages over existing financial instruments:

- Taps into new funding sources, such as small investors with a risk appetite for venture capital and small impact investors.
- Empowers responsible investors seeking greater control over their investments.
- Encourages investors to increase their risk tolerance by offering greater diversification and smaller amounts per investor.
- Increases speed of decision and transaction processing through standardized online processes.

CF4EE Feasibility Study

Scope

The DSM Task 16 feasibility study briefly introduces the topic of CF4EE and then analyzes two scenarios, which build on real life energy efficiency measures in Morocco (Green Mosques Energy Efficiency Program) and in Indonesia (Commercial Building Energy Efficiency). These two case studies were selected in consultation with GIZ in Germany. The study identifies conditions conducive for CF4EE and recommends policies and institutional actions that can help scale-up CF4EE, where the conditions are favorable, in particular for debt and equity crowdfunding. And, concludes by outlining recommendations for policies and technical assistance, and the specific role GIZ could play in making crowdfunding more relevant for energy efficiency.

Why This Report Is Important

This study is a first effort to explore the potential of crowdfunding for financing cost-effective energy efficiency measures in developing countries, in particular in situations where lack of affordable financing is a main barrier to scaling up energy efficiency measures. To do this, it offers answers to the following questions:

- Under what conditions is debt or equity crowdfunding, potentially a useful instrument to finance energy efficiency in developing countries? What, if any, are the advantages of crowdfunding over existing financing mechanisms when it comes to financing energy efficiency measures and ESCOs?
- Where conditions are conducive, what barriers constrain CF4EE from being scaled up?

Case Studies

Indonesia

A large international hotel plans to replace all its lighting with LED. The total investment is estimated to be about €45,000. The total energy savings are estimated at about 120,000 kWh per year, which amounts under current electricity rates to about €9,730 plus an estimated €3,954 for reduced maintenance and replacement costs (given the longer lifetime of LED lights). The dynamic payback period for the project (investment/annual revenues) is about 3.7 years.

The project will be implemented and

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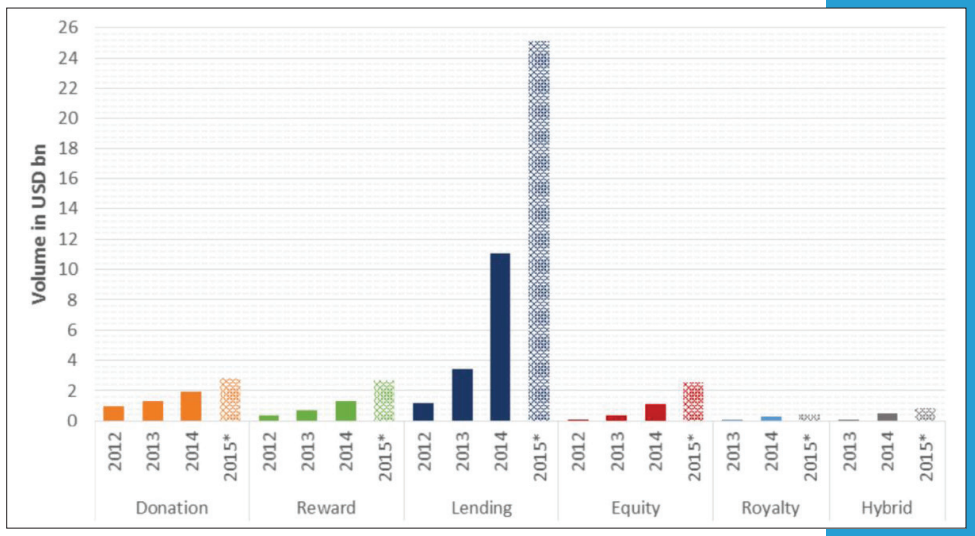
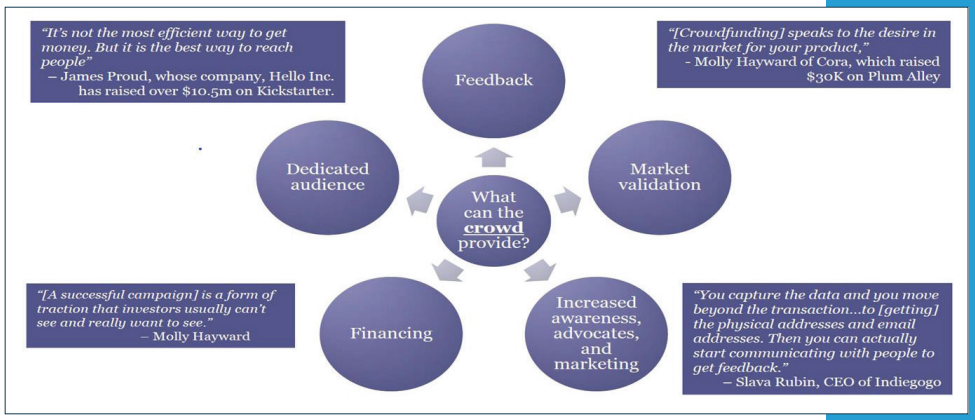
Crowdfunding Development by type of Crowdfunding (in USD bn)



Note: Royalty and Hybrid are so far only marginal in size and are not addressed in this study. Source: Massolutions. Crowdfunding Industry Report, 2015.

Why the crowd?
Numerous benefits of crowdfunding beyond access to capital



financed by an ESCO that has negotiated a 90% share in the electricity savings over 7 years to recuperate its investment and operating costs. This makes the investment highly profitable, with a project IRR of 28% and, assuming 30% - 70% equity - debt split, an Equity IRR of 50%.

The challenge is that Indonesian banks are unfamiliar with the ESCO model, where energy savings represent the income stream for paying back the debt, and therefore may seek collateral (for example, in real estate) that a relatively young ESCO company cannot provide. Financing the project purely with equity would be difficult considering the expected returns and risks involved so it is unlikely that an investor could be found, unless the building owner himself decided to finance the investment. However, in this case, energy efficiency is not the building owner's first priority and so he is not willing to invest his own capital. And this is a quite common situation, not only in Indonesia.

In comes CF4EE… In this scenario, the ESCO would seek debt financing through crowdfunding for a 7-year and 8% p.a. interest rate loan with a balloon payment in year 7. The ESCO would mobilize the 30% of equity.

Morocco

In Morocco, GIZ is supporting the national "Green Mosques" programme that was initiated by four Moroccan organizations. The Green Mosque programme aims to introduce cost-effective energy savings measures in mosques. Based on the feasibility study provided by GIZ for one specific mosque, the highest priority measures included LED lighting retrofit and solar hot water storage. To replace the existing internal lighting with LED, the investments were €2,700 and the payback period of 1.8 years. The expected savings are 10 MWh/year or about €1,500/year. To increase the storage capacity of the hot water boiler that's linked to the solar water heater to reduce the electricity consumption of the back-up system, which currently kicks in regularly during the night, the investments amount to €1,000 and the payback period is about 5.5 years. The expected savings are 1.3 MWh/year and about €180/year. The estimated total investment costs for the LED lighting and the solar hot water storage are about 40,000 MAD (€3,600), of which 67% is for the LED lighting retrofit.

In summary, the proposed energy savings measures make sense in terms of energy cost savings, reduced maintenance and environmental benefits. But it is important to mention that this is ONE example of a mosque and that the overall pool of mosques is actually quite heterogeneous. For instance, looking at a larger sample of about 100 mosques, the average investment is 30,000 MAD (€2,700) for LED lighting, and the savings amount to 5 MWh. Very few of the mosques have hot water, and those that do use mostly gas, which is highly subsidized and so provides little incentive for savings.

It was found that equity crowdfunding is not an attractive option in this specific case as the cost savings are relatively small.

Crowdfunding is the mobilization of funding for projects from a large number of investors ('the crowd') using internet-based platforms and online processes. The size of the investment of an individual investor can range from very small (say €50) to large (several thousand Euros).

There are four main modes of crowdfunding:

Donations

The oldest form, the crowd investor makes an online donation for a specific fundraising project, cause or organization.

Rewards

The crowd investor makes a donation and receives a non-financial return, such as new music CD, the production of which was crowdfunded, or vouchers to make purchases in a specific shop.

Debt

The crowd investor provides a loan to a project or to another person (e.g., peer-to-peer lending) and expects in exchange interest payments and the return of the principal.

Equity

The crowd investor acquires a share in a company and expects dividends and/or a value increase in return. Here the crowd participates in the upside and downside risks of the business.

CROWDFUNDING

However, it could be an attractive option for projects that are short on equity but generate more savings/cash to cover the costs of an ESCO and crowdfunding.

Conditions Needed For Success

The big question of this study was under what conditions could debt or equity

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crowdfunding be a useful instrument to finance energy efficiency in developing countries? To answer this, a simple framework for scaling up CF4EE was developed building on the case study findings and the general assessment. It is meant as simple guidance for development organizations to determine whether it may make sense to support scaling up CF4EE.

CF4EE already exists as a viable business model, for example in Germany, but replicating projects in developing countries and emerging economies requires different conditions. And, those that are essential include:

- Demand and technical capability exist for energy efficiency measures,
- Financing barriers exist for undertaking energy efficiency measures,
- Clear regulations for crowdfunding exist.
- Institutional capacity for crowdfunding exists, and
- Interested crowd Investors exist, willing to lend or invest in energy efficiency projects.

Conclusion

This study shows very clearly that CF4EE is not a panacea to overcome all the barriers to accelerate and scale up energy efficiency measures in developing countries and emerging economies. However, given its particular characteristics, CF4EE can be envisioned as part of a 'sandwich' approach to introduce and scale up effective energy efficiency business models (such as ESCOs) in new markets.

In this stylized model, CF4EE is 'sandwiched' between grant funded upstream innovation and downstream large scaling up of regular bank financing. Debt and equity crowdfunding (the focus of this study) does not lend itself for grant funding upstream knowledge work, nor can it compete with large scale, and at times subsidized, regular energy efficiency financing.

In other words, crowdfunding becomes part of a blend of public and private energy efficiency financing:

- Grant funding for capacity, awareness, and demonstration models, largely from domestic and international public sources.
- Risk tolerant debt crowdfunding for piloting, from private sources.
- Regular bank financing or refinancing through development banks with concessional.

You can read the full report, CF4EE - Crowdfunding for Energy Efficiency Can Debt or Equity Crowdfunding contribute to scaling up Energy Efficiency in Developing Countries?, on the IEA DSM website, and find more information on this work or DSM Task 16: Innovative Energy Solutions contact the Operating Agent, Jan W. Bleyl-Androschin, energeticsolutions@email.de.

Public Libraries ("The Middle Actors" loaning out the kits); **M.CO** ("The Experts" undertaking data collection and evaluation); and the Sustainable Energy Community, **SEC** ("The Conscience" also helping with the roll-out).

This successful collaboration is a great, real-life example of the "Collective Impact Approach" in the energy field. The Irish collaboration follows the five major recommendations for achieving collective impact: a shared goal, mutually-reinforcing activities, shared measurement systems, continuous communication, and a backbone support organisation. The Task 24 "Behaviour Changer Framework" was used to establish each of the Behaviour Changers' main mandates, stakeholders, restrictions and behaviour change tools and what their relationships were with one another, and with the end users – the residents borrowing the Energy Saving Kits for free from public libraries or their Sustainable Energy Communities (SECs).

The Irish Home Energy Saving Kit contains six measurement tools to assess current energy use or to determine/fix the (in)efficiency of:

- **heating** (radiator key),
- **appliances** (plug-in energy monitor),
- **insulation** (thermal leak detector),
- **fridge/freezer** (fridge thermometer),
- **thermal envelope** (digital thermometer and humidity metre), and
- **water** (stopwatch to measure water flow in e.g. shower).

The kit also comes with an instruction manual and Home Energy Savings Tips booklet, a top ten checklist, guide to light bulbs and energy savings, map of where to get it, promotional booklet and worksheets to easily fill in the results. There are also public information sessions in some libraries where end users can learn about how to use the kit. And, there are videos to help with ease-of-use.

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As part of this work, DSM Task 24 undertook an international cross-country comparison of similar kits, used all over the world, by interviewing programme managers from Australia (where the idea originated in the 90s), Canada, the US, Germany, and New Zealand. One thing that struck us immediately was that everyone agreed that the kits were highly successful, with long waiting lists and high loan rates, but no one could point to an actual change in behaviour that had taken place in households that loaned the kits. Thus, the Irish (and later the New Zealand) collaborators undertook more in-depth evaluation in the form of online surveys of library users, selective interviews, a pre- and post-survey based on Task 24's "Beyond kWh" tool, which was analysed using Bayesian modelling and focus groups with residents from SECs.

The New Zealand programme had also provided feedback surveys with its kits, but only had a return rate of 5%. DSM Task 24 helped with more in-depth evaluation by conducting selective interviews and a focus group. Both countries showed that more in-depth evaluation of the usefulness of the kits was helpful in better understanding issues – which tools were regarded as not-so-useful (e.g., the radiator key in Ireland) or too difficult (e.g., the plug-in meter in New Zealand), what other tools people may have liked to receive (e.g., thermal imaging cameras), and what barriers stopped behavioural change (e.g., the cost of double-glazing) – and successes (e.g., that almost 100% of respondents said they'd recommend the kit to others). Triangulating different ways of quantitatively (the Bayesian models of the beyond kWh pre- and post-surveys) and qualitatively (interviews and focus groups) assessing feedback is a promising way forward to better understand the impact of such behaviour change pilots.

A few recommendations and notes of caution can be made from this cross-country comparison and evaluation:

1. Many people that provide feedback on surveys or self-select to take part in focus groups and interviews are already highly motivated and often positively inclined towards the kit. This will bias outcomes – it needs to be stated that they form an "early adopter" group.

2. Different countries used different tools (e.g., Australia had a compass for establishing solar aspect; Canada had a lumens meter and LED lightbulb to compare to CFLs to incandescents; the US had shower bags for measuring hot water use and provided widgets that people were allowed to keep, such as lightbulbs and weather stripping; and Ireland had radiator keys for bleeding radiators – a heating method most Australians and Kiwis would not be familiar with). Thus, it is important to undertake a small pilot for user testing to determine the most appropriate tools in the kits. Feedback from the US programme managers also was that there may have been too much in their kits, thus overwhelming the recipients.

3. Not fully understanding End User needs and barriers before designing the kit or not including other Behaviour Changers in the design, implementation and evaluation of kits from the beginning will make them less impactful and behaviour changes not being able to be measured, or only inferred.

4. Evaluating behavioural interventions for actual impact is very difficult – using standardised pre- and post-surveys such as DSM Task 24's "beyond kWh" tool and triangulating it with qualitative interviews and focus groups with kit users will give better insights into what issues need to be reconsidered and how the kits have actually affected household behaviours.

5. The loop still is not closed – the kits are a good educational tool for end users on the performance on their home, they are great for families with children to use, and they are starting to be rolled out in school programmes (e.g., Ireland and the US). However, there is still a gap between knowing what is wrong with one's house performance and knowing what to do about changing it. The kits often come with energy-saving tips and fact sheets, but these are often not enough to help people with tailored solutions based on their feedback, their data, and their needs. Future research will look into this issue.

This article was contributed by Dr Sea Rotmann, the DSM Task 24 Operating Agent, drsea@orcon.net.nz. More information on DSM Task 24 can be found on the Task webpage, http://www.ieadsm.org/task/task-24-phase-2/

Josephine Maguire, Irish National Expert and Task 24 funder, with the Home Energy Saving Kit
(photo: Dr. Sea Rotmann)

New Business Models Needed For New Energy Services

In the March issue of the Spotlight, we discussed the main findings on new business models from the IEA DSM Task on Business Models for a more effective market uptake of DSM energy services. In quick summary, we explained that the key question guiding this work was, "What if more user centred and service oriented business models and energy services were more effective in delivering energy efficiency than the many rather technocratic and technology push approach type of business models?" A second question was, "Do specific entrepreneur and service providers capabilities that allow for a focus on the customer perspective and tailoring of their services contribute to a more effective uptake of the product and service?" While answering these two questions, Task participants also investigated the question, "Is a better alignment of the business model with context is helpful in delivering energy efficiency more effectively?"

Our conclusion based on the three questions above was that those businesses that have made the adjustments towards service orientation indeed report a better uptake, and thus are more successful than businesses that have a product oriented business model. And that to conduct a service-oriented business (deliver services instead of a product), an entrepreneur does need to have at least four capabilities at an acceptable level: sensing user needs, conceptualizing, orchestrating, and scaling. And finally, that the context at present mostly inhibits service-oriented business models and does not focus on the use phase, an essential phase for services.

The Four Business Model Archetypes

In this issue, we will look at the four main business model-capabilities archetypes that were analysed in DSM Task 25:

a. Pushing Technology harder

b. Reframing what you propose

c. The pushing something else; user phase focus

d. Servicing

Pushing Technology Harder

This first business model archetype has a strong technology driven start and is also strongly linked to new laws, regulations and directives. Usually a very passionate and skilled engineering entrepreneur has developed a concept and is now trying to market it, often first to industrial users. These suppliers develop their business around one technology or product, for example a smart plug, smart algorithm, insulation, HVAC system or earth leak detectors. The selling occurs by stressing the technological and energy related functions and characteristics of the product, such as figures and percentages of energy saved, insulation quotients, safety, reliability, control, optimization and verification to their users, and not the benefits the product can help deliver to users. To some extent, the users want the exact technology being offered, but based on the businesses we investigated, the user base was small and the competition too high so the suppliers were finding it hard to increase sales.

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Task 25

receives the green light to continue

Phase 2 started on May 1st and will run for two years. The overall objective of the second phase of Task 25 is to support the growth of the energy efficiency and DSM market amongst SMEs and communities in countries participating in the Task.

Task participants will collaborate to:

- Identify business models for providing energy efficiency and DSM services to SMEs and residential users (individuals and communities)
- Analyse promising, effective business models and services for different sectors
- Identify and support promising national energy ecosystems in which the most promising business models can succeed
- Provide guidelines to remove barriers and solve problems
- Work closely with both national suppliers and clients of business models

Participating countries will profit from:

- Training and exchange of valuable knowledge and learnings between EE business developers, service providers, researchers, policymakers and clients within and between participating countries

Partners in this archetype are usually on the technology side, often co-developers of the product.

This type of business does not really focus on sensing user needs, certainly not in a systematic manner, nor during the use of the product. The aim is to sell a one-off product. The cost structure is very traditional and includes costs for personnel and for the material needed to build the product. The revenue structure is also mostly product oriented, with one-off payments and hardly any recurring fees. If the businesses have recurring (monthly) fees or subscriptions, this is at most 20% of their revenues, with 80% one-off payments for the sale of a product. The capability of sensing technological options comes naturally to this type of business.

Once businesses start experiencing that the early adopters are saturated, that the market is static or a ceiling is reached, the response is to focus on the scaling of marketing and sales. To this end, they develop a relationship with a certain type of intermediary: consultants, installers or even Original Equipment Manufacturers (OEMs) are approached and either paid to resell/refer the product, or trained to better understand the product and as such better able to refer it to potential users. The capability of sensing user needs remains undeveloped. The relationship with the users is neither strongly developed nor aimed at understanding the characteristics of specific user contexts. Similar types of users are approached in similar ways. These businesses do not demonstrate strong conceptualising capabilities, in the sense of developing totally new products or services. Any innovation being performed is incidental and incremental. Of course this is a valid approach if the company is successful in selling their product.

This pushing technology harder archetype is about keeping a strong focus on technology, but pushing harder and using other channels to increase the market potential.

Reframing what you propose

This business model archetype is typically developed by businesses that, having experienced difficulty selling their product (using the previous business model archetype), start reframing the value of that product. For example, insulation businesses finding it difficult to sell their products, switch their selling strategy to offering energy benefits such as comfort, or an easy implementation and estimate process. Initially, the archetype is practically identical to the first archetype, but with a more equal or horizontal position vis-à-vis partners instead of the hierarchical partner relationship in the previous archetype. The main difference is the response to a standstill in market development. Instead of pushing harder, efforts are undertaken to better understand user needs. The capability of sensing user needs is then developed through personal contacts, training potential users, tailored quotes, personal telephone calls and follow-up talks. However, all efforts are aimed at influencing the purchasing decision. This business model archetype still focuses on one-off transactions with users. However, the user is understood; their needs and wants are taken seriously and applied to (re)define the selling proposition. These businesses have started to realize that energy efficiency or a product's specific technical characteristics are not a top priority for users.

The capability of conceptualising has also been further developed, however not towards technological innovation but process innovation aimed at building a trust relationship with users. The technologies or products being sold do not change, only the process to deliver them. Follow-up is carried out to make sure the process was a pleasant experience for users and to solve potential technical matters. But that is where the archetype stops being different from the first archetype. Partners for these types of businesses are usually technology ones, and mostly co-developers of the proposition. The actual use phase of the home or insulation method is not used as a gateway to deliver more services. Similar to the first archetype, the revenue structure is also mostly product oriented, with one-off payments and hardly any recurring fees. If the businesses have recurring fees or subscriptions, this is at most 20% of their revenue, with 80% one-off payments for the sale of a product.

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- A national dialogue between context players about their role in facilitating more service oriented business models and entrepreneurs
- Capacity building of relevant business developers and other relevant stakeholders
- Access to relevant stakeholders, documents, and state of the art in the research field through participation in a new network of expertise and participation of this network
- Best practice guidelines for policy makers and institutional stakeholders on how to support the uptake and creation of promising business models for energy services that effectively achieve load reduction at SMEs and residential communities
- Developed and tested framework for effective business model development in co-creation with users, for demand response/circular/data driven and peer2peer type of services
- New knowledge on the working mechanisms of the service oriented business model: how to develop most effective add on-services, how to co-create and co-operate with multiple stakeholders, etc.

More countries are welcome to join Sweden, Italy, The Netherlands and Australia in this next phase of work! For more information contact the Task Operating Agents, Ruth Mourik at ruth.mourik@duneworks.nl or Renske Bouwknegt, at renske@ideate.nl.

To sum up, this business model archetype is very much about reframing what you propose. It represents a first step towards servitisation, focusing on user needs, partnering with excellence partners and increasing value instead of economics. However, this archetype still lacks a comprehensive focus on the use phase, and on delivery of services around the product, which would enable an extended relationship with users beyond the purchasing phase.

Pushing something else: the user phase focus

This archetype is about pushing something else and about focusing on the use phase. These businesses demonstrate a shift from pushing a solution to becoming problem solvers in response to reaching a ceiling, or even to unsolicited feedback from users. The main difference with the second archetype (reframing what you propose) is that essential elements in the proposition change, not merely the framing in terms of language and branding. The main change is the awareness that the client is in fact a 'user' and usage is not a single moment in time. This means that the use phase, after the first transaction, provides key insights for innovation. Businesses opting for this archetype still have a strong technology push start, but are not afraid to develop a totally new package around that technology or even adapt their technology to meet new user needs, especially once the technologies become part of a larger package. These businesses have typically started by developing specific technologies in the smart metering, solar business, smart ICT and feedback sectors, but are trying to steer themselves away from direct consumer sales towards a business-to-business partner relationship. They aim to partner with a bigger company and thus jointly offer a larger and more complex value proposition to end consumers, sometimes not directly related to energy efficiency at all. Often, these complex value propositions revolve around delivering health or safety benefits, comfort etc. Here all the elements of the business model change to some extent, whereas the users, the value proposition and the partners change significantly. Resources change as well, from technical know-how and marketing expertise to including data. Activities also change to data handling and analysis, instead of developing soft and hardware.

The businesses demonstrate much stronger capabilities around sensing; with systematic analysis of user needs being centre stage. Another capability that these businesses strongly develop is orchestration. They explicitly aim to be aligned with providers of a larger, more complex value proposition, and correspondingly develop their conceptualising capability, making sure they innovate their product sufficiently to match their partner's technological system.

Servicing

The emergence of this type of business model archetype mostly originates from a deep concern by entrepreneurs or strongly expressed needs of specific groups. Some entrepreneurs do not even start with energy efficiency; they just end up there because it is instrumental for achieving their goals. One example is a case in Sweden, where a magazine dedicated to sustainable technologies is developing a total solution around testing, choosing financing, and implementing and maintaining solar systems for households. Their users (readers) asked for help in testing and identifying the best solar system, financing, etc. and this magazine developed a business to meet these needs. The unmet needs are well known and researched and the initial value proposition is tailored to a small group of users. An iterative process of build-test-learn in co-creation with users and partners leads to a network type of enterprise, where a proposition is the result of intensive cooperation between more or less equal partners, and with (at least a representative group of) users. After the initial start, they will expand their business gradually with new or extra benefits that in some way naturally match the needs and lives of the users. The biggest difference between this archetype and the other ones is that the users and their needs and lives are at the core of the business model at every stage (from orientation to transaction, to use and even end of use). Consequently, the key dynamic capabilities of sensing, conceptualising and orchestrating are essential resources in the business model and need to be highly developed for this business model to be viable. The trust relationship with users and partners is an essential resource, as is the capability to translate the variety of needs and wants in such a way that they fit the value proposition and do not endanger trust. There seems to be one essential difficulty in this archetype for Business to Business (B2B) businesses, maintaining a trust relationship with users, which becomes difficult when the user base increases. Although exploiting user databases and data mining are ways to fulfil the dynamic capability of user sensing, moving away from a more personal approach to more standardised user relations is a challenge for the legitimacy of this business model archetype.

To learn more about DSM Task 25 and download reports and presentations from Phase 1 visit the Task webpage, http://www.ieadsm.org/task/task-25-business-models-for-a-more-effective-uptake/

DSM Today and Tomorrow

A Selected Package from the DSM University Webinar Series

The IEA DSM Programme through its work over 26 years has seen and shaped the development of Demand Side Management (DSM) practices worldwide. To share our experiences with a broader audience, the DSM University was created in collaboration with the European Copper Institute to organize and host a monthly webinar series dedicated to DSM.

One question that we are often asked is, "Where is DSM heading now that the world has embraced the idea that there is an urgent need to transform our energy systems and to find ways to ensure we are using energy efficiently?" To start to answer this question, we have compiled a list of past DSM University webinars that look at the questions:

- How can we address the issues for next century?
- What can be done in companies that use energy?
- How can efficiency be communicated for everyday purposes?
- Selling verified energy services
- How can (must) business models be adapted?

DSM for the 21st century

DSM has changed since it was first introduced in the 1980s as an active policy instrument to make energy systems perform better and more economically. In the years since, and primarily in the early years of the new millennium, technology has provided new opportunities with smarter applications, decentralised power using local renewable sources and a booming IT for management. Now we talk about Integrated DSM (IDSM) and policy challenges to make energy systems sustainable and reduce (prevent) climate change. But still, market uptake is slow and well below expectations (and needs).

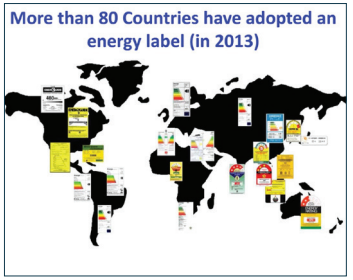
It is time for DSM to shape up and deliver!

Energy efficiency: a profit center for companies

Investments in energy efficiency not only result in a reduction of energy consumption — the energy benefit — but also in non-energy benefits, such as improved product quality, reduced production time and increased sales. Non-energy benefits significantly improve the business case of energy efficiency investments in the business sector.

Within this context, the webinar presents a methodology to describe and analyse the industrial non-energy benefits of energy efficiency. Linking energy, strategic, operational and financial aspects, this new conceptual framework moves away from the common view of energy as a commodity (where the only goal is to save kilowatt-hours) to one of energy and energy services adding strategic value to businesses.

A brief history of energy efficiency labelling



Energy Labelling has progressively become a must-have in the energy efficiency policy toolbox. When implemented with care, energy labelling presents a face that energy efficiency (also known as the invisible fuel) often misses. Energy labels help end-use consumers make more informed decisions when purchasing a product, equipment or system. It is fascinating to see how energy labels facilitate and shape market transformation strategies when combined with fiscal or financial scheme.

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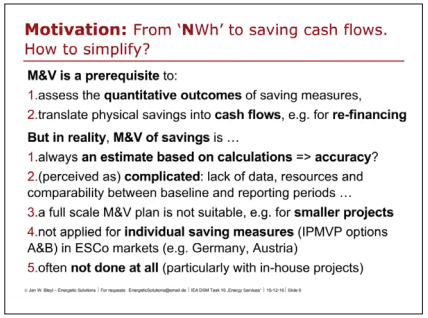
DSM University Webinars – from page 9

What lessons can be learned from the implementation of the European energy labels? What are the possible options for consolidating such high visibility policy instruments in the future? This webinar looks back at the first European labels and highlights achievements and shares views to reinforce existing schemes.

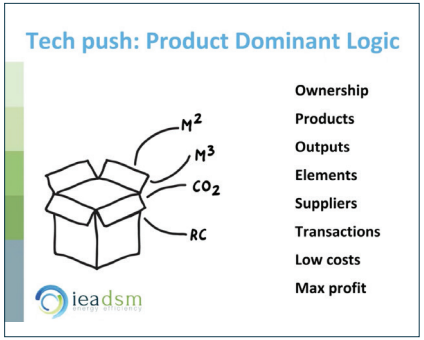
Simplified measurement & verification for energy, water and CO2 savings



Measurement & Verification (M&V) is a prerequisite to assess the quantitative outcomes and performance of energy, water or CO2 saving measures and to translate 'NWh' into savings cash flows for financing and other purposes. IEA DSM Task 16 proposes simplified M&V approaches for electricity, heat, water and CO2 saving measures (ECM) in combination with so called quality assurance instruments to verify the functionality and quality of ECM, but not necessarily their exact quantitative outcome.

This webinar introduces the concept and discuss the applicability and limitations of these approaches.

What job is Energy Efficiency hired to do? A look at the business models



IEA DSM Task 25 is looking at what can be learned from new business models and propositions that actually contribute to the market uptake of Energy Efficiency. This webinar presents what types of business models and propositions work when, where and why. The presentation concentrates on what was learned about the influence of user centric business development, the role of entrepreneurs and their skills, and the impact of a wider context. Examples in retrofitting, smart energy services, heating, and lighting are highlighted.

DSM University is a learning platform, jointly run by the IEA DSM Technology Collaboration Programme (DSM TCP) and Leonardo ENERGY, that uses webinars to engage DSM and Energy Efficiency professionals in current topics of the day. All webinars are posted online and can be found on the IEA DSM website, the Leonardo ENERGY website, and the DSM University YouTube channel.

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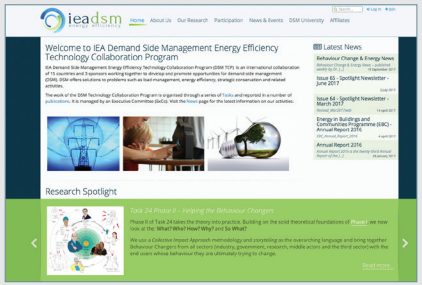

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