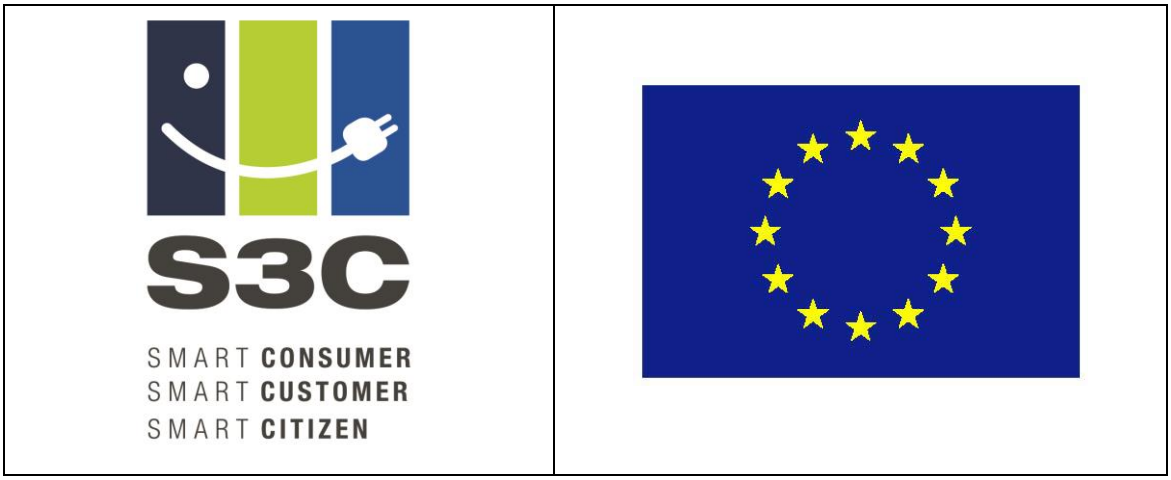

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Findings from 3rd Advisory Board (ADB) meeting

Contractual Date of Delivery to the CEC:	*July 2015 (Month 33)*
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Total number of pages:	**20**

Abstract:

The 3rd S3C Advisory Board meeting was held in Berlin on the 23rd of September 2015. The meeting focused on three tasks. The first task was to review the nine S3C key challenges – how have they been met and what gaps still remain. The second task was to collect feedback and input for the S3C Deliverable 5.2: Recommendations to policy makers, regulatory bodies, standardisation and communication bodies. The third task for the meeting related to the further dissemination and marketing of the now finalised S3C toolkit during and after the end of the S3C project.

Keyword list:

Dissemination, S3C Key Challenges, Recommendations, S3C toolkit

Executive Summary

The 3rd S3C Advisory and Dissemination Board (ADB) meeting was held on the 23rd of September. It was co-located with the final conference of the S3C project (24th of September 2015) at the Neue Mälzerei, in Berlin, Germany. The meeting was attended by 13 members of the S3C ADB, 15 members of the S3C consortium, two members of the S3C Family of Projects and two invited external experts.

After a keynote presentation from Rob Kool (IEA) on the demand side of energy use, the S3C consortium presented the work during the final year of S3C as well as first key results. The presentation was focused on the revised S3C toolkit, especially on which adaptions had been made in relation to the feedback from the second ADB meeting (10th of December 2014) to both the toolkit as such as well as the overall structure of the tools and guidelines.

After that, the meeting focused on working on three distinctive tasks:

1. Reviewing the nine S3C key challenges – how have they been met and what gaps remain?

The discussion on the nine S3C key challenges revealed that although steps towards a resolution have been taken, all of the key challenges identified within S3C for further research on end user engagement in smart grids remain relevant for future research projects. Furthermore, the discussion led to the addition of a tenth key challenge: Transcending the energy focus.

2. Reviewing the preliminary version of the S3C Deliverable 5.2: Recommendations to policy makers, regulatory bodies, standardisation and communication

As a second task for the 3rd ADB meeting, the participants were asked to review and improve the recommendations from a preliminary version of the S3C Deliverable 5.2 during an open working session. The delivered comments and suggestions will be reviewed for the individual recommendations and the Deliverable will be revised accordingly before its submission to the EC.

3. Ensuring a life for the toolkit after S3C – actions for the further dissemination and marketing of the S3C toolkit

The 3rd task for the meeting was to discuss possible actions for a further dissemination and marketing activities during the last month of the project and beyond. Actions in five action fields were discussed: presenting at conferences, linking websites, continue to reach out to European associations and give training. The suggested actions will serve as a guideline for the dissemination of the finalised S3C toolkit. In the coming week and months, the S3C consortium will investigate which of the discussed actions can be realized.

Authors

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1. Meeting overview

1.1 List of Participants

Table 1: List of participating S3C ADB and Consortium members, 3rd S3C ADB meeting, 23rd of September, Berlin, Germany

S3C Advisory and Dissemination Board (ADB)	
Americo Mateus	UNIDCOM (IADE) at Lisbon University
Carlos Pedro Marques	EDP Distribuição
Julia Seixas	New University of Lisbon
Maher Chebbo	President of ESMIG
Michael Hübner	Austrian Ministry for Transport, Innovation and Technology
Miguel Águas	Lisboa E-Nova
Paolo Landi	Fondazione Consumo Sostenibile
Saskia Müller	Amsterdam Smart City
Sonja Schouten	Alliander
Stella di Carlo (replacing Marina Lombardi)	Enel
Tiit Kallaste	Stockholm Environment Institute
Toni Göller	MINcom Smart Solutions GmbH
Wolfgang Teubner	ICLEI – Local Governments for sustainability
Consortium	
Carolien Kraan	Energy Research Centre of the Netherlands
Diogo Ramalho	EDP Distribuição
Erik Laes	VITO
Gregor Cerne	Informatization, Energy Engineering, Automation, d.o.o.
Janina Schneiker	B.A.U.M. Consult GmbH
Jure Vindisar	Informatization, Energy Engineering, Automation, d.o.o.
Kerstin Niemeier	B.A.U.M. Consult GmbH
Koen Straver	Energy Research Centre of the Netherlands
Ludwig Karg	B.A.U.M. Consult GmbH
Magdalena Boork	Technical Research Institute of Sweden
Matthijs Uyterlinde	Energy Research Centre of the Netherlands
Pieter Valkering	Vision on Technology
Rok Lacko	Informatization, Energy Engineering, Automation, d.o.o.
Simone Maggiore	Ricerca sul Sistema Energetico
Vera Nunes	EDP Distribuição

- Rob Kool (chair of the International Energy Agency's DSM Programme and Experts' Group on R&D Priority Setting and Evaluation) was invited to join the S3C Advisory and Dissemination Board meeting as a keynote speaker.
- Gerhard Kleineidam (SWW Wunsiedel) was invited as an additional utility expert to facilitate the session "Where do we go from here 3 - Ensuring a life for the toolkit after S3C" from a utility point of view.

- Simon Strandberg (STUNS Energi) and Alberto Calvi (Telecom Italia) were invited to join the meeting as representatives from our Family of Projects, Uppsol 2020 and Energy@Home, after the planned joined Family of Projects Workshop had to be cancelled due to insufficient registrations.

1.2 Agenda

Table 2: Agenda for the 3rd S3C ADB meeting

Time	Theme	Format	Presenter
10:30	*Coffee and Welcome/Registration*		
11:00	Formal welcome	presentation	Ludwig Karg, B.A.U.M. Consult & Erik Laes, VITO
11:10	The demand side of energy use: a battle with windmills and stovepipes	Keynote	Rob Kool, Chair EGRD and Chair DSM Implementing Agreement, International Energy Agency
11:25	It's a Wrap! What happened in the final year of S3C?	presentation & live demo of the S3C toolkit website	Ludwig Karg, B.A.U.M. Consult Erik Laes, VITO Matthijs Uyterlinde, ECN
12:30	*Lunch*		
13:30	Where do we go from here 1 - Smart Energy Research beyond S3C	Joint mind-mapping: findings and gaps for the 9 key challenges identified within S3C for the further research on customer engagement in Smart Grids	Moderation: Erik Laes, VITO & Kerstin Niemeier, B.A.U.M. Consult all participants
14:30	Where do we go from here 2 - Recommendations to policy makers, regulatory bodies, standardisation and communication bodies	Presentation of S3C Deliverable 5.2: Guideline Study recommendations for policy makers, regulatory and standardisation bodies and associations to support setting favourable framework conditions	Moderation: Erik Laes, VITO & Ludwig Karg, B.A.U.M. Consult all participants
15:30	*Coffee break*		
16:00	Where do we go from here 3 - Ensuring a life for the toolkit after S3C	impulse presentations + moderated group discussion	Moderation: Ludwig Karg, B.A.U.M. Consult all participants
17:00	Getting to know each other before the networking dinner - present yourself, your work, your project in 99 seconds	99' sec presentations	all participants (*optional*)
17:30	Wrap-Up	presentation	Erik Laes, VITO & Ludwig Karg, B.A.U.M. Consult
17:45	*Meeting over*		

The third S3C Advisory and Dissemination Board meeting was kicked off with a keynote speech "The demand side of energy use: a battle with windmills and stovepipes – the demand side of energy use" by Rob Kool. The speech highlighted current activities and learnings regarding engaging customers and incentivising behavioural change from the International Energy Agency (Task 24).

1.3 It's a Wrap! What happened in the final year of S3C? The revised S3C toolkit website

The meeting continued with a presentation on the actions within S3C during the project's final year. The joint presentation by Erik Laes (VITO), Ludwig Karg (B.A.U.M. Consult), and Matthijs Uyterlinde (ECN) focused on the collaboration of the consortium with the S3C active partners and the respective implementation of the S3C tools and guidelines. Furthermore, the presentation included a live demonstration of the revised S3C toolkit website to demonstrate how the tools and guidelines as well as the toolkit itself had been adapted according to the feedback from the second ADB meeting on the 10th of December in Berlin.

For a comprehensive overview of the feedback given by the S3C ADB on the preliminary toolkit and how it has been implemented, please refer to the S3C Deliverables 6.3: Findings from the 2nd Advisory Board meeting and S3C Deliverable 4.3: final version of interactive toolkit with robust guidance for practitioners.

2. Outcome of agenda point: Where do we go from here 1 – Smart Energy Research beyond S3C

The last Advisory and Dissemination Board meeting was co-hosted with the S3C final conference. The idea was to perform a gap analysis with the ADB members towards the end of the project. Have the challenges for research on end user engagement in smart grids changed since the start of the project? Do the challenges we identified in work package one remain relevant? Are there new challenges? What are the implications for next generation engagement projects?

To answer these questions, we looked back at the S3C Deliverable 1.1: Report on state-of-the-art and theoretical framework for end user behaviour and market roles, in which nine key challenges for the further research on end-user engagement in smart grids were identified.

The nine key challenges were presented to the participants by Erik Laes (VITO) and Kerstin Niemeier (B.A.U.M. Consult):

1) Target specific end user groups: Segmentation is used a lot outside the area of energy. We don't know yet which types of segmentation are relevant in the smart grid/smart energy world, and how to use segmentation in product/service development or project rollouts (e.g. offering different products to different types of customers?; adapting communication to different types of customers?, etc.).
2) Cooperation between stakeholders: what non-energy stakeholders can play a role and how can they do it? Will consumers trust these new stakeholders?
3) Added value of smart grids: what's in it for the customer? How can it be made appealing? We need to learn what the customer actually wants.
4) End users as initiators of projects: Co-creation and community dynamics have been identified as an enabler, but so far practice examples are isolated instances. Can this be used in larger roll outs?
5) Incentives & pricing schemes: Monetary incentives work to some degree and seem important especially before the start of the project. During the project, however, money incentives don't seem to be the most important ones. Rather than that, non-monetary incentives play a bigger role.
6) New market structures: smart grid technologies enable new markets to open, e.g. flexibility. But how do end users react to these changes in the market, e.g. are they interested in the new opportunities on this market, and which actors do they trust?

7) Use of communication channels, information and marketing: what types of marketing and communication approaches work best to convince customers of the added value of smart grid products/services?

8) Upscaling and replication of pilot projects: people participating in the pilots are usually more in favour of smart grids than the general public. Will smart grids also work when rolled out on a larger scale?

9) End user feedback: what is the impact of feedback on customer behaviour?

After the presentation, the participants were invited to discuss the nine challenges and if, from the vantage point of the present, all of the challenges are still relevant or if there were challenges missing.

A critical point during the following discussion was that 'smart grids' seem to be discussed by a closed community that the customers themselves are not part of. Furthermore, the focus should not solely be on smart grids, but on the overall energy value chain while keeping the customer perspective front and center. An additional point of discussion was that the focus should be less on energy and more on customer needs, including non-energy related issues and the commodities that are enabled by energy, e.g. lighting and warmth or even ambient assisted living solutions.

Taking into account the different points of discussion, a 10th challenge was added to the S3C key challenges:

- **Transcending the energy focus**

Following that, the participants were asked to choose green cards to write down which of the challenges had been addressed and how and yellow cards for challenges that need to be investigated further and work still to be done in the smart energy research beyond S3C.

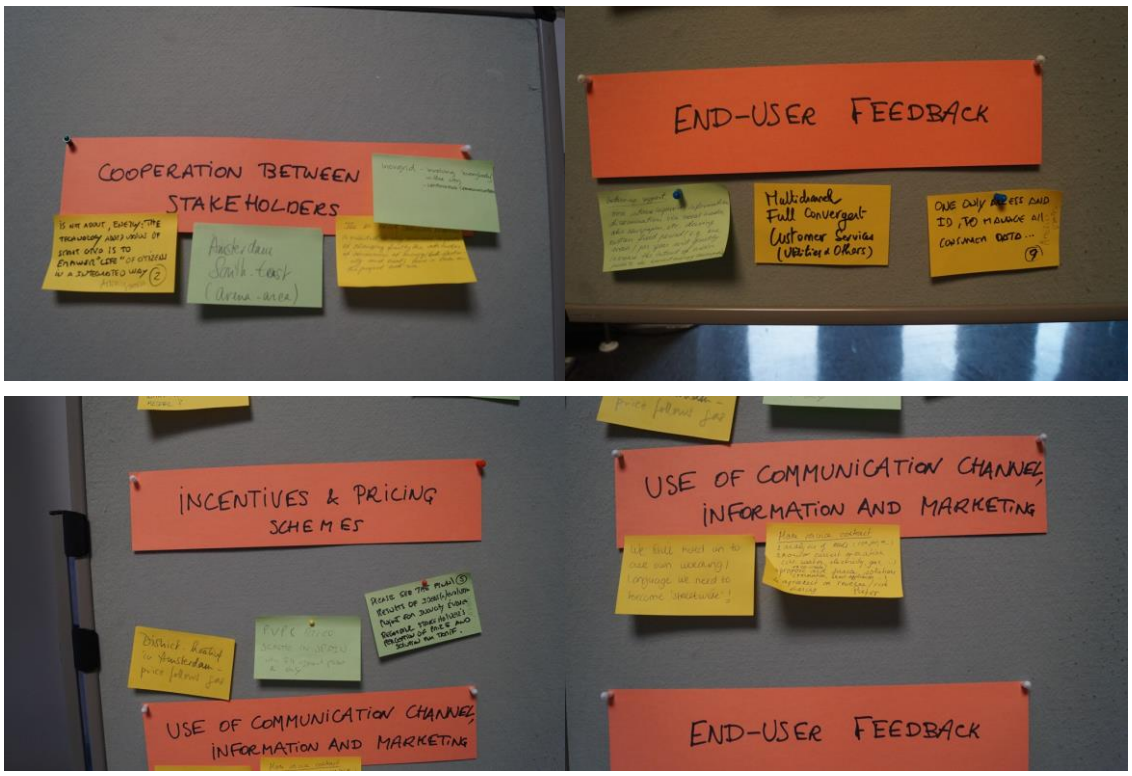

Figure 1: Overview and detailed view of the output from the session: "Smart Energy Research beyond S3C; how have challenges been met (green cards) and where are still gaps/open questions (yellow cards)

As can be seen by the number of cards on the pin-board, the discussion on the status on the nine key challenges was strongly focused on the challenge regarding new market structures. The discussion point relating to this particular challenge were:

- Peer-to-peer electricity sharing business models: Peer-to-peer business models are not only about sharing, but also enable a constant benchmarking/ social comparison. However, big data is needed for the implementation and should be part of the discussion. A similar possibility would be to offer an energy debit card enabling the customer to donate energy to others. Also, there is a call in H2020 that addresses the topic of peer-to-peer electricity sharing.
- Buying energy at the supermarket: Selling energy at the supermarket could increase transparency regarding energy tariffs and enable an easier comparison between different tariff options for the customer, e.g. by offering pre-paid energy option with no need for a contract.
- Segmentation using big data is one of the central opportunities to answer to this challenge. It is already done in utilities.
- Some new market structures create problems: In Amsterdam, it is obligatory for each new building to connect to the district heating. However, the costs to lie at 5000 Euros per building. Here, the obligation is problematic.

Overall, the discussion showed that while steps have been taken towards meeting the key challenges identified within S3C, there are gaps to be resolved for all nine of the key challenges. Hence, all of the key challenges identified within S3C for the further research on end user engagement remain relevant for smart energy research beyond the S3C project. The discussion on "smart energy research beyond S3C" and how it relates to the S3C key challenges was continued at the final conference of the S3C project, on the 24th of September in Berlin, during a corresponding panel discussion. A report on the final conference, including the central points of the panel discussion will be published at the S3C website.

3. Outcome of agenda point: Where do we go from here 2 – Recommendations to policy makers, regulatory bodies, standardisation and communication bodies

The session "Where do we go from here 2 – Recommendations to policy makers, regulatory bodies, standardization and communication" was reserved for collecting feedback from our ADB members, external experts and Family of Project members on a preliminary version of the corresponding S3C Deliverable 5.2. Built on the expertise from the S3C consortium, the lessons learnt from the detailed case analyses in work package 3, the S3C consortium formulated recommendations for removing the barriers standing in the way of the smart grid rollout from the perspective of the households or SMEs involved.

The recommendations of Deliverable 5.2 are grouped into five topics:

- Visions and Expectations
- Regulation
- Market information
- Knowledge Transformation
- Resource Mobilization

The recommendations have been prepared in the following format:

Target		x	EC legislation		associations of energy industry	
			EC level research programmes		associations of ICT industry	
		x	national policy makers		associations of and for consumers	
			national funding authorities		standardisation bodies	
		x	national regulatory bodies		curriculum developers	
			local authorities		other	
Details						
Background						
Comments						

Figure 2: Template for recommendation collected in S3C Deliverable 5.2

After a brief introduction to the deliverable and the five main topics for recommendations, the participants of the meeting were asked to work on the individual recommendations, which were provided in print from at five topical tables.

Figure 3: Participants of the 3rd S3C ADB meeting working on the recommendations from the preliminary version of the S3C Deliverable 5.2

The consolidated comments to the individual recommendation can be found in Annex I: Feedback on the recommendation from the preliminary version of S3C Deliverable 5.2 from the 3rd S3C ADB meeting.

In the coming weeks, the comments and feedback on the individual recommendations given at the 3rd ADB meeting will be evaluated and the S3C Deliverable 5.2 will be adapted accordingly.

4. Outcome of agenda point: Where do we go from here 3 – Ensuring a life for the toolkit after S3C

The third "Where do we go from here" session was dedicated to identifying and setting up a strategy to continue and increase the dissemination and marketing for the final version of the S3C toolkit to the relevant target groups, in particular utilities, energy associations, city developers and other research projects.

In an open discussion involving all participants of the meeting, action fields for dissemination and corresponding possible actions were identified:

4.1 Action Field 1: Presenting at conferences

During the project's duration, the preliminary version of the S3C toolkit has been presented at several high-level conferences and trade fairs, including e.g. The BEHAVE Energy Conference 2014 in Oxford, the Utility Week 2014 in Amsterdam or the IEA Committee on Energy Research and Technology in 2015 in Oslo. Now that the final version of the S3C toolkit is available, including success stories from implementing the tools and guidelines with the S3C active partners, presenting the finalised S3C toolkit at relevant conferences, trade fairs and meetings was identified as one of the central action fields. A table listing of the events suggested during the discussion and the corresponding contact persons and/or facilitators can be found below:

Table 3: Suggested conferences, trade fairs and meetings for the dissemination of the S3C toolkit

Presenting at conferences	
Action	Facilitator/ Contact person
European Utility Week 2015 (November 3-5)	S. Schouten, Alliander (Utility Week Board member)
8th European Sustainable Cities and Towns conference 2016 (Bilbao, April 27-29)	W. Teubner, ICLEI
Metropolitan Solutions 2016 (Berlin, May 31 – June 2)	-
Smart City Event 2016 (Amsterdam, June 7-10)	-
Local Renewables Conference 2016 (Freiburg, October)	W. Teubner, ICLEI

Austrian Smart Grids Week 2016 (tbd)	M. Hübner, BMVIT
ECEEE (e.g. Alliance to Save Energy)	R. Kool, IEA (Board member)

4.2 Action Field 2: Linking Websites

As an additional point to presenting at conferences, increasing the web-presence of S3C by adding links and backlinks to and from the websites of relevant associations, organisations, etc. was identified as a further action field.

Table 4: Discussed potential options for associations, organisations and other to add links and backlinks to/from S3C

Linking Websites – potential partners	
Action	Facilitator/ Contact person
IEA Technology Network	R. Kool, IEA
ISGAN website	M. de Nigris, RSE, chairman of ISGAN
ESMIG website	M. Chebbo, President of ESMIG
Smart Grids ETP Platform	-
Concerted Action – Energy Efficiency Directive website	R. Kool, IEA
EDSO website	C. Pedro Marques, EDP
Eurelectric website	G. Lorenz
EIP-SCC Platform	S. Schouten, Alliander
My-smart-energy.eu	M. Chebbo, President of ESMIG
Relevant LinkedIn Blogs	e.g. Blogs of M. Chebbo, Américo Mateus

4.3 Action Field 3: Continue to reach out to European associations

The third action field that was identified is continuing to reach out to European associations. Although first steps in that direction have been taken (e.g. S3C webinar with the Covenant of Mayors), a continued effort in that direction now that the finalised S3C toolkit is available is needed in order to facilitate its disseminating and implementation. The following associations were identified as some of the most relevant ones for S3C to get in/ extend the contact with:

Table 5: Relevant associations to reach out to for the dissemination of the S3C toolkit

Reaching out to international associations	
Action	Facilitator/ Contact person
SEDC	M. Chebbo, President of ESMIG
Covenant of Mayors	T. Solymosi, CoM
ICLEI	W. Teubner, ICLEI
GSGF	R. Belmans, KU Leuven
EDSO and ENTSO-E	EDP
Further: EASE, EEGI, Renewable Energy Association	

4.4 Action Field 4: Reaching out to emerging and new projects

Another important field of actions is reaching out to emerging and new smart energy projects to make them aware of S3C during their project proposal and project planning phase. The earlier a project is in its development, the more benefit the S3C tools and guidelines will have. Our collaboration with research

projects and utilities has shown that while the advice of S3C is valid during any project phase, having a comprehensive customer engagement strategy in place from the beginning of the project is crucial. Also, funded research projects often have little leeway to adapt their approaches once the project is underway. The actions identified in the discussion for this action field were:

- Converting the private S3C LinkedIn Group to a public group and link with appropriate groups (e.g. H2020 groups)
- Attend/ present at Cooperation Workshops for H2020 projects in the field of Smart Grids and Storage
- Cooperate with ERA-Net Smart Grids Plus – for the living document and working group on consumer involvement

4.5 Action Field 5: Give training

Giving advice and training on how to use the S3C tools and guidelines was part of the feedback and recommendations given during the second ADB meeting (Berlin, 10th of December 2014). Consequently, the toolkit website was restructured to include the gateway "Learning" under which users are able to find learning materials, such as syntheses of our most central deliverables, as well as presentations and a webinar that was held and recorded in collaboration with the Covenant of Mayors. Furthermore, the personal notebook tool was added to the toolkit. During the 3rd ADB meeting, several additional actions to give training in how to use the S3C toolkit were discussed, including:

- Cooperate with existing or emerging academies, e.g. IEA DSM University, ISGAN Academy
- Set up a MOOC – Massive Open Online Course
- Check for training platforms on a national level, live trainings, info days, online communities, etc.

The identified action fields from the 3rd S3C ADB meeting will serve as a guideline for the dissemination of the finalised S3C toolkit. In the coming week and months, the S3C consortium will investigate which of the discussed actions can be realized.

To facilitate the dissemination of the S3C toolkit, the S3C consortium will assemble a 'S3C marketing kit' to provide to multipliers, consisting of:

- S3C press release
- 1-2 slide presentation (to include in other presentations)
- High resolution S3C logo

5. Next steps

The discussion from the agenda point "Where do we go from here 1 – Smart Energy Research beyond S3C" was continued at the corresponding panel discussion at the final conference of the S3C project on the 24th of September, 2015. The panel discussion was moderated by Erik Laes (VITO) and Kerstin Niemeier (B.A.U.M. Consult) and several member of the S3C ADB were invited to join as panelists: Stella Di Carlo (Enel), Michael Hübner (BMVIT) and Julia Seixas (New university of Lisbon). Rob Kool (IEA) and Michele de Nigris (RSE, chairman of ISGAN) were invited as additional panelists. A report and press release covering the final conference of the S3C project will be composed, including the outcome of the panel discussion. The report will be published at the S3C website: www.s3c-project.eu.

The S3C consortium will review and evaluate the feedback and comments from the ADB, FoP and external experts given during the session "Where do we go from here 2 - Recommendations to policy makers, regulatory bodies, standardisation and communication". The S3C Deliverable 5.2 will be revised before submission to the Commission.

The opportunities and possible actions for a continued dissemination and marketing of the finalised S3C toolkit discussed in the agenda point "Where do we go from here 3 – Ensuring a life for the toolkit after S3C" will be reviewed by the consortium to decide which action to follow up on. A 'marketing kit' including an S3C press release, a short presentation and the S3C logo in high resolution will be prepared.

Annex I: Feedback on the recommendation from the preliminary version of S3C Deliverable 5.2 from the 3rd S3C ADB meeting

Area	**Resource Mobilisation**
Recommendation	**Develop common standards of automation and data communication**
Comments	Target should include standardization bodies
Recommendation	**Develop common standards of automation and data communication**
Comments	Very important recommendations; will however not be achieved by EU standardization, but by cutting socialized cost allowance (e.g. utilities must use WIFI instead of proprietary WMBUS)
Recommendation	**Provide a wide spread set of horizontal hardware and software platforms to foster development of innovative services**
Comments	Fully support the "energy information system". The nest generation will for sure grab the new software platforms to foster innovative services
Recommendation	**Allow for end-user engagement means to be accounted for as grid investments in the calculation of distribution grid fees**
Comments	This is actually already used. The regulators added additional tariffs to support RES. The industrial branch complained that it affects their competitiveness. The final result is that only residential users are affected and acceptance is not very high.
Recommendation	**Acknowledge potential risks of increasing costs in the transition phase to a smart energy world**
Comments	This is essential mainly in countries with "oligopolistic" supply system
Recommendation	**Shift the regulatory focus in distribution grid investment form cost of investment to net benefit of investment**
Comments	The principle is fine. However, size and dimensions of investments are also a question of scale and interfaces. Therefore the question of ownership and control regarding the share of benefits should be considered. If citizens can become energy producers, they should also be able to become grid owners and thereby get a share in the return of investments
	To invest in smart grid doesn't mean more competition or less cost for consumers. We need to invest in a trans-border grid for and effective EU Market with more competition.
Recommendation	**unrelated**
Comments	There is a risk that you keep sharing the story within the same community/ group of people – How do we move beyond? This requires an effective marketing strategy for knowledge sharing within/across Europe
Area	**Visions and Expectations**
Recommendation	**Develop an overarching storyline to achieve common understanding and 'sense of urgency' for smart grids**
Comments	External costs should be clearly visualized for the purposes that wider masses will understand all costs related to fossil based electricity generation. Nowadays many governments pay subsidies to fossil based energy and people don't realise/know that. Instead, those subsidies should be on electricity bills, then people understand what is the real cost of fossil and nuclear based electricity KWh price. Thereafter the advantages of RES based electricity generation will be obvious.
	Make it simple: What do we pay, subsidy-wise to fossil: make it clear
	In Belgium, the sense of urgency is relatively high (electricity shortage) -> seize

	the moment
	Important point: Connection needs to be clearly made between sustainable renewable energy solutions and the need for smart grids development. Again, a tease could be that smart grids should enable highly de-centralised production and therefore tremendously increase smaller-scale investment opportunities for citizens -> This will also depend a lot on a consequently implemented reform of the energy market.
Recommendation	**Manage overall and specific customer expectations**
Comments	All projects must start with citizens at the center
	At least in Portugal, the peak hours are not that much more expensive in the residential segment. That stresses the DSM and I believe, from the wholesale market, that the future will not increase the peak price. So the pint is just "reduce consumption" and that, I think; is a social topic: people feel better if they reduce consumption. The smart meter will be a tool to prove that the reduction is on an hourly base, but what really matters it the monthly consumption.
	Yes, but consumers don't really are about long-term effects. The long-term battle must be won in the short-time stimulus or the ship won't take off.
Recommendation	**Create trust in the energy system, its operators and the possibilities offered by new smart grid products and services**
Comments	Good, but still not far enough. Examples should include utilities opening up their infrastructure for add-on services (appealing 3rd party app instead of an in-house display fixed to the wall). This requires generic networks rather than legacy energy solutions
	Target should include national funding agencies; in the EU, I think there is a high level of trust in the energy system. Therefore I do not foresee, by anticipation, a decline of such trust in a smart grid based energy system. However, I do agree that, at country-level, it is very important to have pilots and disseminate the multiple benefits through social media.
Recommendation	**Motivate society to realise other and maybe better benefits than monetary savings**
Comments	Peer to peer exchange or supply of energy -> nice example
	Very good, should be extended beyond energy saving to micro-grid independence, loss reduction, etc.
Recommendation	**Translate information on smart grid technologies and applications so a broad variety of citizens can understand it**
Comments	Difficult: the technical side is not understood by citizens and citizens really don't care about it
	Just a smart meter doesn't help consumers. "Give" some device with it to make it useful and help to provide other Information
Recommendation	**unrelated**
	We need to develop a more streetwise language to communicate with the end user = people. So who is going to take the lead on that? EC, industry,..or?
Area	**Market Formation**
Recommendation	**Create openness of existing market actors to accept start-ups and their innovative products**
Comments	Beware of defining: this should be limited to the functionality of the grid, with rapid response on new developments + the (private) security of participants
	Very difficult to balance - Fair regulation in detail

	- Open regulation, which does not block new business models Regulation should be rather generic (competition rules) than go into network and device design Problem: how to incentivize network stability efforts?
	Can you write this down in two sentences for more impact?
Recommendation	**Provide financial support and incentives for the participation of end users in smart grid programs**
Comments	Next to funding, abolishing negative influence of taxation can help
	I fully agree with subsidies! It is in the human way of thinking when you get something free, you start to be interested. Plus, if there is clear incentive one could win from smart grid, then the success would be guaranteed. Smart grid knowledge and (maybe even some simple gadget) PC-programs should be free of change for every consumer
Recommendation	**Open up the energy market to new players and their innovative products**
Comments	There is a Scandinavian study: with the increasing efficiency the influence might be smaller than we assume
	Is it needed? Is AMI really so powerful?
	Introduction is ok, but conclusions are too much AMI focused. Energy efficiency measures may be above or below the level of detail provided by AMI. The market should design not rely on the metering point as center
Recommendation	**Clarify settlement rules between suppliers and aggregators**
Comments	In Portugal, the "real" supplier is the retailer. The retailer sees the aggregator badly as the aggregator reduces commercial margin. Regulators don´t help as avoids peer to peer solutions, so aggregators are always commercial aggregators, where scale is the key
Recommendation	**unrelated**
Comments	Enhance the organized markets to trade with flexibilities. The market progress should beside fixed energy products trade also with consumption adaptation capacities
Area	**Research**
Recommendation	**Foster research and development on end-user engagement in smart grids through clear priorities and increased collaboration**
Comments	This recommendation should be enlarged towards end-users. Keep in mind that end-users, at home for example, have to deal, engage and decide on different commodities: Energy is just one of them. I would recommend R&D on end users taking his/her holistic perspective, for example, joining criteria, perceptions and engagement on energy + water. This would also save energy for water services! This is a new approach towards integrated co-management of resources and sustainable development.
	And it should be broader than E-research- have a look at the IEA multiple benefits publications
Recommendation	**Develop and implement common and standardized quality criteria to ensure representativeness and comparability of end-user engagement research in smart grid projects or rollouts**
Comments	It must be very clear quality statements and academic background. Common evaluation criteria + categorization and benchmarking are also important to share knowledge about projects
Recommendation	**Broaden the scope of smart grid research to integrated smart solutions**

	(smart cities, smart homes, smart living)
Comments	Beware: Most of these are uniform: make sure these are specific grid services
Recommendation	**Foster research on less motivated or involved end-users, beyond a focus on "early adaptors" or "technology enthusiasts"**
Comments	Agree, but it should be part of a regular roll out: the installer has to know and "sell" the options
Recommendation	**Foster Participation of social sciences in energy projects**
Comments	Very import for research recommendation - Focus on academies – company – citizens research partnership - Energy is a good field for "citizens for science" approach ➔ Citizen become "researchers" and "observers"
	This is absolutely needed; keep in mind that within EU: - Cultural differences govern the use of energy - Energy is (?) very differently and then consumers/costumers have different prescription of the role of energy (e.g. energy for heating and cooling is very different in southern countries than in central EU-states) Citizens might react better to "noble" aims like sustainable development or climate protection and thus they should be approached with such reaches not only on saving costs
Recommendation	**Combine qualitative and quantitative research in new smart grid pilots or rollouts**
Comments	This is highly important. The persistence of cultural habits and behavioral clusters might limit the expected flexibility It would also be interesting to learn more about the tension between individual flexibilities and synchronized group behaviour/social interactions
Recommendation	**Make social science research on end-user engagement an integral part of every smart grid research project**
Comments	This is an important element. However, this is a question of the perspective that is taken. Smart grids are only a "means" and not an "end". Therefore, the question needs to be "what kind of societal transformations or "transitions" do we want to achieve, what are the goals of such a "transformation" and in which way can smart grids support it?". It is not that smart grids need a cultural change but that a truly sustainable development needs a cultural change that can be supported by new technologies, which smart grids are a part of.
	It is obvious that energy consumers are social objects who should/must be involved to the research. Sell knowledge, teach and inform people, not kWh! The more wider the smart grid knowledge is disseminated, based on comprehensive research by social and technical sciences, the more success we will receive in saving energy researches for the future generation – for our children and grandchildren
Area	**Regulation**
Recommendation	**Create and enforce smart grid standards**
Comments	- Consumers have an unlimited right to use and exchange their raw consumption data - Consumers can give their data under license to ESCO, etc - Policy solutions need to be developed in electricity database auditing procedures
Recommendation	**Ensure market designs facilitating a balanced distribution of costs and benefits by conducting regulatory impact studies**

Comments	On television you pay for connection and channels. That thinking could be the magic for a financial model on smart grids
	Regulation is already too slow. Will it become fast when we do regulatory impact studies first? True, this may avoid terrible mistakes. But may mistakes be caused by regulation for 2030 based on 2010 impact studies?
	Cost benefit analysis is very good. However, it should differentiate between socialized and individual cost (the individual part being for products offered in a competitive market) Why? What is the cost-benefit analysis of buying a BMW vs a Dacia car?
	There are studies with persistent gains about 4 % (market design) on energy efficiency
Recommendation	**Establish a regulatory framework to support the introduction of cost-reflective dynamic tariffs**
Comments	But: who cares? For industry the above is great, for consumers price elasticity has been proven to be be far (?)
	Our problem is about taxation and general costs in tariff. In some countries this part of the energy bill is about 50 %, so cost-reflective dynamic pricing doesn´t have real value for consumers
Comments	Raise energy price, lower tatex/fixed costs. Then saving becomes really profitable
Recommendation	**Establish an overall data infrastructure that allows for a wide set of consumer engagement means and at the same time does not create the anxiety of abusing personal data**
Comments	Consumers may sell data instead of give under license
	Ask consumer what they would want a smart meter for
	Make meters fair & sustainable
	Can we combine smart energy meters/data with meters for e.g. water, gas, heat, etc.
Recommendation	**unrelated**
Comments	Privacy and security remains a key priority: how do we ensure people´s right to privacy? Who is going to take care of that? Rules?