



Online EnR-EC Roundtable discussion on Smart Sector Integration

“How could national energy agencies support the European Commission in achieving Smart Sector Integration, a core element for the successful implementation of the European Green Deal”

22nd June 2021 (10.30-12.00 CET)

Chair: Philippe Masset, ADEME, France - EnR Presidency

Background and Motivation

Presenting the main highlights, conclusions and recommendations from the recently published [EnR report on Smart Sector Integration](#) (SSI). Discussing the **challenges** the European Commission might face in its journey to achieving a climate neutral economy by 2050, and identifying **opportunities** where the EnR could help address and resolve these challenges supporting the Commission in achieving the Green Deal objectives.

Session Objective

Present EnR's analysis of past and ongoing smart sector integration initiatives, including core challenges and opportunities and lessons learnt, and demonstrate how concerted efforts by energy agencies can help bring European policy initiatives to implementation.

Facilitate a discussion of energy agencies & policy makers about implementation challenges, around three selected strategies, and reflections by policy makers about how policymaking could respond to implementation lessons.

Session support

All presentations are available on the EnR website under the "[Members Area](#)".

1. Welcome and introduction

Philippe Masset, Director Europe and International Directorate, ADEME

Philippe welcomed all participants and highlighted the main purpose of the Roundtable: to present the main conclusions and recommendations from the EⁿR report on Smart Sector Integration (SSI), to engage in discussion with European Commission representatives, as well as to gain more insights into practical ways in which EⁿR could collaborate with the Commission in these areas.

Arnaud Leroy, EⁿR President (CEO, ADEME)

Arnaud highlighted that SSI is a core element of the European Green Deal. He emphasised the fact that energy agencies are key actors to help implement strategies at the national level. EⁿR & EC could find ways to tackle existing challenges together. Arnaud mentioned the important work accomplished by the network on preparing the SSI report with links to the Renovation Wave & Just Transition. This work was realised under the RVO 2020 Presidency with support from the Troika Plus and the network. SSI is already present in the energy transition strategies of all MS. Arnaud wished for this roundtable to be an open & fruitful discussion giving the opportunity to discuss and exchange ideas & to allow the EC to see the added value of EⁿR. He hoped to continue this cooperation in the future.

Nelson Lage, Chairman of the Board of Directors (ADENE)

Nelson stated that in this time of change and actions, the work of energy agencies is more important than ever to achieve the energy transition. He mentioned the main priorities of the Portuguese presidency of the

EU: achieving a resilient, social, green digital and global EU through five lines of action: climate action; circular economy, zero pollution; biodiversity and cross-cutting issues.

The Renovation Wave is a cornerstone of the recovery & resilience plans. Concerted actions are needed to accelerate the recovery of the economy, support rehabilitation of buildings, contribute to the improvement of energy efficiency and fight energy poverty. Nelson stressed other priorities of the Portuguese presidency, such as promoting a hydrogen debate at national & EU-level, maximising the potential of renewables, developing smart grids & storage, decentralising energy systems through the promotion of self-consumption of energy communities.

Karlis Goldstein, CAB Simson, European Commission

Karlis thanked EⁿR for organising this event, which brings the Commission and EⁿR closer together. Karlis pointed out the importance of discussing the challenges that the Commission and the energy sector participants might face on the way towards the carbon-neutral economy in 2050. Identifying opportunities is also of utmost importance. SSI has the potential to accelerate a green & digital transition and ensure market confidence. Karlis mentioned that SSI was sometimes compared to the “Achilles' heel” of the energy transition due to the complexity of policy & regulatory systems. In today's setting, we are the “shoemakers” who will allow Achilles, the EU Green Deal, to become stronger and reach its target in comfortable “sneakers”.

2. Round Table Discussion – Bert Stuij, RVO

Bert provided a short background to the discussion, introducing Smart Sector Integration and the recently published EnR report. He pointed out the importance to look for stronger connections between EⁿR & EC.

Presentation of main findings, conclusions and recommendations of the SSI report – Jacques Kimman, RVO

Jacques stressed that SSI is essential to achieve climate neutrality effectively, as it is a catalyst for the Renovation Wave & Just Transition. He drew attention to the challenge for implementing the Green Deal at the local level. It depends on local partners, but the findings show that local actors are not equipped for that yet.

There is a need for a multidirectional approach, both horizontally between sectors but also vertically between governments, producers & consumers (through the combination of top down & bottom up). It is becoming a priority for all countries & agencies. He mentioned the need for multiple instruments & cross-sectoral knowledge and networks, which come together within agencies. EⁿR agencies are able to adapt learning experiences to local conditions, in an independent way, to facilitate integration of energy systems.

To exchange knowledge & lessons learned, a series of additional workshops could be organised by EⁿR to dig deeper into subjects. For example, new business models are important to develop the commercial potential of energy transition, for which it is needed to blend subsidies and shift boundaries between public & private investments. It is necessary to include all parts of society, which is also important for a Just Transition. EⁿR advises and develops policy and business frameworks to rebalance mechanisms & investments for allocating benefits, losses & avoid costs. He outlined that SSI offers many opportunities to many parties and it makes the business case more interesting & increase public acceptance. However, with many parties, it is challenging to organise things, “there is no automatic mandate & coordination organised”. It is important to support pre-feasibility studies and to have a well-defined regulatory framework. We see many agencies creating regulatory sandboxes.

Examples of approaches to SSI taken by various agencies

1) Dena (Germany): Stakeholder engagement across sectors – Antonia Munz

Antonia shared Dena's views on opportunities & barriers to SSI. Opportunities are based on open communication. Dena is a national energy agency, which manages projects that share good practice models and link national experts and local opportunities and which maintains a dialogue with the EC.

She stressed the main obstacles Dena sees for SSI: lack of integrated view & integrated policies (many practitioners around the table); lack of know-how about other sectors; diverging data formats. Dena implements instruments to address those obstacles, including techno-economical-social models to facilitate stakeholder dialogue and enable new projects and conversations between mobility and property experts, digital innovation, renewables innovation.

Antonia highlighted the importance of a balanced mix of stakeholders with strong & diverse opinions that need to be brought together to ensure compromise. (De)centralised solutions have to be found depending on the nature of the problem. Joint research projects are conducted (e.g. with UNECE on a report focusing on Albania, Kazakhstan & Serbia to share best practices) and alliances are also formed.

2) Swedish Energy Agency: Strategy nodes to create sustainable energy systems – Thomas Björkman

Thomas painted a picture of SSI in Sweden. SEA encounters many of the same barriers as Dena in Germany, and regularly sees a lack of integrated view & counterproductive policies. SEA encounters many opportunities for cross-sectoral cooperation, and has developed its strategic nodes approach, in which it combines and renewable energy, industrial energy efficiency, heat exchange and local economic development at many locations in Sweden.

He presented 3 types of strategic nodes:

- a. Starting point in terms of energy from (an energy-intensive) industry
- b. Possibility to produce an excess amount of hydrogen from wind power
- c. Cooperation between building owners & energy companies

Thomas highlighted one strategic node, in Boden, with a community of 30.000 people. There is water & wind power production in the region, representing a large production of electricity. The challenge is that, in Sweden, most electricity production is in the north while consumption in the south. SEA has facilitated the development of this strategic node, and encouraged the development of a smart sector integration project which now includes making use of affordable electricity for a data centre; using the waste heat from this data centre to provide heat for food production (greenhouses, fish farming); and possibly using waste heat from a hydrogen plant.

Challenges remain in finding ways to cooperate, the need to create new business models; and the fact that Boden is a small community lacking the resources to prepare large project or funding proposal, such as applications for EU funding. Yet, smart sector integration also creates new opportunities. The production of green hydrogen, for example, brings new opportunities to attract green steel production as well as for energy storage.

3) IDAE (Spain): Blending efficiency, renewables, storage and demand management for a sustainable energy system – Miguel Rodrigo Gonzalo

According to Miguel, Spain is just starting to address SSI, which would be more relevant as volatility of electricity prices increases, and already shares the concerns on the lack of an integrated view. He emphasised the need to create a legal framework and supporting tools to allow greater flexibility in SSI.

He mentioned the energy efficiency first principle, which in Spain is supported by financing through the national EE fund (linked to art.7 of the EED). In this fund, IDAE uses funds reserved for energy efficiency (including renewable energy when final energy savings are achieved) to promote smart sector integration projects. Some Guidance of the European Commission on the interpretation of article 7, however, prevent a further integration and require a further review (e.g. consideration of photovoltaics). Miguel highlighted some elements to promote SSI:

- Electrification: Spanish NECP foresees 60 additional GW of renewable electricity in the period 2021-2030, mainly pv and wind power.

- Electrification of the heating and cooling sector: increased role of heat pumps. Importance of both heating and cooling.
- Electrification of the transport sector, Spain has a target of 5 million electric vehicles by 2030
- Energy storage is also very important, in front of the meter and behind the meter, however, support mechanisms are not yet in place. There are plans to introduce a support scheme to promote self-consumption of PV electricity & energy storage behind the meter. The Council of Ministers could agree to double the budget of 500M€ if there is sufficient demand for these facilities.
- Renewable gases are an important element of future energy system. These gases (e.g. renewable hydrogen and biogas) are important to decarbonise hard-to-electrify industries and fossil-H2 consuming sectors (e.g. refineries, fertilizer production). There is a roadmap for hydrogen and support for pilot projects. IDAE participates as shareholder in the first renewable H2 facility in Spain, that is being developed in an island (Mallorca). The business model for hydrogen production will need further attention though, as it is unclear if renewable hydrogen production can survive only on the use of excess renewable electricity.

Miguel emphasised the need to promote new actors and new business models, for example renewable energy communities and aggregators. A Spanish regulation defining rights and obligations, as well as relationships with other agents in the electricity sector would be necessary, complemented by support programmes so that they can compete with large entities. Aggregators will also become very important: demand response & storage should be made available to the all existing markets and potential new ones (e.g. flexibility markets at DSO level) *via* aggregators. Legislation on that point is being drafted. Finally, he pointed out that in the framework of the Spanish Recovery and Resilience Plan, a regulation on sandboxes is being elaborated, in order to allow legislation to catch up with technological developments.

4) Reflections by EC Representative & discussion

Pierre Loaec, Policy Officer, Renewables and Energy System Integration Policy, DG ENER (EC)

Pierre stressed the importance of the EC staying in close contact with energy agencies, as they have in-depth expertise and field experience important to the Commission. SSI has, to a large extent, a local dimension. Sector integration also gives an idea about how aspects of energy policy fit together.

He mentioned that the hydrogen strategy has a concrete influence on the way the EC looks at legislation and stressed that strategic nodes are a good concept to look at things as a whole & through overlaps. Mobility & electric vehicles is an exciting field that is in a learning phase.

Pierre identified different areas where the EC needs to make progress, with the help of EⁿR agencies:

- *Smart neighbourhoods*

How to integrate, in local contexts, local electricity demand with production and how to smartly mobilise new concepts, e.g., self-consumption, RE communities, storage use, to expand beyond a pure electricity view towards integration of electric vehicles, heat pumps in buildings ... including issues as managing flexibility in local contexts, reducing costs, co-benefits in terms of citizen engagement & acceptability, ...). There is a need for more projects on the ground.

- *Buildings*

Within smart neighbourhoods, think of buildings in an integrated manner, with better articulation of RE and EE policies; use of (deep) renovations for RE integration in buildings; include EV smart charging; smart buildings; district heating. Redesign of support schemes.

- *District heating (& waste heat)*

It is identified as one of the strategic nodes and considered as the best case for integration between sectors. Local resources, arbitration across energy carriers, technologies, all matter. The EC is looking for experiences with the mobilisation of waste heat for integration into district heating & industrial valorisation through injection into district heating.

- *Intersection between agriculture & energy*

Identify & mobilise resources (waste, residues) from the agricultural sector; integration of rural energy systems

- *Local energy planning (both for district heating & agriculture)*

Involve local authorities & local energy agencies in identifying and exploiting local resources to put the concept of circular energy systems into practice. National energy agencies could support local authorities.

- *Hydrogen (grey H₂, in transition towards cleaner forms)*

Hydrogen clusters (incl. industrial sector integration). Use the opportunity of greening H₂ to turn those areas into hydrogen ecosystems. National energy agencies could work to identify & develop clusters.

- *Regulatory sandboxes*

Attention to overregulation. This includes design of tariffs for distribution & transmission of various carriers (not only electricity, but also (bio)gas, hydrogen). How to regulate the transport and distribution of hydrogen and the intersection with existing networks – these are key infrastructure regulation issues for the EC in the coming months/years. Look at sandboxes for the design and refinement of support schemes. Rewarding of flexibility in a local context – how to procure or incentivise local flexibility (will also require sandboxes).

Pierre pointed out that national energy agencies are well placed to provide feedback on existing practices, experiments with regulation & use of sandboxes to help develop the necessary regulatory frameworks.

Q&A session:

- *At what point do you involve companies in stakeholder engagement?*

Antonia (dena): Stakeholders are involved as early as possible. Dena works closely with ministries, which helps to overcome the administrative barriers for start-up projects.

- *How do you organise regulatory sandboxes?*

Miguel (IDAE): Spain is starting discussions with the Ministry of Economy (that already financed sandboxes), so they want to work with them to develop energy sandboxes. They have an ongoing project on flexibility services at the DSO level aiming to use energy distributing resources to provide flexibility services to DSO to achieve a more efficient distribution system that buys services from new actors, instead of only investing in new facilities. This is a learning process and they will share their experience in due course.

Bert (RVO): The Netherlands experiment with producing & consuming electricity in the same hands, based on a certain sandbox formula.

- *Is there a bridge at local level with the strategic nodes? Are you able to mobilise resources from the EIB or European subsidies?*

Thomas (SEA): For the initial phase, trust and common strategies need to be created, otherwise it is difficult to cooperate with different stakeholders. Better support is needed. Stakeholders enjoy cooperating in the strategic nodes, because they can learn from each other. There have been some attempts to apply for funding, however, it remains difficult for local actors. Energy agencies could perhaps provide support.

- *How can we benefit from EC-EⁿR cooperation to reach SSI?*

Pierre (DG ENER): By sharing experiences on new legislation, by using opportunities of the LIFE programme, by helping to identify projects on the ground to use EU funds efficiently. Feedback from the ground is very useful to the EC.

5) Closing

Philippe highlighted how crucial the SSI topic is, especially the aspect of vertical & horizontal integration mentioned by Jacques. He pointed out that the diversity of experiences presented by the 3 agencies (dena, SEA, IDAE) shows how agencies are the intermediary body of choice, with knowledge of SSI on the

ground, to facilitate the sharing of views and expertise of different stakeholders, which can lead to coherent and effective projects that achieve a successful implementation of the Green Deal.

Philippe reiterated that EⁿR could organise additional workshops on the topics of interest to the Commission, mentioned by Pierre. The aim is to implement actions with the support of the EC in order to bring new points of view & new solutions to make European legislation evolve and facilitate SSI. Topics to consider include:

- smart neighbourhoods,
- buildings,
- district heating (& waste heat),
- hydrogen,
- agriculture.

Philippe also mentioned that EⁿR was carrying out two studies, on the Renovation Wave and on Industry Decarbonisation, in connection with SSI. The conclusions will be available by the end of the year.

The next steps are to propose concrete actions & themes for work between EⁿR & EC. Philippe thanked everyone for their participation and underlined that EⁿR was pleased to have had this dialogue with the EC.