BRIDGE General Assembly 2021

2-4 March 2021

Conclusions and next steps

Introduction

BRIDGE is a European Commission initiative that unites **Smart Grid**, **Energy Storage**, **Islands** and **Digitalisation** Projects to create a structured view of cross-cutting issues. BRIDGE is organised along four working groups; namely **Data management**, **Regulation**, **Business models** and **Consumer and Citizens engagement**, that report on the results of their work and decide on what topics to collaborate the incoming year(s) at the annual BRIDGE General Assembly. The most recent **Assembly** took place online on 2-4 March 2021.

The objective of these annual meetings is to create a better understanding of the BRIDGE projects, learn more about projects results and help to establish closer **cooperation** for **European best practice standards**. BRIDGE also aims to **stimulate structured dialogues** between regulators, authorities and innovation projects on smart grids and energy storage, as well as **facilitate the uptake of technologies** in the framework of the energy sector in the Green Deal.

The Assembly was very well attended, with over **200 people in the plenary** and around **70** participants at the various parallel sessions that represented **59 projects**. This year, on top of the traditional presentation of **new projects (23)** and lessons learned from the finished ones (3), we looked into bringing closer together communities relevant to the Energy R&I. We had presentations from the **ETIP SNET**, **Low TRL energy project cluster**, and two new partnerships expected to be launched as part of Horizon Europe, namely the **Clean Energy Transition Partnership** and the **2ZERO Partnership**.

The sessions covered the work of the 4 working groups that BRIDGE has. Namely, **Data Management**, **Regulation**, **Consumer and Citizen engagement** and **Business models**, as well as results of the Task Forces **R&I priorities**, **Replicability and Scalability**, **Energy communities and self-consumption**, and **Joint Communication.** In preparation of future work, we also held sessions around **electric vehicles and flexible charging**, **Direct Current technologies** and **Islands** as locomotives of the energy transition.

All presentations are available here → contact secretariat@h2020-BRIDGE.eu to request access.

This year's GA emphasized that technologies, and technology development, are crucial to achieve our **Green Deal** objectives. Our energy system needs to change, the technologies we use need to evolve and some of the technologies we need are not available at a cost-competitive level yet.

On the policy side, it made the link to the EU strategy on energy system integration, the EU strategy on offshore renewable energy and the Digitalisation of Energy Action Plan the European Union is developing as part of the Energy System Integration Strategy. Representatives of DG ENER invited all participants to be even more conscious than usual of what is happening at the policy level since it will impact their work for years to come and makes any feedback from BRIDGE even more valuable.

Despite the Covid-19 crisis and the difficulties this brought to working conditions and meetings, the projects individually and the Working Groups and Task Forces collectively have **shown great resilience and flexibility** and delivered on most the planned outcomes (see below for more details).

These are great achievements that have been possible thanks to the dedication and hard work of the research community; from the **European Commission** we would like to thank everybody involved in this effort.

Main conclusions and next steps

With BRIDGE running for more than five years now, we can consider it as a well stablished and successful organisation that is attracting an ever-increasing interest.

With respect to the general organisation of BRIDGE:

1. BRIDGE can only work if the projects participate in its activities, and therefore the INEA Project Officers and the BRIDGE Secretariat will take steps to make it easier for projects to participate in BRIDGE and report about it.
2. Opening of the BRIDGE General Assembly to participation of other initiatives, external projects, and platforms such as the **ETIP SNET**, the **Low TRL energy project cluster**, the **Clean Energy Transition** and the **2ZERO Partnerships**, is important to strengthen the sharing of experiences and identify of potential synergies. The European Commission and the BRIDGE secretariat will therefore continue to **involve external stakeholders,** in a flexible manner, to define common priority topics, synchronise efforts and optimise the global use of resources to achieve a sustainable energy transition.
3. Sharing data, experiences, working methods and best practices were highlighted as an important added value of BRIDGE in many sessions, but ways to make this easy deserve extra attention as projects and persons involved in BRIDGE expand. The Commission (JRC and ENER), with PANTERA H2020 project, ETIP SNET and the BRIDGE, are working together to create a *Knowledge Management and Sharing Platform* (EIRIE platform) as a first step, but a continuous improvement and further discussion on how to optimise and make it useful for all projects will be necessary.

With respect to the individual sessions:

1. To ensure structured cooperation on **grid integration of electric vehicles**, the BRIDGE Secretariat will take contact with the 2ZERO secretariat once the partnership is established.
2. The **Regulatory working group will take contact with all member projects in the coming weeks** to request feedback, in particular on interest in and contribution to the topics to be addressed in 2021, the work plan, and the contact point(s);
3. The Data Management working group will in 2021:
    a. Create a **user-group to enhance the contribution of BRIDGE to the development of standards**, in particular by liaising with the Standard Development Organisations (SDOs), and by enhancing the reference framework for standards to use in projects (including through a catalogue of standards);
    b. Improve and adapt the **cross-sector** element of the **European data exchange reference architecture** for practical implementation;
    c. Implement and test the reference architecture by means of **Minimum Viable Product**(s) (MVP) across multiple BRIDGE projects;
4. The **Consumer and citizen engagement working group will kick off its work**, based on the agreed priority topics, in a meeting **on 15 April 2021**;

5. The **Clean Energy for EU Islands secretariat** will invite the Island projects of BRIDGE to its meetings to exploit synergies, and with support from the BRIDGE Secretariat **meeting(s) with the chairs of the BRIDGE WGs** will be set up to see how the different WGs can take into account issues specific to islands, without losing the focus of the WGs;
6. With a view to **develop the knowledge and exchange on DC grids** further, relevant **BRIDGE projects are invited to provide feedback by end of April**, in particular to express their interest, propose topics for the agenda, provide evidence on the potential and benefits as well as on the barriers and standardisation needs;
7. Based on a wide support to take up an active role again, the **Business Models WG asks for volunteers by end of March** (chairs, vice chairs, and potential co-leaders), that will propose a work programme for the next 12 months to the involved projects;

The Commission will aim to provide an update of the work plans and next steps by May 2021 to the BRIDGE Community, following feedback on the first steps as identified above that are due for March and April 2021.

Parallel Sessions

Focus Topic Session – EV ENERGY FLEXIBILITY

The moderator of the EV Energy Flexibility session Cristobal Irazoqui, policy officer from DG ENER Innovation, Research, Digitalisation, Competitiveness presented the conclusions of this discussion.

The session displayed some ongoing relevant H2020 research projects from the energy & mobility areas, presented the 2ZERO Partnership and together with the policy angle opened a debate to identify areas, topics and use cases where collaboration can be expanded; be it among projects and among the 2ZERO partnership and the BRIDGE projects, in topics such as interoperability, data sharing, regulation or consumer engagement.

Conclusions

- Smart charging and V2G can bring gains and additional flexibility and increase share from renewables. Flexibility is crucial to stabilize electricity system and prices;
- Avoid divergencies in the work of the Energy & Mobility research projects and the 2ZERO partnership and try to converge where overlapping exists;
- Tools are being provided for consumers, aggregators, mobility service providers or system operators to manage this flexibility. At the same time tools are being developed for city planners to decide on the charging infrastructure;
- There is a need to go beyond technical approaches only and seriously consider the social engagement; ecosystems need to be created where users of electric vehicles are willing to participate;
- Specific cases like electric buses are very important and their specificities need to consider. More power needed, faster charging required and charging requirements are often 24/24;
- Consider the home environment as well, in particular electricity supply from vehicle to home and vehicle to small buildings;

The following technical barriers were identified:

- insufficient standard interoperability;
- Insufficient deployment of smart charging infrastructure;
- Communication standards for real time charging information;

The following regulatory barriers were identified:

- Double taxation V2G services;
- Lack of dynamic pricing schemes;
- Electricity network tariff design;

Next steps

The different working groups will address the relevant issues as identified above in their work. The extent to which this is included in the activities of 2021 is detailed in every working group.

Collaboration between 2ZERO and BRIDGE on topics will be specified once 2ZERO is up and running, and the BRIDGE Secretariat will take contact with the 2ZERO secretariat to follow this up.

Parallel Session 1 – REGULATION WG

The Chairs of the Regulation WG, Helena Gerard (VITO) and Manolo Serrano (ETRA) presented the results achieved within 2020 and a proposal for work plan for 2021.

Conclusions

In 2020, substantial work has been realized related to 1) The Harmonized Electricity Role Model, 2) The Demo ID-Cards, 3) Products, services, coordination models and market design.

- The action on the HERM is closed, the other actions will continue to be part of the work plan in 2021.

Several new topics, in the scope of new projects entering BRIDGE, were proposed during the session and added to the work plan. Topics proposed were:

- Network planning, energy islands;
- Geographical islands;
- System security;
- Dynamic pricing of system services;
- Service provision by E-mobility;
- Service provision by energy communities;
- Sector integration;

In addition, a new way of working has been proposed, i.e., dynamic knowledge sharing, where several workshops will be organized in the coming year to discuss topics of relevance for multiple projects and the EC.

In this context a workplan for 2021 is presented, consisting of 4 tracks:

- Products and Services;
- Cross-border and Regional Cooperation;
- Flexibility Mechanisms;
- Flexibility Markets;

The relevancy of the proposed tracks has been illustrated by presentations from four projects: INTERRFACE, CROSSBOW, EUniversal and EU-Sysflex.

Within each track, topics are proposed that will form the basis of the knowledge sharing, leading to recommendations at the end of 2021.

Next steps

In the coming weeks, projects part of the Regulator WG, will be contacted to:

- Identify interest by the projects for different topics;
- Provide feedback on the proposed work plan – are all relevant topics included;
- Provide the relevant contact for the upcoming work plan;
- Specify for which topics the project will generate output in 2021;

Establish with the EIRIE knowledge sharing platform (hosted by the JRC) a roadmap for the continuation of ID card Repository.

Establish with the BRIDGE support team the mechanisms for a Dynamic Knowledge Sharing round of webinars.

Parallel session 2 DATA MANAGEMENT WG

2.1: Data Management (2nd March)

The moderators of the Data Management WG 1/2 session, Lola Alacreu (ETRA) and Olivier Genest (TRIALOG) presented the results achieved within 2020 and discussed on the work plan for 2021.

Conclusions

BRIDGE REPOSITORY

Five main benefits have been identified:

- To simplify and homogenise the definition of use cases for users with different background;
- To provide an overall view of all the projects Use cases in a simple format;
- To provide data set with detailed information for cross-project analysis;
- To identify similarities between projects;
- To reuse existing use-cases and solutions from past/on-going projects;

The BRIDGE repository should host:

- **Use-cases description**, based on IEC 62559 (based on libraries, roles model and/or frameworks to harmonize the description of the use-cases);
- **Role models** (in cooperation with Regulation WG, including other energy vectors such as heat, gas, …);
- **Description** of used solutions/standards:
    - Standards usage (where, what for, how it went);
    - Gaps (i.e., missing solutions/standards or missing features);
    - Extensions (incl. CIM profiles, …

The BRIDGE repository will be hosted within the EIRIE knowledge sharing platform (hosted by the JRC) and will host BRIDGE content together with other content (ETIP SNET, …). It should be dynamic and

interactive, and ideally support automated post-processing of the provided data to update the outputs.

The BRIDGE repository will be managed by SPRING (the tender providing among other secretariat of BRIDGE) and hosted by the JRC. It will be open to external stakeholder.

MANAGEMENT OF THE CONTRIBUTIONS FROM BRIDGE PROJECTS TO STANDARDISATION

BRIDGE builds a collective knowledge, at system level, including outcomes such as a **catalogue of standards** (existing solutions, identified gaps, …), **practices related to standards** (feedback, recommendations, proposed extensions, …), and possibly the feedback from the industrialization following finished projects.

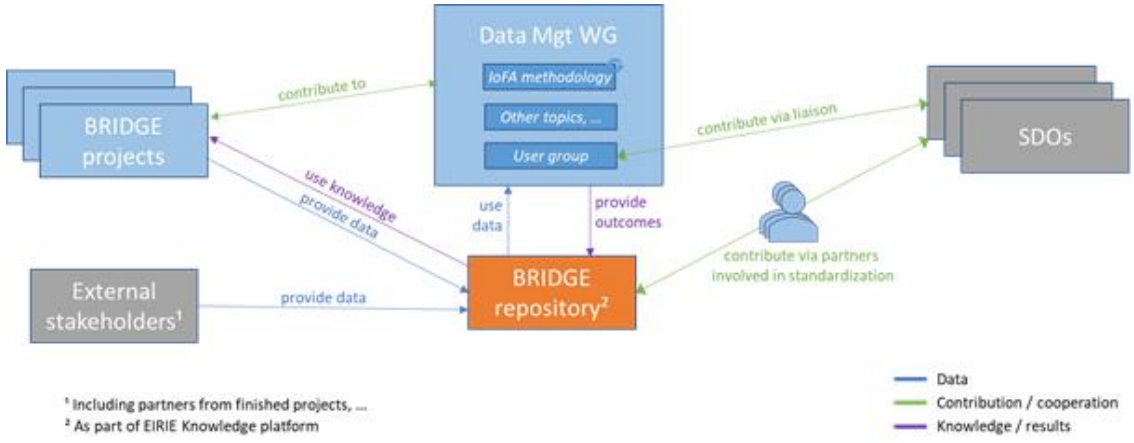
A user-group will be created:

- Scope to be defined: CIM at minimum, possibly "Smart Energy Standards" in general;
- Its purpose is to train, share knowledge and provide support on the use of specific standards (e.g., CIM), and collect feedback and proposed modifications;
- It will be hosted within BRIDGE and might be migrated outside BRIDGE in a 2nd step;

BRIDGE will contribute to standardisation:

- Based on BRIDGE collective knowledge (see above);
- Contributions will be pushed (1) through projects' partners involved in standardization; (2) through a user group with official liaison with the standardization committees;
- Note: Some SDOs may also provide draft standards to R&I projects for free – the purpose for SDOs is to collect implementation feedback during the early phases of the standards development process;

The diagrams below describe the interactions between the Data Mgt WG, the BRIDGE repository and the SDOs:



Next steps

Three actions will be launched/continued in 2021:

1) BRIDGE repository:

- Define the requirements: content, inputs/outputs, links between data, processing, etc;
- Set-up the BRIDGE repository in the EIRIE knowledge sharing platform;
- Collect content from BRIDGE projects;

2) Interoperability of flexibility assets:

- Enhance the reference framework based on use-cases from additional projects;
- Apply the methodology to additional projects and generate updated outcomes (catalogue of standards, …);

3) User group & liaison with SDOs:

- Collect relevant contributions from projects to standardisation bodies;
- Set-up a process to push these contributions to SDOs;
    - Based on partners involved in standardisation committees;
    - Based on a user group with official liaison;

2.2: Data Management (3rd March)

The moderator of the Data Management WG 2/2 session, Kalle Kukk (ELERING) presented the results achieved within 2020 and the conclusions of the discussion on the work plan for 2021.

Conclusions

Conclusions related to further improvement of reference architecture:

- Understand in more detail what is sector-specific vs. cross-sector;
- Understand and describe the correspondence between SGAM and other reference architectures (like IoT RA);
- Make sure that besides platform-based approach other communication options and open standards are addressed;

Conclusions related to the most relevant aspects for cross-sector interoperability:

- Identify the common building blocks that we can promote to standardisation – starting with vocabulary;
- Near-real-time and beyond the 'main meter' data availability (like data from EV charging point, also EVs themselves …);
- Data ownership and data access;
- Cross-sector communication standards and APIs (e.g., TSO/DSO2EV vs EV2Customer);

Conclusions related to links with other BRIDGE activities and external parties:

- Identify how to reach out to gas, heating, cooling research groups and launch the work. A common role model has been mentioned but could also concern definition of common data

business processes, common data exchange functionalities, common canonical information model, common data semantics/profiles;
- Similar should concern non-energy sectors – buildings, health, transport;
- Identify the needs of islands' projects;

Next steps

Actions for BRIDGE Data Management WG in 2021/2022:

- Improve and adapt cross-sector element for European data exchange reference architecture for practical implementation – agnostic to specific technologies and business processes, link to other reference architectures and standards;
- By means of MVP (minimum viable product) implement reference architecture based on the recommendations given in the report. Between interested BRIDGE projects – this assumes agreement from at least 2-3 projects willing to participate in such MVP. Best candidates for MVP would be projects which focus on data exchange anyway, specifically across sectors and country borders;

    - *Already volunteering: Platone, OneNet, BD4NRG, ebalance-plus;*
    - *Ensure cross-sector element;*

Parallel Session 3 – CONSUMER & CITIZEN ENGAGEMENT WG

The moderator and chairman of the Consumer and Citizen Engagement WG, Stanislas d'Herbemont (REScoop), presented the results achieved within 2020 and the conclusions of the parallel session.

Conclusions

The Working Group on Citizen and Consumer Engagement will continue the work that was started in 2020. The working group will focus on the exploration of engagement strategies and techniques for European R&I project. The Working Group will tackle the following gaps during the year 2021 and until the General Assembly in 2022:

- The socio-Economic drivers subgroup focusing on the identification of key environmental drivers to build engagement strategies for projects;
- The group building subgroup is working on methods to support the creation of consumer groups and the structuring of group dynamics;
- The governance subgroup is looking a organisational forms and governance principles for citizen-led organisations;
- The assessment subgroup is looking at the indicators to assess the growth and maturation of citizen-led initiatives;
- The smart tools subgroup is supporting the analysis and collection of tools being developed by projects with the goal of interacting for consumers and citizens;

The working group will focus on the activation of consumer through collective action. Specifically, it will be looking at the methodologies to empower consumers in order to motivate their actions through European R&I project, and therefore create long term impact. The WG considers energy citizens, as consumers that are taking an active role in the energy market through collective action.

The Working Group will act as a collaboration and exchange platform for BRIDGE projects, looking to pool together experiences and evidence relating to the engagement of citizens in research projects.

Citizen and consumer engagement is still a topic lacking evidence and experiences in the BRIDGE initiative projects, and therefore should reinforced with the support of other stakeholder groups.

Next steps

- A first key request of the session participants was to improve the direct information and engagement flow with BRIDGE projects:
    - The working group will work on more direct communication channels between projects (webinar, communication platform);

- A second key request from participants was the pooling of resources from BRIDGE projects on the topic of engagement: both on indicators to assess engagement and on experiences of engagement developed by the project pilots:
    - Therefore, the working group will work to create repositories related to the work of the subgroup: strategies of engagement, pilot legal forms, engagement indicator pool, smart tools repository;

- A third key request of the participants was a support on the integration of social justice topics into the engagement strategies for R&I project: inclusivity criteria and diversity criteria:
    - The working group will specifically seek the support of projects and stakeholders outside BRIDGE to find evidence related to those topics;

The Working group will kick off its action plan for 2021 on the 15th of April 2021.

Parallel Session 4 – UNLOCKING THE POTENTIAL OF EU ISLANDS TO BECOME THE LOCOMOTIVES OF EUROPEAN ENERGY TRANSITION

Giulia Serra, Policy Officer from DG ENER Innovation, Research, Digitalisation, Competitiveness presented the conclusions of this discussion.

Conclusions

The parallel session gathered together European Commission services (e.g. DG ENER, DG RTD, DG REGIO), the Clean Energy for EU Islands Secretariat, the EU Islands facility NESOI, several H2020 Islands projects and BRDIGE WG representatives, to discuss on how to support EU islands in achieving the EU climate and energy targets while becoming the front-runners of the Clean Energy Transition.

The participants discussed about 2 main topics leading to the identification of several priorities and challenges to be overcome:

On how to advance the clean energy transition on the EU Islands: a renewable future for Islands communities, priorities identified were:

- Creating of a EU network for islands including EU institutions, National and Local authorities, EU Islands projects, key stakeholders, in order to broadly support Islands being at different stages of the Energy and to facilitate data and information sharing, thus avoiding duplication and stimulating replicability solutions;
- Identifying barriers that islands face in effectively access EU funds - with a particular focus on small Islands - thus ensuring a dynamic dialogue and exchange of information between Islands building on existing projects and local communities feedbacks;
- Developing a pipeline of bankable clean energy projects on islands that results in a quantifiable impact on the decarbonisation of energy systems on EU islands;
- Understanding how EU Actions under the Green Deal (e.g., strategies adopted in 2020 and to be implemented such as the Energy System Integration Strategy, the Hydrogen Strategy, the Offshore strategy…) can be translated into concrete and opportunities targeting EU islands;
- Raising awareness on existing complementarities between existing platforms, activities, and projects (e.g., the Clean Energy for EU Islands Secretariat and NESOI);

On how to Integrate Local Renewables and Carbon-Free Islands Energy Systems, Islands projects presented lesson learned, opportunities and challenges. Main recommendations identified were:

ENERGY ISLANDS PROJECTS (INTEGRATED LOCAL ENERGY SYSTEM) - MERLON, MUSE GRIDS, RENAISSANCE, COMPILE:

- Enhancing the uptake of digital solutions to favour the development a more integrate, secure, transparent and sustainable energy system for islands;
- Working towards a unified and more concrete regulatory framework for energy communities.
- Increasing the economic benefits of setting up an energy community, both decreasing investment risks and fostering adequate remuneration;
- Breaking the social, behavioural and security misconception related barriers to achieve better acceptance and engagement of end users in energy communities;
- Promoting the creation of Local Energy Communities that facilitates the aggregation (and management) of energy resources and consumption, through co-creation with all stakeholders;

GEOGRAPHICAL ISLANDS PROJECTS - SMILE, INSULAE, ISLANDER:

- Establishing a clear participatory process for the stakeholders and consolidating synergies among projects (through BRIDGE and other common events);
- ii) developing tools for energy Islands strategies and planning and in order to support thoughtful, worthwhile investments;
- Stimulating a closer dialogue between all the actors operating on islands and along the entire energy value chain;
- Extending the knowledge from islands to other scenarios (cross-sector knowledge sharing).
- Involving DSOs, along with regulators since the early stage of the projects;

HYDROGEN IN EU ISLANDS (FUEL CELLS AND HYDROGEN JOINT UNDERTAKING):

- Increasing EU Islands communities' awareness on opportunities for and impact of hydrogen technologies deployment to contribute to effective and efficient achievement of the climate and energy targets of the EU and its Member States.

Next steps

Most of the challenges islands are facing in their energy transition journey can be defined as cross-cutting and cross-sectorial challenges (e.g. data access and data interoperability between projects and along the value chain, continuous capacity building & experience sharing, common repository replicability and scalability solutions to push forward the innovation agenda while avoiding duplication, a clear regulatory framework for energy communities, …). The majority of them are among the main discussion points of the already existing BRIDGE WGs.

Secondly, priorities listed above are among the main challenges the Clean Energy for EU Islands secretariat aims at overcoming with its activities, and synergies in cooperation between Island projects involved in BRIDGE and the Clean Energy for EU Islands secretariat need to be exploited.

In particular, the interaction between the initiatives would help the EU islands secretariat in achieving its objectives while also addressing specific challenges in the BRIDGE WGs agenda (e.g., increasing the engagement rate by creating a common space, a common repository and a dynamic dialogues; addressing policy and regulatory barriers to clean energy transition through a co-creation approach, pushing forward the clean energy innovation agenda).

This will be organised as follows:

- With the support of the BRIDGE secretariat, one or more meetings will be set up between the Clean Energy for EU Islands secretariat and BRIDGE WGs chairs, in the coming weeks, to discuss how the challenges related to specificities of EU Islands can be included in the WG activities and how to structure future collaboration, while ensuring that the WGs focus on their main tasks;

- The BRIDGE projects on Islands will be invited to the forthcoming events organised by the clean energy for EU islands secretariat;

Parallel Session 5 – INNOVATION AND APPLICATION OF DIRECT CURRENT TECHNOLOGIES

Mario Dionisio, from DG ENER Innovation, Research, Digitalisation, Competitiveness presented the conclusions of this discussion.

Conclusions

On the generation side, many assets generate directly in DC or need a single DC/AC or double conversion AC/DC/AC to satisfy the AC grid requisites (PV, fuel cells, batteries, wind turbines, etc.). Similarly, many loads are DC-based or need the conversion AC/DC for functioning (electrolyser, batteries, super capacitors, consumer and home electronic devices, etc.).

DC can provide more flexibility for grid management and can provide services to the AC grid to which it is connected. Therefore, the increased efficiency obtained using DC grids is due to:

- The removal of double conversion AC/DC/AC or singe conversion AC/DC;
- The higher flexibility that DC provide (e.g., in data centres, 8 – 11% increased efficiency can be achieved);

Power Electronics (PE) is a key enabling technology. It is present at all voltage levels and, for each, with its peculiar characteristics. PE is one of the main elements at the basis of the development of the converters and renewables. Wide band gap-based power electronics (SiC, GaN) allow better conversion efficiencies, higher switching frequency and reduction of losses.

The potentialities of DC grids need to be addressed:

- At design phase of new power systems, indifferently, standalone or interconnected with the AC grid;
- In retrofitting AC lines to DC, which can bring benefits when, for example, replacing AC congested lines;

Standardisation (standard voltage level, protections, safety aspects, etc.) is a barrier for the rollout of DC technologies (e.g., without a standard voltage, any voltage can be used and their interconnection is possible through DC/DC converters. Representing an added cost, this does not play in favour of the penetration of DC technologies). In the same way, the certification of DC components could support the DC technology rollout.

Other relevant points emerged:

- The collaboration between BRIDGE MVDC projects can provide more input for R&I&D needs for MVDC. On the basis of their entity, to identify the possible funding instruments (HE,…);
- More R&D&I is needed on MVDC, LVDC solutions to reduce costs, to prove the technology, to demonstrate its reliability and give confidence to the relevant stakeholders;
- There is the need to have evidence with more use cases / potential cases of MVDC retrofitting for current MVAC with CBA. A study for this could provide more elements;
- Identified the need of a study for modelling and simulation of the impact of DC micro grids integrated in the existing AC system and CBA;
- Idem for DC homes: study on existing and potential application (loss reduction, increased efficiency etc.) and CBA;
- More R&I&D on PE for MVDC – LVDC to increase efficiency, reduce cost and enable higher penetration of MVDC – LVDC;
- To look at how to disseminate and raise awareness on DC technologies and Power Electronics at EU level involving the education as well as the enterprise sectors;

Next steps

The many aspects of DC technologies MVDC – LVDC could not fit into a two-hour session of the BRIDGE Assembly and therefore, more input is needed to define the way forward.

Participants in the session are invited to contribute identifying and reporting potentialities and blocking elements and to make suggestions for the penetration and development of DC technologies at Medium and Low Voltage levels (timeline ~ by end of April).

The Commission expects feedback from projects to:

- express their interest to continue working on the DC Technologies topic;
- define the agenda for the next steps on DC Technologies;
- provide evidence from projects that indicate the potential and benefits of DC grids;
- the barriers and standardisation needs identified;

Based on the inputs collected from the actions above, the Commission will consider how to take the DC Technologies topic forward. If concrete supporting elements emerge, a workshop on MVDC, LVDC distribution grids, DC microgrids, DC homes could be envisaged to be organised in 2021.

Parallel Session 6 – BUSINESS MODELS WG

The Business Models Working Group (BM WG) has been inactive since mid-2019, as the main activities were completed. Some of the outstanding topics were addressed by specific newly established Task Forces. However, business model definition and investigation is posed as a requirement in H2020 and HE calls.

With the growing number of new BRIDGE projects addressing the business-, economic- and general value-oriented aspects of the services and activities pursued, virtually all BRIDGE projects work on these issues. Reactivation of the BM WG could leverage on work already done in BRIDGE projects and focus on common BM challenges and synergies among BRIDGE projects. A strong BM WG could efficiently support their efforts and also serve to create additional value to the decision makers on all levels.

Therefore, the need of re-activating the BM WG was identified. Ahead of the BRIDGE GM in March 2021, the BM WG parallel session raised a high interest (75 registered participants), with many of the new BRIDGE projects (22) indicated the need for this specific WG.

Conclusions

During the BRIDGE GM, it was clear that the moment to restart BM WG is right, as the presenters highlighted many sources of ideas for BM activities. In addition to TF "Future R&I Priorities" which identified several topics in the BM field, there were several new and established BRIDGE projects presenting their work (e.g., CROSSBOW, TRINITY, SYNERGY, COORDINET, MERLON, RENAISSANCE, ACCEPT, BRIGHT/BD4NRG), as well as the Discussion panel at BM WG meeting.

The overall conclusion was that work is needed on:

- Business models related to Demand Response (DR) and DR aggregation, as well as Local energy markets and prosumers;
- Services enabling and supporting sector integration (power to X, EV mobility), where special attention should be paid to market design with multi-energy vectors (power2x, mobility, heating & cooling), multi-value chains within a single sector and cross-sector integration;
- Flexibility remuneration schemes, focussing on Ancillary Services (AS), storage, and DR;
- Tariff schemes to attract prosumers and all types of self-supply (individual, collective, and community);

Some of the ideas to focus on in the BM WG include:

- Design of tools to evaluate the benefit/value of the services/solutions developed in the project activities, including design of new, more tailored tools to build BM is needed (BM canvass, radar…). For this purpose, the baseline scenarios need to be defined for comparison of services/solutions, since if the benefit of solutions and their alternatives (e.g. flexibility services vs. grid reinforcement) cannot be quantified, it cannot be properly remunerated;
- Design of cooperation models for sharing of common goods. These models should emphasize cooperation over competition (e.g., Synergetic BM that focus on synergies instead on competition);
- Definition of BM to also address social benefits beyond financial value, including sharing economy principles and servitisation – provision of services over direct ownership of equipment. For consumers, this could increase social welfare and cohesion, reducing energy poverty;
- Design of BM to better include data value chain integration and data monetization, where with better observability, additional social benefit is created;

- Improvement of understanding of risk vs. value in cooperation of regulated (TSO, DSO) and market actors in the energy field. One example is promotion of regulatory sandbox, where the payees and the level of the learning costs have to be balanced with the bearers and the level of the associated risk;
- Design of BM for provision of security of supply during emergency conditions, where in addition to customer convenience also benefits involving national security are accounted for;
- Investigation of relationship of Use Cases (UC) and cross-domain Business Models, where BM could be nested inside the value chain segments described by UCs, and their impact is analysed via KPIs. Here, concrete results from projects would be highlighted and used in benchmarking (e.g. examples of benefits);
- In the activities, close cooperation and interaction with other BRIDGE WGs (especially Regulatory WG and Data Management WG) and ETIP-SNET should also be sought to avoid duplication and optimize overall activities;

Next steps

During March 2021, the activities will include:

- Recruitment of volunteers for Chair, Vice Chairs and potential topic leaders for the WG;
- Organization of a focused BM WG meeting between the topic leaders and Vice Chairs;
- Continued selection of the priority topics and challenges to address the definition of the work program for the next 12 months;