



CROSSBOW Regulatory and Market Framework 29 May 2018



BRIDGE

Regulations Working Group

29 May 2018

The BRIDGE initiative



Launched by the European Commission in 2014

Gathers H2020 smart grid and energy storage projects to create a structured view of cross-cutting issues that may constitute an obstacle to innovation



Projects participate in BRIDGE during their lifetime: new projects in and older projects out each year

4 Working Groups so far

Data management

Business Models

Regulations

Customer engagement

Tasks allocation within the WGs

Data
management

Business
Models

Regulations

Customer
engagement



WG members

- Active participation within the WG
- Providing feedback (results related to the WG)
- Contributing with the WG report elaboration and the WG further steps/decisions



WG Chair(s)

- Gathering members inputs/feedback
- Reporting internally within the WG and externally to other WGs and the EC
- Delivering high quality reports within agreed deadlines
- Proposing further steps/actions



WG Rapporteur



EC representatives

- Providing guidance to the WG
- Assessment of the WG outputs and results
- Providing feedback to the WG about the EC's goals and requirements

+ Support from Intensys4EU team



- Assistance in reports/outputs elaboration
- Ensuring the collective exchanges within the WG
- Facilitating the exchanges within the WG, other WGs and EC
- Meetings: logistics, minutes, newsletters, etc.
- Proposing further steps/actions
- Inputting new R&I topics in the ETIP SNET roadmap



BRIDGE Regulations Working Group



Regulations

- As regards **energy storage**, the regulatory framework needs to provide clear rules and responsibilities concerning ownership, competition, technical modalities and financial conditions, for island and mainland cases
- In terms of **smart grids**, regulatory challenges arise regarding the incentives for demand-side response, commercial arrangements, smart meter data, etc.



BRIDGE Regulations Working Group

WG Chair



Takis Ktenidis
(TILOS)

WG Rapporteurs



Mihai PAUN
(RE-SERVE & WiseGRID)



**Aris Evangelos
Dimeas** (Nobel Grid)

EC representative



Aleksandra Kronberga
(DG ENER)

Support team



**Sophie Dourlens-
Quaranta** (TECHNOFI)

BRIDGE WG REG members & today's participants



Manuel Serrano



Jonathan Radcliffe



Odile Garçon



FLEXICIENCY



flexitranstore



Zoran Marinsek



Ricardo Prata



Tracey Crosbie



Thorsten Gross
Gregory Jarry



Pol Olivella-Russel



Hannes Munzel
Torsten Rendel



Grietus Mulder



Aris Dimeas
Evangelos Karfopoulos



Benjamin Böcker
Marco Schüdel
Manuel Villavencio



Mihai Paun



Ricardo André



Helena Gerard
Enrique River



Romain Mauger



Gijs Kreeft



Egon Troch
Andreas Tuerk



Takis Ktenidis



Catalin Chimirel
Evangelos Karfopoulos
Mihai Paun



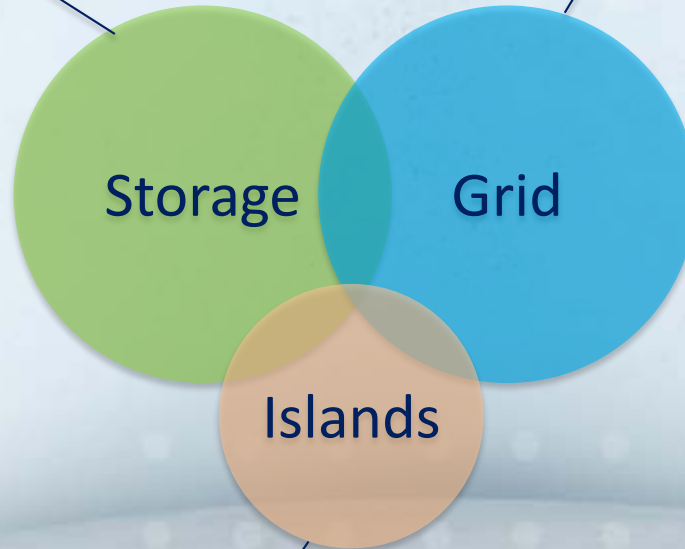
How we have worked so far

- **Initial stage – BRIDGE was ‘smaller’**
 - Each Working Group delivered a draft, extensive report with interesting contents brought by each project
 - Some drawbacks now:
 - Difficulty to work with 20+ projects on a single report
 - Difficulty to update it due to the changing membership (projects in and out every year)
 - Difficulty to summarize the main messages towards policy makers
- **From November 2017 (our latest meeting)**
 - Work is organised in smaller subgroups able to quickly deliver concise recommendations on specific issues
 - One drawback still: loss of joint, systemic vision...

Regulatory issues identified (Nov 2017 meeting)

Issue 1 Storage valorisation
Issues 2 & 7 Safety
Issue 4 Peer to peer
Issue 5 Definition & Ownership
Issue 8 Guaranty and warranty
Issue 9 Environmental issues

STORY, Store&Go, CryoHub, INVADE, EMPOWER SMILE



Issue 3 Network codes
Issue 6 Multiple services
Issue 11 Smart meters protocols
Issue 12 TSO/DSO interactions
Issue 13 DSO new services
Issue 14 Dynamic prices for flexibility
New issue: Market concepts to provide new services

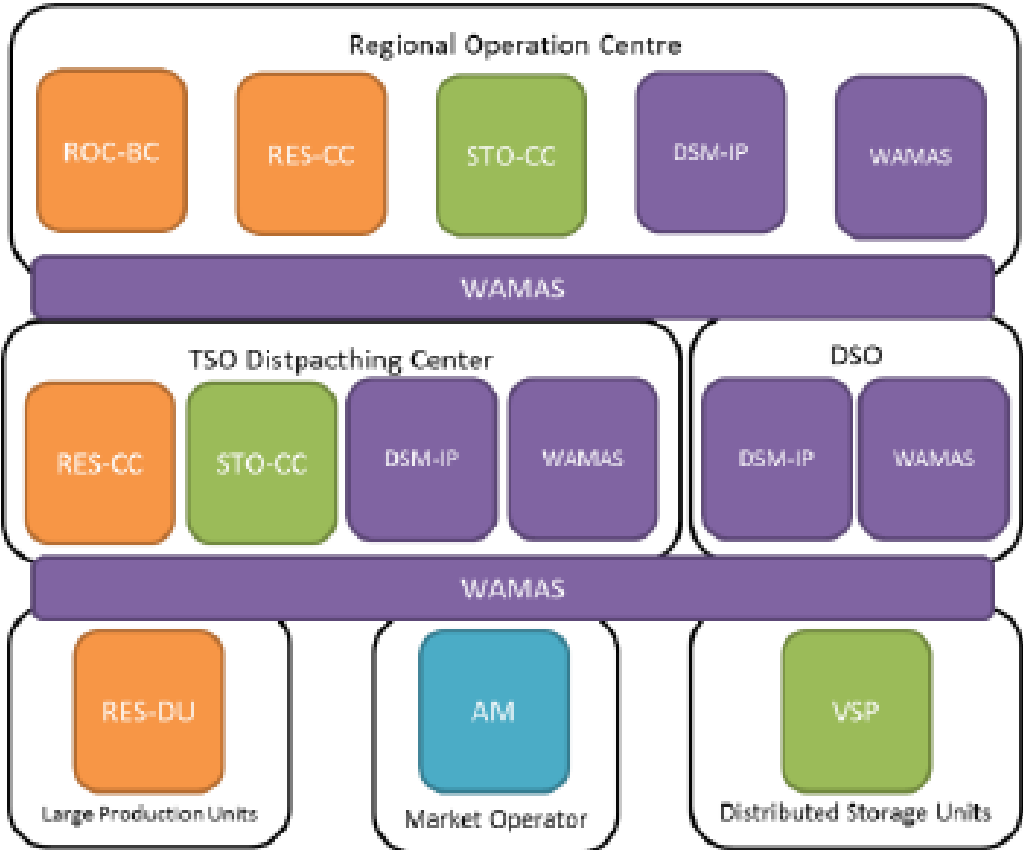
SMARTNET, Interflex, GOFLEX, inteGRID, Nobel Grid, WiseGrid, INTEGRIDy, MIGRATE, RESERVE

Issue 10 Pilot demonstrator
New issue: Islands

SMILE, TILOS, WiseGrid, INTEGRIDy



CROSS BOrder management of variable renewable energies and storage units enabling a transnational Wholesale market



Technologies and services

	Technologies for consumers	
	Grid technologies	<ul style="list-style-type: none"> ✓ Network management tools ✓ Demand response
	Large-scale storage technologies	<ul style="list-style-type: none"> ✓ Hydro storage
	Distributed storage technologies	<ul style="list-style-type: none"> ✓ Batteries
	Generation technologies	<ul style="list-style-type: none"> ✓ Wind Turbine ✓ PV
	Market	<ul style="list-style-type: none"> ✓ Electricity market ✓ Ancillary services



CROSSBOW Regional Operation Centre Balancing Cockpit (**ROC-BC**).

CROSSBOW RES Regional Coordination Centre (**RES-CC**).

CROSSBOW Hybrid RES Dispatchable Unit (**RES-DU**).

CROSSBOW Regional Storage Coordination Centre (**STO-CC**).

CROSSBOW Virtual Storage Plants (**VSP**).

CROSSBOW **WAMAS** (Wide Area Monitoring and Awareness System).

CROSSBOW Regional DSM integration platform (**DSM-IP**).

CROSSBOW Wholesale and Ancillary Market toolset (**AM**).

Issue 1
Storage valorisation

Issues 2&7
Safety

Issue 4
Peer to Peer

Issue 5
Definition & ownership

Issue 8
Guaranty & warranty

Issue 9
Environmental issues

ROC-BC

RES-CC

RES-DU

STO-CC

VSP

WAMAS

DSM-IP

AM

Issue 3
Network Codes

Issues 6 & 13
New services by and for DSO

Issue 11
Smart meter protocols

Issue 12
TSO-DSO interactions

Issue 14
Dynamic prices

Issue 15
Market concepts

EC / DG ENER expectations

- Regulatory WG of BRIDGE is very important and valuable for DG Energy being a policy/legislative DG
- We wish the work of the group to influence rules and practices on the ground and be easy to use/understand by political leaders
- Notably the work of the WG can have a positive **influence on how Clean Energy Package is implemented in practice**
- One example: how to implement requirement on **non-discriminatory grid fees for storage**? Clearly, the most attractive solution for storage is certainly to benefit from complete exemption from grid fees (like in DE or GR) – this goes even further than non-discrimination. But what are other approaches, based on projects' experience, which would be appropriate?

EC / DG ENER expectations (contd)

- The work of WG can also have big influence in **spheres not regulated by the Clean Energy Package**
- Indeed, there are plenty of good and bad practices which can be promoted or discouraged. Just to mention a few:
 - *Net metering for prosumers*
 - *Power based or/and dynamic grid charges for consumers/prosumers*
 - *Possibility to have autonomous cables within the neighbourhood*
 - *RES subsidy schemes: e.g. combined support to RES and storage; the issue of RES subsidies during (limited) negative price periods*
 - *De-rating of batteries/storage during capacity auctions*
 - *Possibilities to have regulatory exemptions for trials of new solutions*
 - *[Obligations on conventional plants to provide frequency regulation services]*
- A short summary can have just enumeration of DOs and DON'Ts BRIDGE wants to advocate (with minimum explanation as to why concrete recommendation is important). Such short summary will allow us to quickly identify if something has not been forgotten

EC / DG ENER expectations (contd)

- In a longer summary it's good to show in few words how the **relevant good or bad practice in a concrete MS affected business case within concrete projects and what is proposed**. *E.g. Story could share their experience with net metering for Belgian prosumers. A short link to specific experience and solutions found within projects is important. We have to be concrete enough and differentiate ourselves from usual lobbying bodies.*
- **Initial list of recommendations is awaited in the coming weeks.** At the same time issues where providing recommendations requires more work should continue to be discussed, based on a concrete time-table.
- **Many of the relevant recommendations could further be promoted by the Battery Alliance** which continues growing in influence and is supported by KIC InnoEnergy. Some - by EU storage association (EASE) or association of demand response actors SmartEN. Of course, they will be published on BRIDGE site itself. *Formal Commission recommendation would be sensitive in the context of delicate balance reached/to be reached within political trilogues.*

What is expected at the end of the subgroup sessions?

- For each regulatory issue:
 - A clear and concise definition of the issue
 - A list of main points to be addressed
 - Clear recommendations
 - Ideally formulated as DOs and DONTs
 - Based on evidence from projects' experience feedback
 - If providing recommendations needs more work, an action plan should be delivered

TARGET:

- **Deliver a concise and structured report to the EC by the 14th of June**
- **Focus on what we are able to deliver within the coming weeks and put aside the other issues (to be addressed during the next period)**

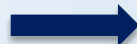
List of issues and corresponding subgroup' leaders - Storage

Issue 1
Storage valorisation



Lead: Pol (INVADE) → Andreas ?

Issues 2&7
Safety



Co-lead: Odile (ELSA) &
Andreas (STORY)

Issue 4
Peer to Peer



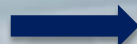
P2P-smartest quit

Issue 5
Definition & ownership



Lead: Gijs (STORE&GO)

Issue 8
Guaranty & warranty



Co-lead: ELSA & NAIADES?

Issue 9
Environmental issues



Co-lead: ELSA & NAIADES?



List of issues and corresponding subgroup' leaders - Networks

Issue 3
Network Codes



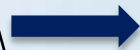
Lead: Hannes & Torsten
(MIGRATE)

Issues 6 & 13
New services by and for DSO



Lead: Gregory (INTERFLEX)
& Zoran (GOFLEX)

Issue 11
Smart meter protocols



Eventually not addressed

Issue 12
TSO-DSO interactions



Lead: Helena (SMARTNET)

Issue 14
Dynamic prices



Lead: Ricardo (INTEGRID) → ?

Issue 15
Market concepts



Lead: Helena (SMARTNET)

List of issues and corresponding subgroup' leaders – Specific cases

Issue 10
Pilot demo



Lead: WISEGRID?

Issue 16
Islands



Lead: Tracey (INTEGRIDY)

Network codes

- Content of this issue to be adjusted
- An idea could be to identify how recommendations regarding other issues could impact NCs



CROSSBOW deliverable about NCs will be published in October

- Plan to work on this during next semester, refine definition, collect inputs from other projects

New thematic group on innovation and regulation

- Cross-cutting issue:
How does/can regulation drive innovation?
e.g. limited exemptions, requirements to fund innovation
Importance of flexibility...

Aim to find good practice across MSs with comparative review:

- Examples of regulators: How is innovation part of regulatory framework? How do regulators promote innovation?
- Examples from projects (and specific pilots): Where has regulation enabled/blocked innovation?

Summarise

Storage

- Detailed legal framework ensuring the deployment of commercial storage to be thoroughly taken into account in the network planning
- Clear ownership regime to be defined; a clear set of possible regulatory approaches to grid charges to be agreed, which would be non-discriminatory or even incentivizing for storage
- Network operators to be genuinely incentivized to procure storage services including for congestion management (=proper approach to remuneration of network operators)
- Need to address potential hurdles and dis-incentives for self-consumption and adding storage facilities to big RES plants
- Safety: in some cases existing regulations are a barrier, especially for the less mature technologies like power-to-gas and second-life batteries
- Warranties: standardizing of the warranty diligence is of major importance
- Specific regulatory path for energy islands' cases. One related aspect: clear legal framework for prosumers creating electric islands during black-outs

Network management & market design

- New services provided by DSOs to TSOs
- New services provided by DSOs to market players
- New services provided by market players to DSOs
- Coordination between TSOs and DSOs
- Further structuring of the system downwards to local energy communities and microgrids
- Regulatory barriers to dynamic pricing for flexibility

Cross-cutting issue to be addressed

- How can regulation drive innovation?

TILOS - A practical example

Tilos Horizon 2020 island case, RES & storage, after winning EUSEW 2017 award achieved a number of positive legal changes in Greece and brings this positive experience to the working group and beyond. Provisions on hybrid power generation is part of regulatory frame ready for scale up and replication.



Thanks!!

*The first public report of the BRIDGE
Working Group on Regulations will
be available soon!
Check www.h2020-bridge.eu and
follow @BRIDGE_H2020 !*

*Next BRIDGE meetings: **fall 2018**
(dates to be announced soon)*

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