GO-P2P Launch Event
Presentations - Day 2 (3 Sep)
Day 2

Introducing the Global Observatory:
The DSM TCP Global Observatory on Peer-to-Peer, Community Self-Consumption & Transactive Energy Models by IEA

Alexandra Schneiders (Operating Agent)
David Shipworth (DSM ExCo Sponsor)
Welcome to GO-P2P

1. The GO-P2P Modus Operandi
   1. Independent: unbiased and constructively critical
   2. Evidence based: informing key stakeholders
   3. Pre-competitive: collaborate first - compete second
   4. Collective good focused: social, environmental, economic

2. Key roles
   1. Chair of the DSM TCP and GO-P2P ‘Sponsor’ on ExCo
   2. Operating Agent (UCL led by Alexandra Schneiders)
   3. Sub-task leads
   4. GO-P2P national experts

3. Housekeeping: Fire, food and facilities

4. The UCL team

David Shipworth
Session 1: Introducing DSM TCP & GO-P2P:

David Shipworth (DSM ExCo Sponsor)
Alexandra Schneiders (Operating Agent)
Introducing GO-P2P: Part 1 – The IEA, the TCP by IEA, and the Users TCP

David Shipworth (DSM ExCo Sponsor)
https://www.iea.org/countries/cooperation/
Ref: IEA 2019 Energy Technology Innovation Partnerships, Figure 2. Overview of IEA family, CEM, MI and TCP membership (May 2019.)
“38 independent, international groups of experts that enable governments and industries to lead programmes and projects on energy technologies”

https://www.iea.org/tcp/
**User Centred Energy Systems TCP**

- DSM TCP is becoming the User-Centred Energy Systems (Users) TCP.
  - Filling the gap for socio-technical research in the TCP landscape
  - Major relaunch in at All Energy Australia in October

- **Users TCP Vision**
  - To be the world-leading international collaboration platform for policy-relevant socio-technical research on user-centred energy systems.

- **New portfolio of Tasks**
  - Energy Service Business Models
  - Hard To Reach Energy Users
  - The Social Licence to Automate
Example: Annex 66 of the EBC TCP:
Definition and Simulation of Occupant Behaviour in Buildings

■ Outputs
- Guidebook on occupant behaviour research
- International large-scale occupant behaviour survey
- Guideline for occupant behaviour modelling and evaluation
- Survey of occupant behaviour modelling tools
- Case studies on occupant behaviour simulation in industry
- Reference procedures for obtaining occupancy profiles in homes
- 1 book, 5 special issues, 105 journal papers; 19 conference proceedings, five newsletters.

■ Follow-on
- ASHRAE MTG on Occupant Behaviour In Buildings
- EB Annex 79 on Occupant-Centric Building Design and Operation
The Observatory is a Task under the Demand Side Management Technology Collaboration Programme (DSM TCP) by the International Energy Agency.

The Observatory:
- brings together policymakers, regulators, researchers and industry;
- is technology-neutral, pre-competitive & whole systems focused;
- is global – drawing lessons from international comparative analysis;
- focuses on Peer-to-Peer, Community Self-Consumption & Transactive Energy models;
- is driven by leading research institutions across the world;
- will maximise impact through informing the work of the IEA and Clean Energy Ministerial.

**Member countries** so far: Australia, Belgium, Italy, Netherlands, Switzerland, UK and USA (with more countries to join)

**Total duration:** Three years + six-month reporting phase
How to participate

- Current Participating countries and organisations
  - **Australia**: UNSW; Monash University
  - **Belgium**: KU Leuven
  - **Italy**: European University Institute
  - **Netherlands**: T.U. Delft
  - **Switzerland**: ETH Zurich
  - **US**: US DOE SLAC Lab at Stanford; Carnegie Mellon University
  - **UK**: UKR&I EnergyREV Consortium; University College London

- Interested Non-DSM organisations
  - **Colombia**: Universidad EIA; Externado University of Colombia
  - **France**: Université Paris 1 Panthéon-Sorbonne; Université Bretagne Sud
  - **Germany**: ESMT Berlin; EIFER at KIT; Reutlingen-University

- Interested organisations
  - World Economic Forum; Energy Web Foundation; World Energy Council
How to participate

- **User TCP Participating countries**
  - *How:* Country ExCo rep approves -> Expert joins Go-P2P
  - *Who:* Australia; Austria; Belgium; Finland; India (inactive); Ireland; Italy; Korea; Netherlands; New Zealand; Norway; Spain (inactive); Sweden; Switzerland; United Kingdom; United States

- **Other countries**
  - *How:* Country joins Users TCP -> Expert joins GO-P2P
  - *Who:* IEA Member countries
    - Australia; Austria; Belgium; Canada; Czech Republic; Denmark; Estonia; European Commission; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Japan; Korea; Mexico; Netherlands; New Zealand; Norway; Poland; Portugal; Slovak Republic; Spain; Sweden; Switzerland; Turkey; United Kingdom; United States
  - *Who:* IEA Association & Accession countries
    - Brazil; Chile; China; India; Morocco; Singapore; Thailand
  - *Who:* IEA Partner countries
    - Algeria; Argentina; Colombia; Croatia; Egypt; Iceland; Israel; Kazakhstan; Lithuania; Malaysia; Monaco; Nigeria; Russia; Saudi Arabia; Slovenia; South Africa; Ukraine; United Arab Emirates; Venezuela

- **Interested International organisations**
  - *How:* Task Steering Committee: Organisation joins Users TCP as sponsor
  - *Who:* Businesses; non-profits, international organisations, etc
Peer-to-Peer breakdown by layer

- Gold layers can (frequently are) misaligned:
  - Transactions don’t follow ‘electrons’;
  - Individual interests don’t align with collective interests.

- Blue layers are the rules we write to align the Gold layers
  - ICT and data architectures (measurement, frequency, ontologies; interoperability; etc)
  - Policy and regulation design (distributional impacts; grid defection; regional pricing; etc)

Gold layers:
- Economic value
- Social value

Blue layers:
- Regulation
- Policy
- Transaction
- Markets

Green layers:
- ICT hardware
- Data architecture
- Grid physics
- Grid engineering

Collective interest layer: Regulation, Policy
Individual interest layer: Transaction, Markets
Physical layer: ICT hardware, Data architecture, Grid physics, Grid engineering
Structure

- Sub-task stack layer:
  1. Power system integration
  2. Hardware, software & data
  3. Transactions and markets
  4. Economic and social value
  5. Policy and regulatory

- Management + analysis of findings
Sub-task 6: International Comparative Analysis and the Readiness Index

- This task aims to synthesize findings from the case studies mentioned above in a methodologically defensible and useful way.
- The initial intention is to use Qualitative Comparative Analysis (QCA).
- Building on the findings from the application of QCA a peer-to-peer and related business models ‘Readiness Index’ will be constructed.
Sub-tasks will gather data on P2P/TE & CSC pilots in member countries and analyse these using **Qualitative Comparative Analysis (QCA)**, which allows for the comparison of different policy contexts.
Key Deliverables

- Sub-task reports on state of art and key challenges by functional stack layer
- Country level reports on key factors determining the uptake of P2P/TE & CSC business models
- National Readiness Index rating of participating countries to adopt P2P/TE & CSC models
- In parallel, participants will collaborate through conferences sessions, journal special issues, and contributing to IEA and CEM reports where appropriate
Why should I join as a researcher?

- Join a global community of leading researchers in the field
- Maximise your impact through informing global bodies like IEA & CEM
- Work collaboratively to define and grow the field
How can I participate? – Researchers (1)

- Researchers will be the driving force of the Observatory, collectively shaping its deliverables.

- As a participating researcher you will:
  - Join one or more sub-tasks aligning with your expertise.
  - Contribute to sub-task and country specific deliverables.
  - Contribute to conferences sessions, special issues, etc as desired.
  - Help undertake case-studies of P2P/TE & CSC pilot projects in your country to support the development of the National Readiness Index.
  - Attend Observatory meetings whenever possible.
How can I participate? – Researchers (2)

- Researchers from any sector can participate as National Experts in the Observatory
- All participants cover their own costs
  - Many government provide funding either directly, or through funding agencies, to support participants
- IEA TCP Tasks provide global leverage and impact for your research. Participants should ensure their Observatory work aligns with existing research.
- For more information, please speak to or contact Alexandra Schneiders (a.schneiders@ucl.ac.uk)
**Work programme (1)**

- Define the scope of what we mean by P2P/TE & CSC models
- Targeted **literature reviews** identifying key factors in each sub-task
- Agree tools for **international comparative analysis of cases** (e.g. QCA)
- Elicit policy makers’ and regulators’ **evidence needs**
- **Identify key issues** by sub-task area on which to gather case study data
- Develop methods and templates for collection of **case study data**
- Identify and study relevant cases in each participating country
Work programme (2)

- Undertake international comparative analysis of cases
- Identify common success factors across cases
- Write policy focused reports within each sub-task domain on key issues
- Develop a national ‘Readiness Index’ from the common success factors
- Conduct bi-annual Task meetings in different member countries
- Report to bi-annual IEA DSM TCP ExCo meetings
- Report to the IEA and providing input to IEA publications
- Prepare final Task report to the DSM TCP
# Timeline of work

## Task Gantt Chart

| Activity                                                                 | Project month | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |
|-------------------------------------------------------------------------|---------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| **Phase one: Task Establishment (M1-6)**                               |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Developing the research design                                        |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Undertaking concept mapping and scope definition                       |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Undertaking policy epistemology interviews                             |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Start sub-task targeted literature reviews (M0-15 only)                 |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| **Phase two: Iterative development and review (M7-33)**                 |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Continue sub-task targeted literature reviews (M7-15)                  |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Compiled case studies done to date. (M7-30)                             |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Presentation of international analysis. (M13->33)                       |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Presentation of the readiness index (M16-33)                           |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| **Phase three: Project closedown (M34-42)**                            |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Project Finalisation, report writing, etc (M34-42)                     |               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
Summary

- **International forum** for understanding the policy, regulatory, social and technological conditions necessary to support the **wider deployment** of P2P/TE & CSC.
- Leading research institutions contributing.
- **Valuable** for all stakeholders: policymakers, businesses, non-profits, researchers.
- **We welcome new participants!**
- Next meeting will be in Spring 2020
Session 2

Presentations by Observatory sub-task leads on their vision for their particular sub-tasks
TU Delft vision: Peer-to-Peer Trading

Sub-task 1. Power system integration

Prof. Han La Poutre
Dr. Ayman Esmat
1 Introduction

TU Delft

Future Power Grids

Integrated Energy Systems

Reliability, Security & Flexibility

Transactive Energy Markets (*e.g.* P2P)

Research Center in field of mathematics & computer science (*Computer science dimension of Transactive Energy Markets*)

XChange Blockchain Platform
Sub-task 1. Power system integration

How can P2P market models ensure efficient & stable power system operation?

All layers must work coherently & efficiently together.
3 Peer-to-Peer trading

Design Criteria for Power System Integration

Continuous balance of Supply & Demand

Enabling Flexibility

Usage of proper ICT Systems

Satisfying the network constraints

TU Delft
Sub-task 1. Power system integration

Value proposition

Benefits to Grid (technical & economic)

Challenges affecting power system operation

Impact of different configurations to power system

Operations & control techniques for imbalances in (P2P) markets

Taking into account network constraints in trading activities (incl. dynamic pricing)

Market closure period & settlements periods

How far “decentralization” should we aim for?

Complexity of decentralized trading structures

National & international projects

Dealing with decentralized technical data

Analysis & lessons learned

Case studies
Sub-task 1. Power system integration

- Value proposition
- Literature review & State of art prognosis
- P2P design
- P2P issues
- Case studies
- Special Events (TBD)
- Reports
Thank you!
Addendum
3 Peer-to-Peer trading

Opportunities for the grid

Aggregation services yields more local flexibility

Increased flexibility gives efficient network operation & utilization

Postpone the need for grid reinforcements and extensions

Enhancement of network reliability, power quality, resilience & security

Decrease of peaks, losses & better congestion management in networks

New market opportunities & business models in network services
Peer-to-Peer trading Challenges

Technical Challenges

1. Operations and control techniques for imbalances in (P2P) markets
2. Complexity of decentralized trading structures (e.g. market models, market clearances & optimization, transaction constraints, local activities)
3. Taking into account network constraints in trading activities (incl. dynamic pricing)
4. A fast and secured database for all P2P transactions & executions (Blockchain)
5. Dealing with decentralized technical data (e.g. decentralized power flow models & limits to information sharing)
Sub-task 2: ICT and Data

Mayank Malik: SLAC National Accelerator Lab
Placeholder Presentation: David Shipworth
Sub-task 2: Hardware, software (ICT) & data

The glue that binds and aligns the grid to the markets:
- Transactions currently don’t follow electromagnetic waves
- Addresses issues of data measurement methods, measurement frequency, data ontologies; interoperability; etc

Rules to align layers
- Economic value
- Social value
- Collective interest layer
- Regulation
- Policy
- Individual interest layer
- Transaction
- Markets
- ICT hardware
- Data architecture
- Physical layer
- Grid physics
- Grid engineering
Sub-task 2 – ICT & Data Deliverables

Sub-task Aims:

- Evaluating the role of the hardware, software and data ontologies on the functioning of P2P/CSC/TE energy markets.
- Evaluate the key enablements and constraints arising from existing and likely future ICT solutions.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Evaluating the role of the hardware, software and data ontologies on the functioning of P2P/CSC/TE energy markets. Evaluate the key enablements and constraints arising from existing and likely future ICT solutions.</th>
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| Deliverables                                  | D5 - Sub-task layer targeted literature reviews & ‘Key Factors’ reports - hardware, software and data  
D9 - P2P/CSC/TE cases - hardware, software and data sections |
## Sub-task 2 – ICT & Data Deliverables

<table>
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<tr>
<th>Deliverables</th>
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<tr>
<td>D5 - Sub-task layer targeted literature reviews &amp; ‘Key Factors’ reports - hardware, software and data</td>
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<tr>
<td>D9 - P2P/CSC/TE cases - hardware, software and data sections</td>
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| 1   | 1->6  | **Name:** Concept mapping and scope definition  
**Research Question(s):** How do different countries define P2P/CSC/TE trading?  
**Rational:** A common definition is needed for selection and analysis of case studies.  
**Description:** Output assessing how P2P/CSC/TE are defined in different countries and providing a working definition for use in the Task. | Policy briefing note + conference and/or journal paper |
| 4 - 8 | 1->15 | **Name:** Sub-task layer targeted literature reviews & ‘Key Factors’ reports  
**Research Question(s):** What are the key factors in each sub-task layer constraining or shaping the design of P2P/CSC/TE business models?  
**Rational:** It is necessary to identify the key environmental (technical, social, economic policy & regulatory) factors shaping the design of, or supporting/constraining uptake of, P2P/CSC/TE business models in each country.  
**Description:** Literature reviews identifying current key factors in each sub-task area influencing design and implementation of P2P/CSC/TE business models. | Conference and/or journal papers & Policy briefing notes. |
Sub-task 2 – ICT and Data challenges

- Do existing metering assets deployed in countries have the reliability and temporal resolution needed to support peer-to-peer, community self-consumption and transactive energy models.
- Does existing energy ICT support deployment of virtual metering and M&V (measurement and verification) solutions for Distributed Energy Resource authentication including demand reduction.
Sub-task 2 – ICT and Data challenges

- Do the algorithms for controlling devices exist and are they interoperable across necessary asset classes?
- Do current models used for providing forecasting and counterfactuals of short-term demand and quantification of demand response exist, and if so do they provide the accuracy needed for individual trading participants to control storage assets such as behind the meter batteries and vehicle to grid storage?
Key design criteria – ICT & Data perspective

- Red lines:
  - Revenue streams and investable business cases
  - Risk management of liabilities
  - Clarity and stability of privacy and data law
  - Regulatory change to avoid data siloing
  - Good management of breaches

- Opportunities:
  - New business models
  - Development of new markets, etc
Key challenges to taking P2P to scale: ICT & Data

- Security of cyber-physical systems
- Sensor & comms reliability of systems
- Recovery from data loss
- Reducing data latency
- Liability for failure of ICT and data systems - including smart-contract failure
- Integration of new and legacy systems
Key questions for other sub-tasks

- ST-1: What forms & volumes of data do you need captured, stored & transferred to manage power systems?
- ST-3: How much and what forms of missingness can there be in the data before markets fail?
- ST-4: What forms of non-energy data are needed to construct economic and social value?
- ST-5: What constraints do data privacy regulation place on the types and anonymisation of data?
Sub-Task 3: Market Design in TE Systems
Breakout Session

L. Lynne Kiesling
IRLE @ Carnegie Mellon University
Knowledge Problem LLC
IEA TE Observatory Launch Day 2
Some key challenges for transactions & markets

• Operational uncertainty – stability, spatial and temporal issues
• Customer adoption motivation
• Utility adoption motivation
• Small, local markets, illiquidity, market power
• Design questions, e.g., double auction or continuous order book
• Market design + automation reflecting the epistemology of markets – knowledge content of price & profit system
• Regulatory barriers to experimentation and innovation
Sub-task 3 breakout group questions

- What challenges would you add to/subtract from this list and why?

- What are some high-priority research questions for this initiative to address?

- What deliverables can we produce through this initiative?

- How do those deliverables intersect with/incorporate the other sub-tasks?
Vision for Social Value Subtask

Dr Declan Kuch
UNSW
Our Research: Social Scientists

Expertise in public engagement with infrastructure

Dr. Kuch: Climate and energy policy, coal and unconventional gas, economic sociology, socio-legal studies

Dr. Adams: geography, climate policy, resilience theory, Foucault studies

A/Prof Farrelly: geography, public engagement with water infrastructure
Our Research: Engineering

Expertise in electricity market design and policy

Dr Bruce: renewable energy systems, development,

A/Prof MacGill: power systems engineering, market design, climate and energy policy

Dr. Roberts: residential energy, home energy systems
Key Questions: social value stack

• Why?
  • Climate change, RE transition, need for frequency control, local voltage, wholesale market effects, ability to give to friends or neighbours

• How does it feel?
• Who do they think benefits?
• Who do they want to benefit?
• What kinds of exchanges are desirable (money, barter, gifts etc.)?

Principles of P2P

• Understand people as social creatures, not just market actors responding to price signals
• Start with user and context-sensitive design
  • Tailoring to not just local energy market issues but sensitive to user needs and practices
• Users want to know ‘why’ but might not understand how in same language as you
• Work with their knowledge, rather than assuming a deficit of it.
Key Challenges: Design, Installation, Scale

• For retrofits with households, technology rollout (batteries etc.) are often non-linear. How do you work with installers and technology developers effectively to keep their interest?
• Is the challenge **scaling up** or **scaling out**?
  • If up, consult literature on regulatory theory in your area – expect issues of consumer rights, market power, labour rights to require attention.
  • If out, build networks sensitive to the issues in local domains
Vision!
Innovation often requires peripheral vision, rather than intense focus

1. Understanding why
   • Issues, institutions
2. Designing arrangements
   • When and how to bring end-users in?
3. How to coordinate?
   • What do participants think is happening?

Jean Sylvain Bailly
Collaboration

**Coordinated**
Plan for how we can best harness each other’s skills

**Social not an afterthought**
... ‘and the social’

**Social as a *problem***

*how are the boundaries between direct and indirect beneficiaries of a project made?*
Please get in touch!

d.kuch@unsw.edu.au
Sub-task 5:
A vision for studying the policy and regulatory layer

Jean-Michel Glachant & Leigh Hancher
London – P2P Observatory kick-off meeting
September 3rd, 2019
Summary

- Research team
- Two snapshots from Day One
- Topics addressed by the sub-task
- Deliverables of the sub-task
- Tentative “action plan” for the short and medium term
Research team

• Involvement of researchers with different backgrounds
  – Jean-Michel Glachant (institutional economics and energy regulation)
  – Dörte Fouquet (energy, environmental and competition law)
  – Leigh Hancher (European energy law)
  – Nicolò Rossetto (economics and regulation)
  – Tim Schittekatte (economics and engineering)

• Possible involvement of other FSR researchers or external partners
Two snapshots from Day One

A four step review

• 1// Today not a mood, or some novel options: a new wave of electricity revolutions, being all consumer-centric: C2x...

• 2// With 2 basic ideal types, being P2P and Energy Communities...

• 3// But in an overly regulated industry...

• 4// ...Then, Public Policy & Regulation as important as a frame that the raw wave of novelties
The legal issues: some useful starting points

• Why do governments want to promote CEC/REC (C2C) and P2P? -> Policy goals
• What models or options are available? -> Options to realise diverse or divergent policy goals
• Who is impacted? -> Actors to be involved and roles assigned or assumed
• How to achieve this? -> range of regulatory choices at federal/EU as well as national, regional and local levels
Topics addressed by the sub-task

• Two sets of related but autonomous topics

• Regulatory bodies and issues
  – What are the regulatory bodies and frameworks of regulation impacting on the viability and implementation of P2P/CSC/TE models?
    • E.g., network access and changing; levies and taxes; access to energy markets
  – What are the relevant frameworks of regulation impacted by the emergence of these models and how are they interdependent (if at all)?
    • E.g., grid companies’ remuneration; “fair” recovery of policy costs (universal access included)
  – What are the public policies that these models can address/impact?
    • E.g., consumers’ involvement in the energy transition and empowerment; distributive effects among customer classes
  – What areas of regulation could/should be reformed to support the uptake of these models? Who can do that?
• Legal framework
  – Are P2P/CSC/TE models legally defined and allowed? Are prosumers and energy communities defined? What are their rights and duties? How are these enforced – by private or public law instruments?
  – Data privacy regulation
    • E.g., what consumer data can be accessed and under what form?
  – Consumer protection
    • E.g., rights and obligations of end-users entering P2P arrangements or a community for collective self-consumption
  – Contract law
    • E.g., liability of non-professional suppliers;
  – Issues concerning land-use, planning and property ownerships
    • E.g., possibility to install generation or storage units in apartment buildings; relationship landlord – tenant
Deliverables from the sub-task

• Deliverable 8 (month 15)
  – Analytical report on the key policy and regulatory factors shaping the design or supporting/constraining the uptake of P2P/CSC/TE business models

• Deliverable 9 (month 30)
  – Contribution to the compilation of case studies for international comparative analysis (aspects concerning policy and regulation)
  – NB: would this contribution involve a methodology to do the analysis? If so, when is that elaborated upon? Is it a separate deliverable?
Eight countries involved with very different situations:
- four EU MS (Belgium, Italy, the Netherlands and Sweden)
- four non EU countries (Australia, Switzerland, the UK and the US)

Need to get inputs from these countries to deepen the knowledge beyond literature review, identify key factors and case studies

The CEP provides a broad legal framework for P2P/CSC/TE but transposition in national legislation will be key
- Deadline for transposing RED II: 30 June 2021
Tentative “action plan” for the short and medium term

- Oct.-Nov. 2019: literature review and issue scoping by desk research and attendance at relevant conferences
- Dec. 2019: discussion of preliminary ideas at the FSR Policy Advisory Council
- Jan. 2020: drafting of a questionnaire on regulatory and legal issues
- Feb. 2020: workshop in Florence with researchers from other sub-tasks and representatives of the member countries (NRAs or relevant Ministries) to share knowledge and discuss draft questionnaire and methodology

NB: involvement of the FSR network of regulatory experts (e.g., at CEER)
• March 2020: finalisation of the questionnaire and submission to member countries
• Summer 2020: analysis of the questionnaire submissions
• Summer-Autumn 2020: sharing of preliminary results with other sub-tasks and analysis of feedback + publication of early results via FSR policy briefs, blog posts, working papers, online debates, etc.
• Nov.-Dec. 2020: finalisation of deliverable 8

NB: too early to plan for deliverable 9 (need for inputs from other sub-tasks)
Thank you for your attention

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