- **The Energy Transition**
  - *"…more than $2.4 trillion of value from the transformation of electricity over the next 10 years."* World Economic Forum

- **Global RE grid parity**
  - *"…key markets have reached an inflection point where renewables will have become the cheapest form of new power generation by 2020…"* Morgan Stanley research

- **Major institutional and regulatory disruption**
  - *"I think that we need to prepare - the advent of new technology, digitalisation and blockchain is going to be transformative in terms of how we generate and distribute energy in the future."* Adnan Amin: Director-General IRENA

- **Global investment in digitalization**
  - *"Investment in digital electricity infrastructure and software grew over 20% annually between 2014 and 2016, overtaking global investment in gas-fired power generation."* IEA Digitalization & Energy

What is the Observatory?

- 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 & has a whole systems focus;
  - 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

Participants & member countries

- ■ **Interested research organisations**
  - ● **Australia:** Monash University; UNSW; Victoria University
  - ● **Colombia:** Universidad EIA – Envigado; Externado University of Colombia, Bogotá
  - ● **France:** Université Paris 1 Panthéon-Sorbonne; Université de Nantes
  - ● **Germany:** European School of Management and Technology – Berlin; KIT
  - ● **Israel:** Interdisciplinary Center (IDC) Herzliya
  - ● **Italy:** European University Institute (Florence School of Regulation)
  - ● **Switzerland:** ETH Zurich; EPFL Lausanne
  - ● **UK:** UKR&I EnergyRev Consortium; University College London
  - ● **US:** Purdue University Research Centre in Economics
- ■ **Observatory member countries so far**
  - ● Australia; Belgium; Italy; Netherlands; UK; USA and Switzerland
- ■ **Interested organisations**
  - ● World Economic Forum; Energy Web Foundation; World Energy Council

iea
Energy Technology
Network
Technology Collaboration Programmes

Why should I join?

- **■ *Policymakers***
  - International comparative evidence base for policymaking
  - Early identification of policy challenges from other countries
  - Early access to the latest research from leading research institutions

- **■ *Businesses/non-profits***
  - Market knowledge on case-studies and national readiness
  - Work in a pre-competitive environment with all stakeholders
  - Engage with leading researchers and research students

- **■ *Researchers***
  - 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

Aims

- Develop an **international community** of leading researchers to help define challenges and frame the development of the field

- Create an international forum for working **collaboratively** with stakeholders to help establish supportive policy and regulatory environments

- To **elicit policymakers' evidence needs** for regulatory change in support of wider deployment of P2P/TE & CSC models in different regulatory regimes

- To conduct a **systematic study of the relationship** between the design of P2P, CSE & TE model retail market structures and energy policy outcomes

- To identify common success factors for uptake of P2P/TE & CSC models in different contexts to create a country level adoption '**Readiness Index**'

- Generate impact by **disseminating findings** through IEA publications and global forums such as the Clean Energy Ministerial
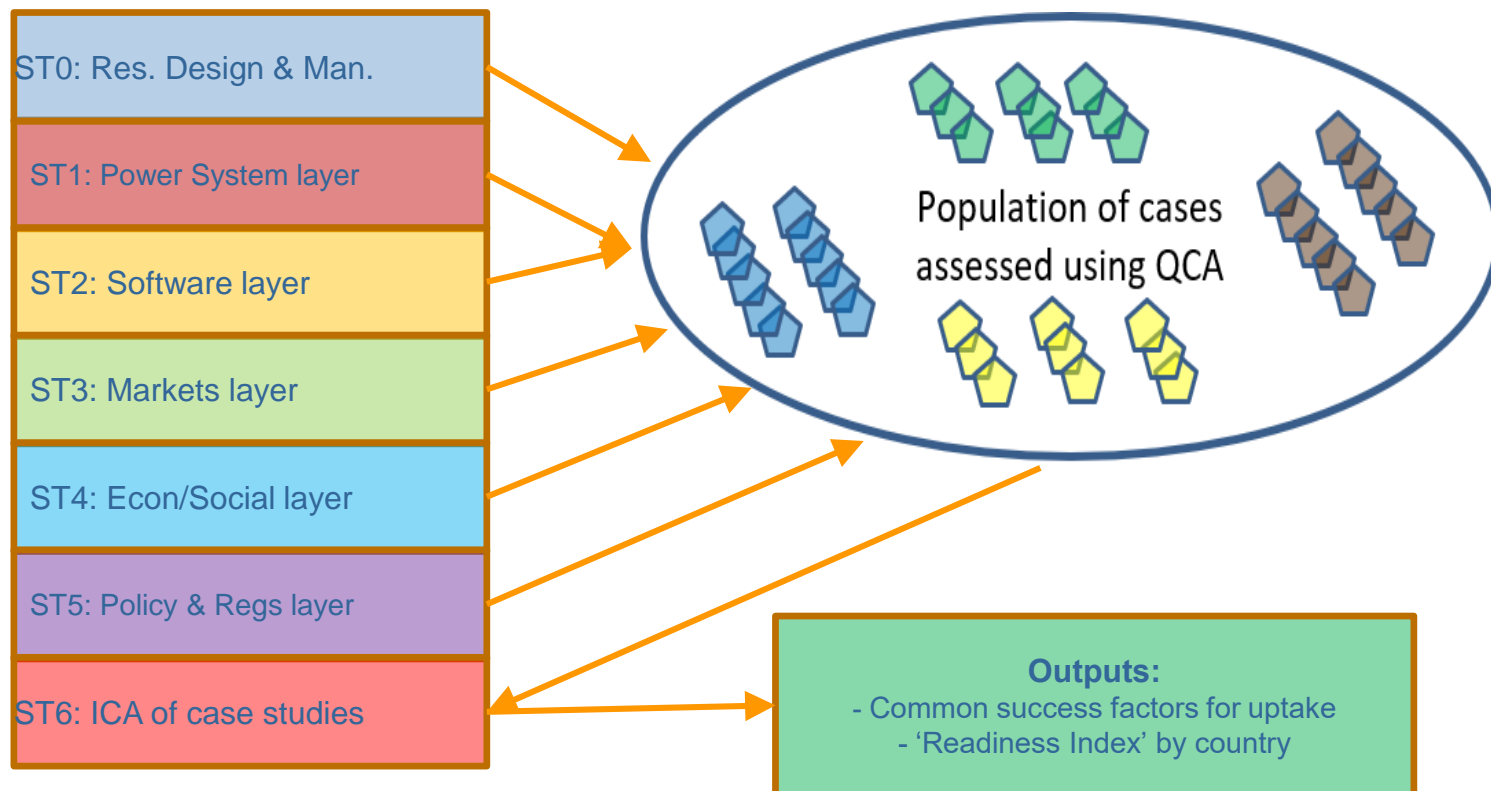
Key Deliverables

- 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

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

Structure

ST0: Res. Design & Man.	
ST1: Power System layer	
ST2: Software layer	Population of cases assessed using QCA
ST3: Markets layer	
ST4: Econ/Social layer	
ST5: Policy & Regs layer	
ST6: ICA of case studies	

Outputs:
- Common success factors for uptake
- 'Readiness Index' by country

*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*

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

How can I participate? - Researchers

- 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

- 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 contact Alexandra Schneiders (a.schneiders@ucl.ac.uk)**

How can I participate? – Businesses/non-profits

- Observatory findings support policymakers at national & international levels, as well as **companies** and **non-profits** working with P2P/TE & CSC models

- Businesses/non-profits can participate in two ways:

1) Become a DSM Sponsor (~€10k/annum). This allows you to:

- Join the Task Steering Committee;
- Attend DSM ExCo meetings with all TCP member country delegates;
- Participate directly or indirectly in other DSM Tasks;
- Contact David Shipworth d.shipworth@ucl.ac.uk for details.

2) Become a DSM research participant – see above slide

- **For more information, please contact Alexandra Schneiders (a.schneiders@ucl.ac.uk)**

How can I participate?
- Policymakers and regulators

- High-level Observatory findings are **primarily targeted** at policymakers and regulators

- Policymakers & regulators can engage in three ways:
  - As nationally designated delegates of the DSM TCP;
  - As designated 'policy contact points' working directly in the P2P/TE & CSC area;
  - By notifying us that you would like to be kept informed of outputs and the work of the Observatory.

- For further information **please contact a.schneiders@ucl.ac.uk**

- For more information, **please join us on the first day of the Observatory Launch Event (2 September)** in London

Observatory launch event:
2-3 September 2019, London (UK)

- **Presentations by sub-task leads** (incl Jean-Michel Glachant/Nicolo Rossetto from Florence School of Regulation; Han La Poutré/Ayman Esmat from Delft University of Technology etc.) & other leading researchers in the field.

- **Day one (2 September)** will be an international symposium presenting leading trials across the world and showcasing the Observatory's research. **This is open to all interested stakeholders.**

- **Day two (3 September)** will be the first working meeting of the Observatory and is open to researchers **from DSM TCP countries** (http://www.ieadsm.org/participation/). The focus of the day will be to introduce the Observatory to those that are **interested in joining**, and to discuss the programme of work for the coming six months.

- Do you have any questions or need more information? **Don't hesitate to contact Alexandra Schneiders (a.schneiders@ucl.ac.uk)**