

## EMP-E 2020 Session Summaries

6th October 10:00-11:00	<b>Plenary 1</b>	<b>Impacts of COVID-19 on the energy system - What are the consequences for future energy modelling?</b>
		The outbreak of COVID-19 is an unprecedented shock to the global energy system and that may result in long term changes to the structures of energy supply and demand. This session begins the process of incorporating this shock into energy system models by reviewing the ramifications of the shock, showing first efforts at modelling it, and facilitating exchange between modelers, policymakers and stakeholders.
6th October 11:15-12:15	<b>Plenary 2</b>	<b>Climate Neutral Pathways, scenarios and storylines: Useful lessons learned and strategies for the European Green Deal</b>
		This plenary session gives room for the presentation of newest results of H2020 projects on assessing climate neutral pathways for the EU. Discussions focus on identifying similarities and differences in between projects' outcomes to address: i) What are some of the key insights from the most recent generation of energy system models? ii) What are robust findings and no regret mitigation options across analyses? iii) What are next steps for the improvement of energy-economy models?
7th October 10:00-11:00	<b>Plenary 3</b>	<b>Socio and economic impacts of the transition</b>
		The aim of this session is to create politically relevant analysis of distributional impacts of various energy transition pathways to allow for higher societal and political acceptance (at the cost of in some cases slightly higher technological costs), while minimizing the negative impacts on most vulnerable regions (i.e. coal regions), income classes, and trade-exposed industries. Discussions will focus on the most policy-relevant distributional implications of the transition in the energy-economy nexus – based on findings of newest results of H2020 projects presented before.
7th October 11:15-12:15	<b>Plenary 4</b>	<b>Sector integration: decarbonisation through multi-energy carrier integration</b>
		This plenary session will present sector integration from the perspective of different actors in the energy system, including network operators, utilities, aggregators and operators of multi-energy systems. We will consider the spatial aspects of integrating different energy sectors, at local, national and European level. Market and regulatory barriers, modelling approaches, optimisation strategies and policy recommendations will be discussed.

6th October 13:30-15:00	<b>Focus Group 1</b>	<b>Circularity, use of raw material</b>
		The EU Green deal aims to make the EU the first carbon neutral continent in the world in 2050. Some of the actions include decarbonizing the energy sector and investing in environmentally-friendly technologies. The aim of this session is to discuss about the nexus between raw materials and energy technologies and learnt about how some energy systems models (ESM) are working to consider raw materials and circularity in their models.

6th October 13:30-15:00	<b>Focus Group 2</b>	<b>Circularity, use of raw material</b>
		The EU Green deal aims to make the EU the first carbon neutral continent in the world in 2050. Some of the actions include decarbonizing the energy sector and investing in environmentally-friendly technologies. The aim of this session is to discuss about the nexus between raw materials and energy technologies and learnt about how some energy systems models (ESM) are working to consider raw materials and circularity in their models.

7th October 13:30-15:00	<b>Focus Group 3</b>	<b>Consumer and Citizen Engagement</b>
		Citizens, consumers, and collectives are at the center of the energy system but their representation both within the code and within the community of energy system models is sparse. This session considers how citizens can be engaged in the energy modelling process, how citizen behavioral energy choices are built into energy system models and how agent-based models may be applied to current modelling frameworks. The session is co-hosted by the SMARTEES H2020 project, which works on the cutting edge of consumer science and agent-based modelling in energy.

7th October 13:30-15:00	<b>Focus Group 4</b>	<b>Smart cities, Smart grids and digitalisation</b>
		<p>Cities are at the forefront of the decarbonisation challenge and represent living labs for the study of innovative smart grid technologies and initiatives. Four main topics will be addressed: multi-energy systems in their urban environment, renewables and flexibility resources in the cities, electrification of transportation at city level, evolution of the role of distribution system operators. The priority will be given to real-life case studies from different perspectives: strategies and modelling, market and regulatory issues, data management and digitalisation, and policy recommendations.</p>

8th October 9:30-11:00	<b>Focus Group 5</b>	<b>Infrastructure for integrating models across special and sectoral scales to facilitate openness and transparency</b>
		<p>As energy systems are becoming increasingly integrated, also the analysis of energy systems needs to better consider the interlinkages in time, space as well as between energy carriers. Since it is often advantageous to use separate tools and models to accurately represent particular scope of energy systems, there is a need to enable communication between models of different scope. This focus group will present the current state of the art, ongoing development in Horizon 2020 projects and other initiatives, and discuss how we could do it better going forward, focusing on two domains:</p> <ol style="list-style-type: none"> <li>1. Open models, understood as open-source modelling frameworks together with complete open-access input data to run them (including parametrization, configuration, etc.)</li> <li>2. Infrastructure to facilitate the integration of open models (including databases, comparison and analysis tools, efforts to develop a common ontology/nomenclature)</li> </ol>

8th October 11:00-12:15	<b>Focus Group 6</b>	<b>How can Energy modelling tools from H2020 projects contribute to National Energy/Climate plans</b>
		<p>The objective of this session is to enhance exchanges and discussions between H2020 funded projects and national authorities in charge of National Energy and Climate Plans, regarding “How can EC funded projects support national policy makers”.</p> <ol style="list-style-type: none"> <li>1. What are the needs of national authorities for their modelling exercises? Are the NECPs specification for "Needs for Research and Innovation" covered by our EU projects? What are the gaps?</li> <li>2. What are the available tools from EC funded projects that could be useful for national modelling exercises?</li> </ol>

8th October 13:30-15:00	<b>Focus Group 7</b>	<b>Transformation of the Energy system: centralisation vs further decentralisation</b>
		<p>Decarbonisation of the European energy system induces investment decisions at different geographical scales (European, country, region...) to better integrate decentralised variable renewables. This results in a trade-off involving several criteria (CO2 emissions mitigation, costs, social acceptance, self-consumption...) to plan the expansion of generation capacities jointly with the transmission and distribution grids. Inter-sectoral coupling constitutes a solution involving local decisions to take advantage of flexibilities coming from demand-side management, multi-energy systems (gas, hydrogen, heat...) and enhancing electricity uses (mobility, heating...).</p> <p>In this context, one major issue is to give appropriate signals (incentives, constraints...) in order to coordinate local decisions in the global framework.</p>

8th October 13:30-15:00	<b>Focus Group 8</b>	<b>Uncertainty and modelling: lessons learned and gaps</b>
		<p>The importance of incorporating uncertainty in energy modelling has increased tremendously in the past few decades: growing shares of renewables and storage, together with the emphasis on cross-market integration, means that incorporating scenarios is paramount in most contexts related to energy planning. This session revolves two key issues:</p> <ol style="list-style-type: none"> <li>1. Techniques to deal with uncertainty, including scenario building, reduction, acceleration techniques and cloud computing.</li> <li>2. Case studies and their main findings in terms of key policy messages and recommendations.</li> </ol>