



## Plenary 1 - Impacts of COVID-19 on the energy system - What are the consequences for future energy modelling?

Plenary 1 was hosted by the openENTRANCE project with the goal of better understanding the effects of COVID-19 on the development of the energy system and 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.

### Summary of presentations

**The macro-economic and energy system impacts of COVID-19 so far**, Prof. Claudia Kemfert, DIW Berlin

- Main points: COVID crisis has reduced energy demand and economic activity across nearly all indicators. The question moving forward is how this will affect green growth plans for the economy to fight climate change

**Energy system modelling under shocks and disruption**, Prof. Reinhard Haas, TU-Wien

- Main points: Most disruptions to the energy system are related to changes in GDP. The energy demand equation remains mostly static throughout, will this also be the case for the COVID crisis?

**Modelling the French power system during COVID-19: Cascading effects from stay-at-home regulations**, Dr. Clemence Alasseur, EDF

- Main points: During stay at home regulations in France the energy system operated in a low-carbon fashion, with nuclear providing flexibility for intermittent solar generation.

**Transport, mobility patterns and digitalization in Italy during and after COVID-19**, Prof. Manfred Hafner, FEEM

- Main points: A dual econometric/foresight approach was used to assess the potential changes to Italian transport demand moving forward. Italians will use public transit ~30% less and private cars ~2% more even after the pandemic ends.

### What did we learn from Plenary 1?

1. Large reductions in energy use and associated environmental damages during the pandemic
  - This is largely due to regulations and recessions  $\beta$  decreased income!



- However, there is some evidence for changing structures of energy demand – especially in transportation – less use of public transit is likely moving forward, less travel overall (work from home) and less flying (virtual conferences)
2. In the French case we saw a window into a ‘different’ energy world – one with lower demand, lower prices and fewer emissions
    - A low-carbon, energy efficient future might look very similar to this
    - This was a positive takeaway – nuclear was able to provide the flexibility needed for integration of the French solar production!
    - More frequent negative energy prices would provide more incentive for energy service business models (e.g. flexibility and storage)
  3. Key questions moving forward
    - How will the pandemic impact the economy and the ability to invest in sustainable energy?
    - Besides in transportation, what other structures of energy demand might change long-term?

### Comments from the Audience

- COVID-19 has shown that change (e.g. behavioural and regulation wise) can happen much faster than anticipated - given a political (and societal) will, based on perceived urgency to act. Therefore, stressing the climate emergency even more gives hope for sufficient (political) measures to combat the situation
- Please be aware about the "fracture numérique" which means that quite a lot of people and in particular the most vulnerable in the pandemic have problems to access the digital world and deal with digital solutions

Manfred Hafner, Clemence Alasseur, Jrd Cohen, Claudia Kemfert, Reinhard Haas

Join the discussion on [Slido.com](https://www.slido.com)  
Code: **empeCOVID**

**open ENTRANCE**

**Welcome To Plenary 1 at EMP-E 2020!**

**Impacts of COVID-19 on the energy system: What are the consequences for future energy modelling?**

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 855896

