**Electricity storage as a key piece of the energy transition:
An analysis of the legal barriers in the current European Union state of play**

Abstract for an oral presentation.

The energy transition towards a low-carbon economy through an enhanced use of renewable energy sources is a significant issue for the European Union (EU) and its member states. As a matter of fact, various member states already adopted a legal framework directly referring to this concept, such as the early *Energiewende* in Germany or the more recent *Loi relative à la transition énergétique pour la croissance verte* in France. Spain itself is discussing a *Ley de Cambio climático y Transición energética*. At the EU level, the drafting of the new Clean Energy for All Europeans package aims at facilitating the clean energy transition. There is then a legal momentum for energy transition in Europe.

In late 2017, electricity production was still a mostly centralised, greenhouse gases intensive industry, even among the EU member states, although wide disparities existed between them. To realise the expected energy transition in Europe with the current technologies available, mainly wind and solar, the complete energy model has to change. A shift is required from few centralised dispatchable production units to many local variable generation facilities. To maintain the balance of an electricity network relying on variable renewable sources of energy, there are then multiple options: to increase the use of gas peaker plants, but at the expense of climate change mitigation; to extend and reinforce the grid, but it is a costly and lengthy process sometimes raising local opposition; or to develop and implement electricity storage technologies. This last option is seen as a key piece of the energy transition by many policy-makers.

Electricity storage, regardless of its technology (batteries, power-to-gas or even pumped hydroelectric energy storage) is not mentioned into the directive 2009/72/EC concerning common rules for the internal market in electricity. Additionally, the unbundling rules as they apply under this directive prohibit the transmission system operators (TSOs) and distribution system operator (DSOs) to hold and operate storage facilities, as they can be considered as generation assets, therefore hampering their development. The draft of new directive on common rules for the internal market in electricity (RECAST) should address part of these barriers by first defining the electricity storage. However, many legal obstacles remain on the way of an ambitious development of electricity storage, at the EU level, but also at member states levels, where issues such as double payments are of the utmost importance.

This presentation will display the current legal barriers imposed to electricity storage, mainly at the EU level, but also using some member states examples when useful. The foreseeing evolutions will be assessed as well, such as the RECAST directive provisions. Electricity storage constituting a key piece of the energy transition towards a low-carbon economy and implying a deep energy model change, it is vital that the legal framework supporting it be suitable.

Dr. Romain Mauger
Groningen Centre of Energy Law, University of Groningen, Netherlands
r.j.g.mauger@rug.nl
Topic addressed: 4. Challenges in changing our energy model: the transition towards a low-carbon economy