

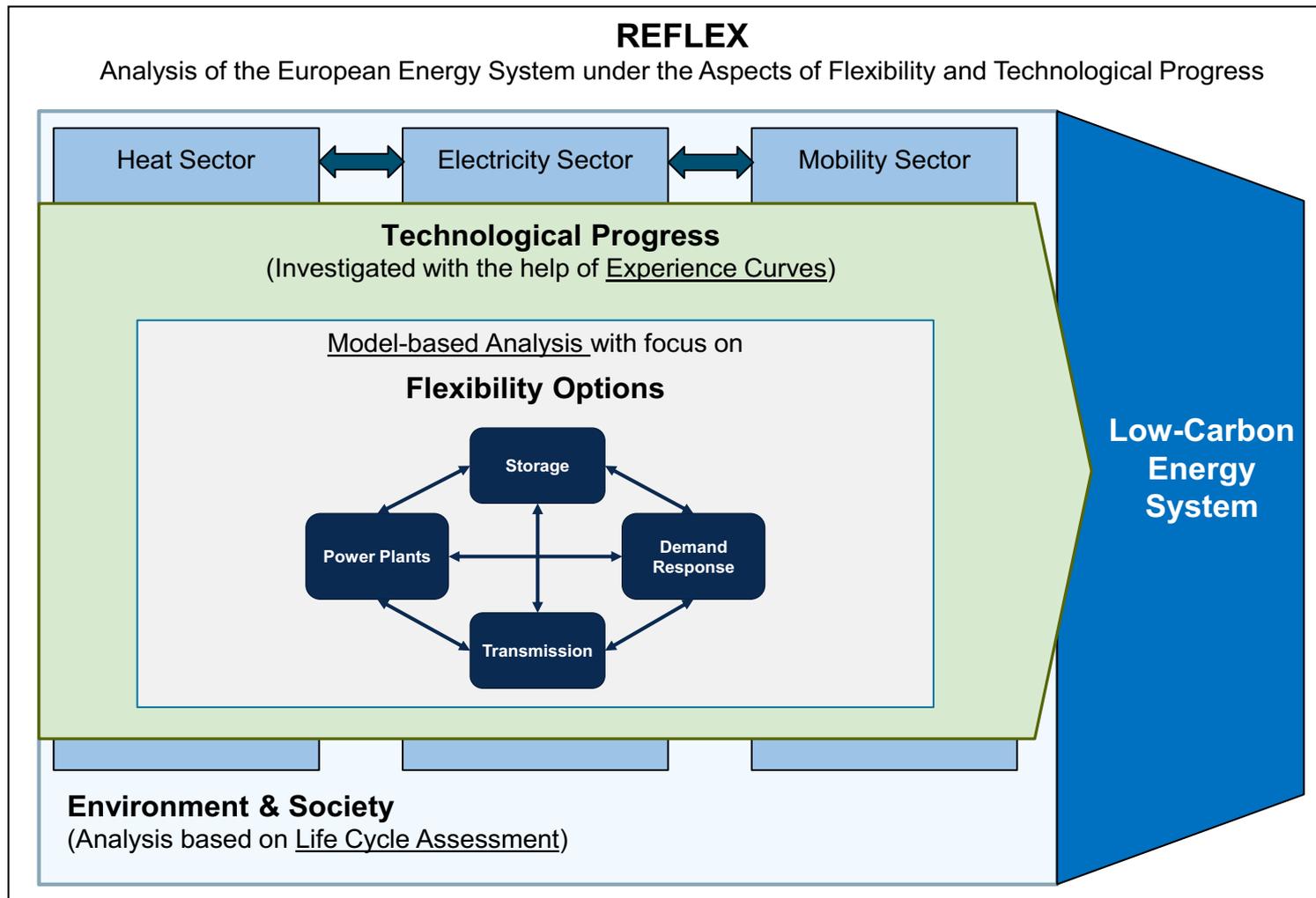


REFLEX - ANALYSIS OF THE EUROPEAN ENERGY SYSTEM UNDER THE ASPECTS OF FLEXIBILITY AND TECHNOLOGICAL PROGRESS

TU Dresden, Dominik Möst

REFLEX-Workshop “Technological learning in the energy sector
Karlsruhe, 8th November 2017

REFLEX Project Scope and Applied Approaches



Partners of the REFLEX-Project



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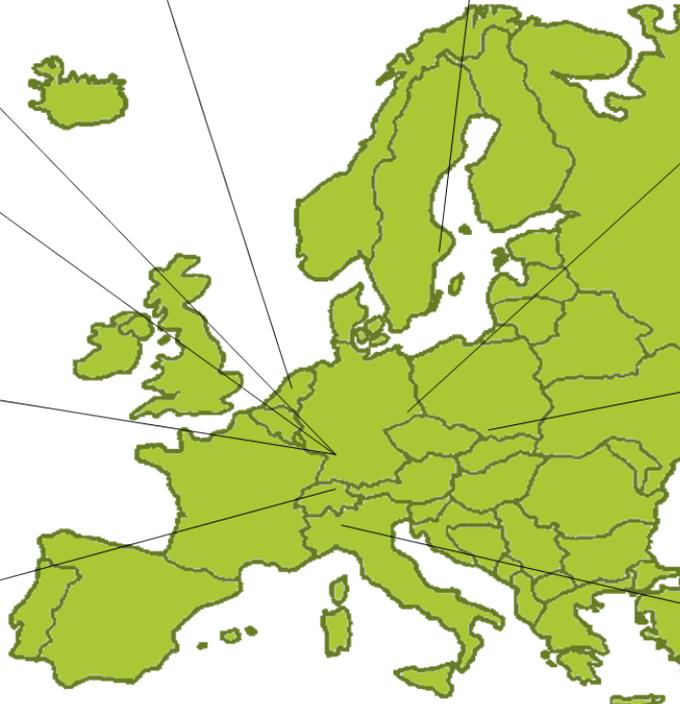
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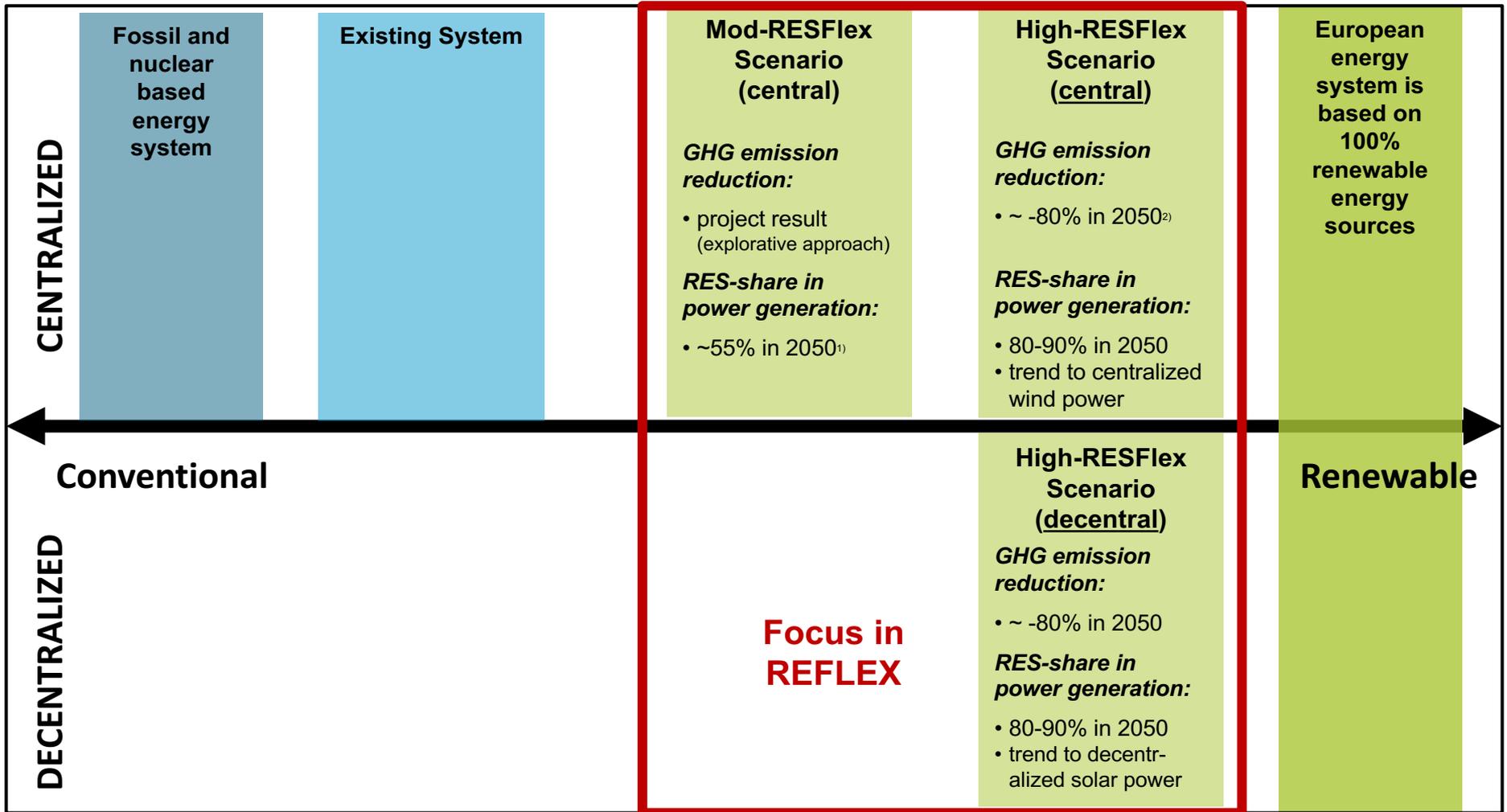
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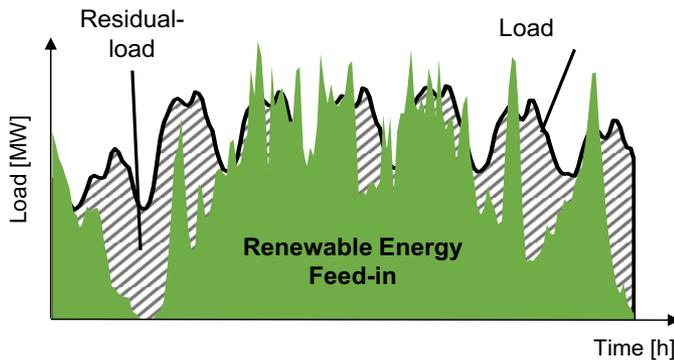
Possible scenarios for shaping the European energy system



1) EU Reference Scenario 2016 (Capros et al. 2016) 2) EC Roadmap for moving to a competitive low carbon economy in 2050 (COM 2011/0112)

What is the residual load curve and how do renewable sources affect the residual load curve?

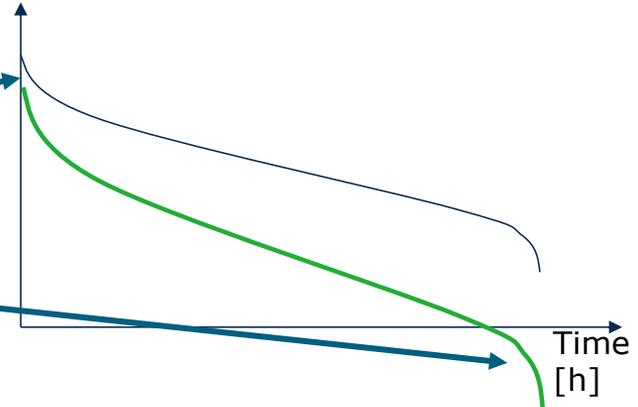
Residual load = load – (intermittent) feed-in from renewable energy sources (RES)
... has to be satisfied by flexible (in general conventional) capacities



How will residual load change in future due to RES-E?

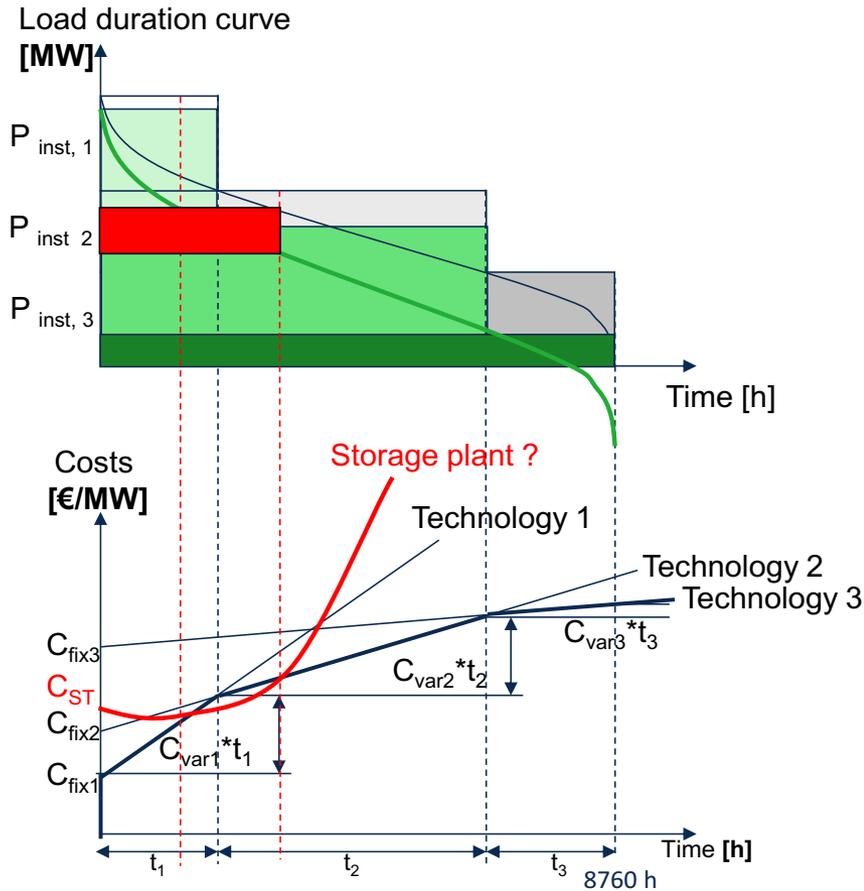
- Peak: nearly no change
- Off-peak: increasing amount of hours with surplus energy

Load duration curve [MW]



System perspective

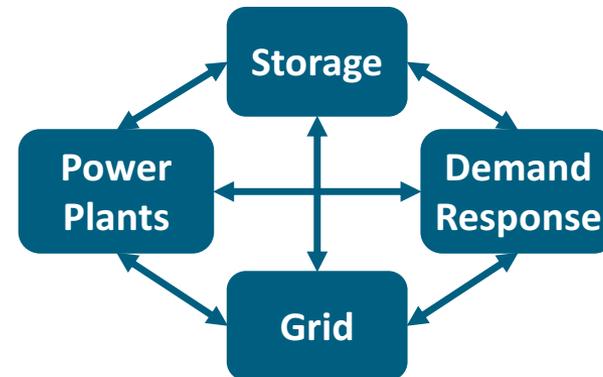
Adaptation of „optimal“ capacity?



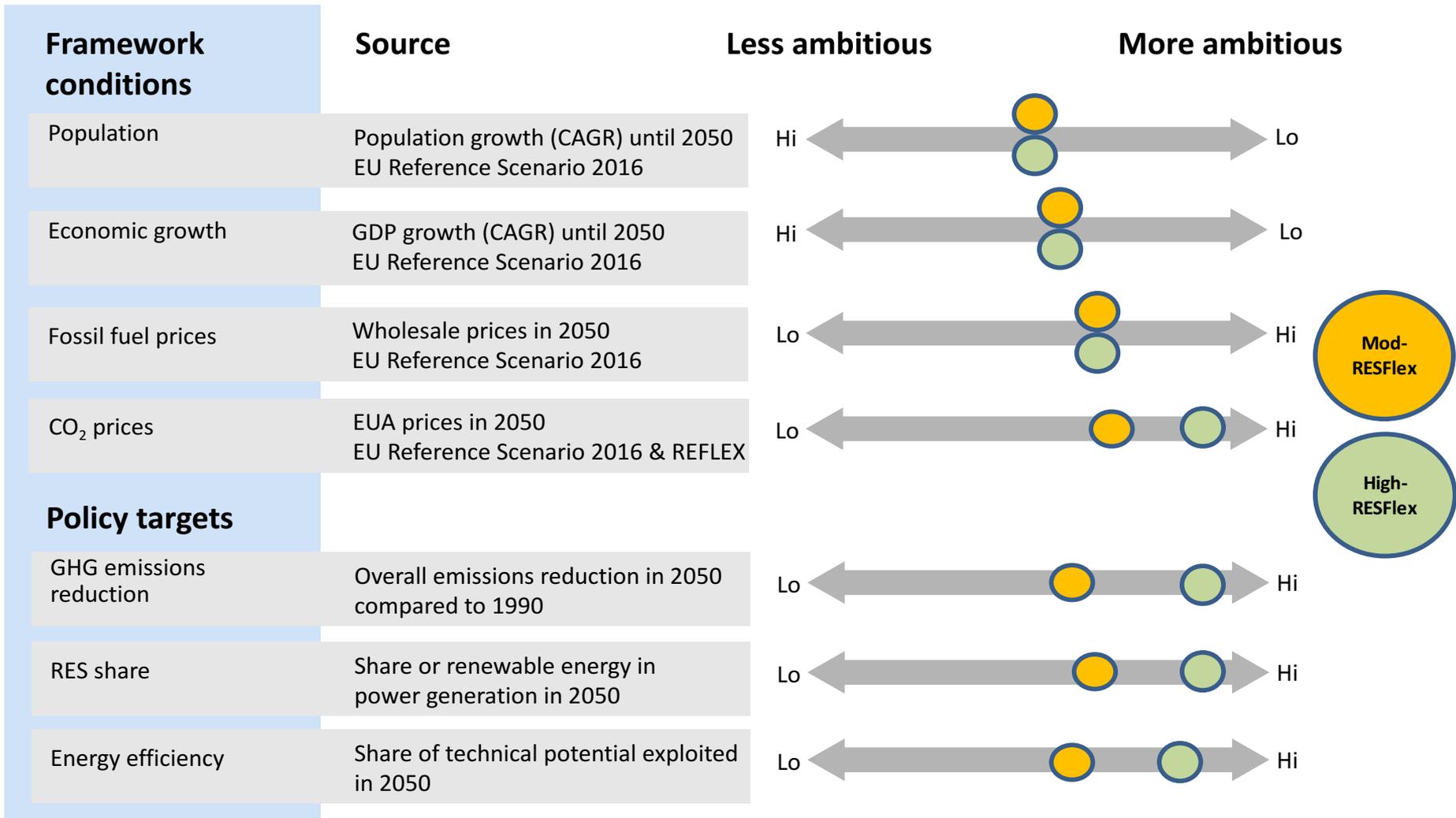
Necessary generation portfolio – what will change?

- Reduction of base-load and mid-load
- Increase of peak-load
- Increase of storage power plants

What to do with the surplus?



Considered scenarios to determine the required flexibility





Thank you! Questions?

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www.reflex-project.eu

REFLEX-Workshop

Brussels, 17th November 2016