

AI and Climate Change

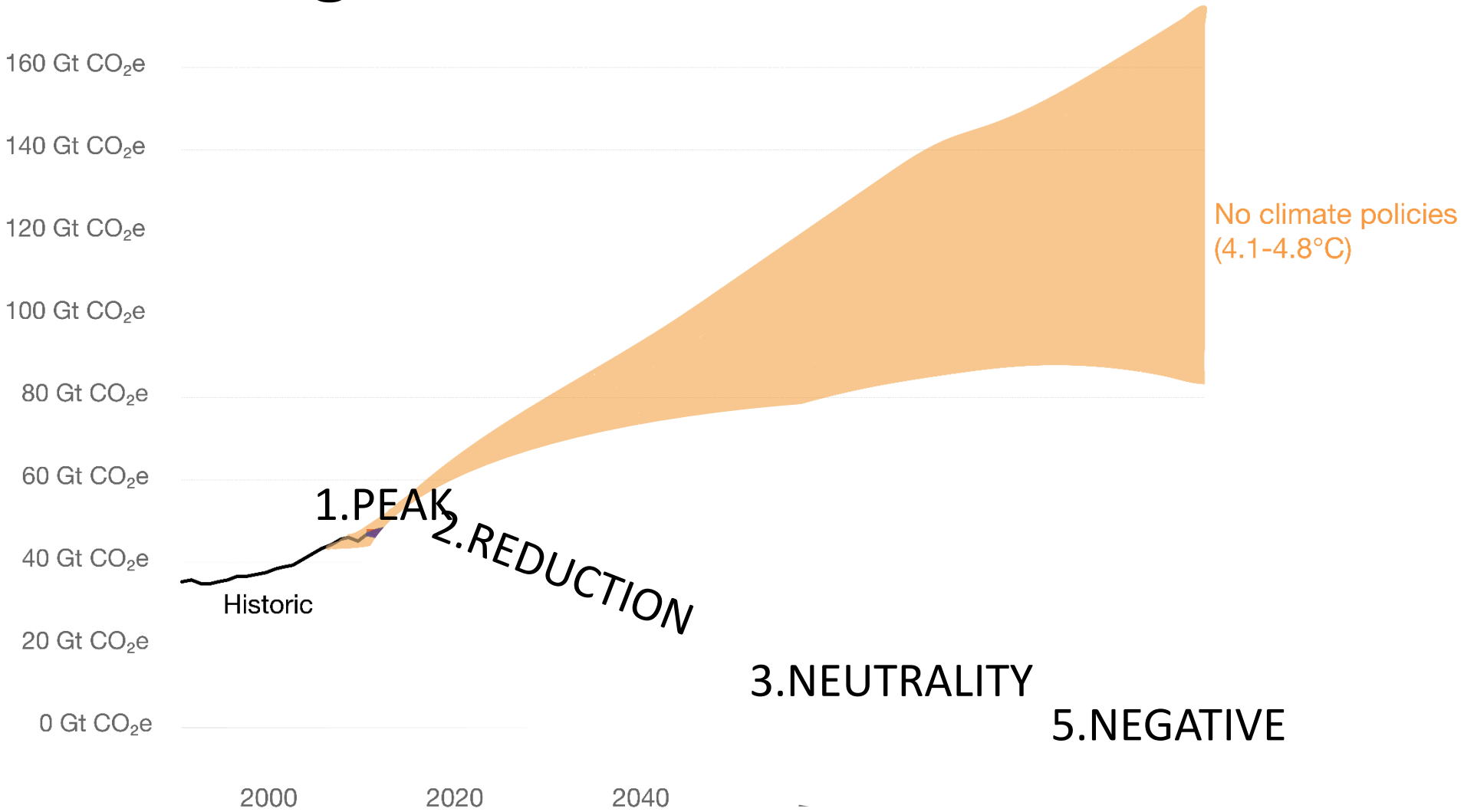
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The Challenge Ahead



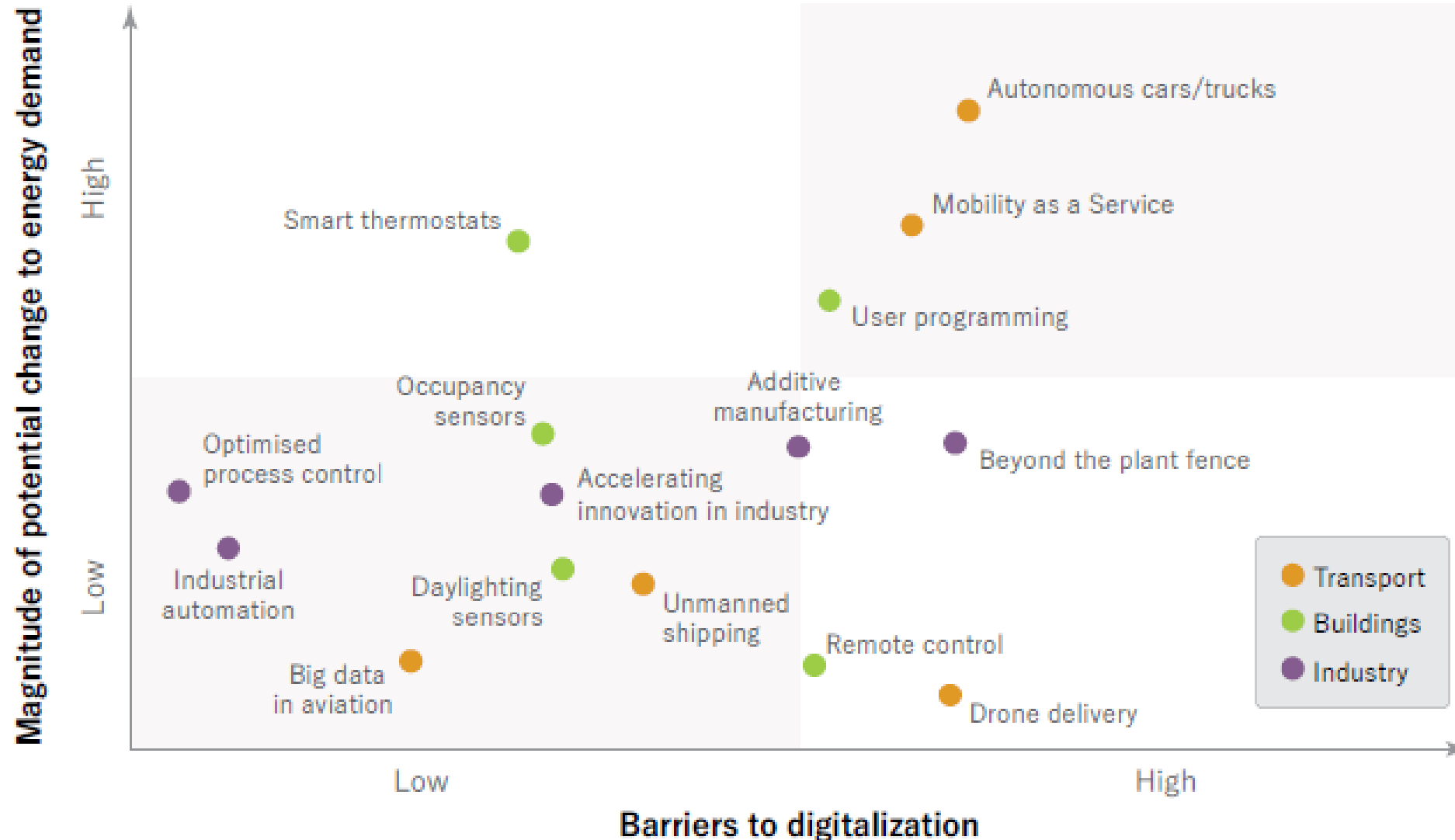
Based on data from the Climate Action Tracker (CAT).
The data visualization is available at [OurWorldinData.org](https://www.ourworldindata.org). There you find research and more visualizations on this topic.

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1) Digitalization and Energy Demand

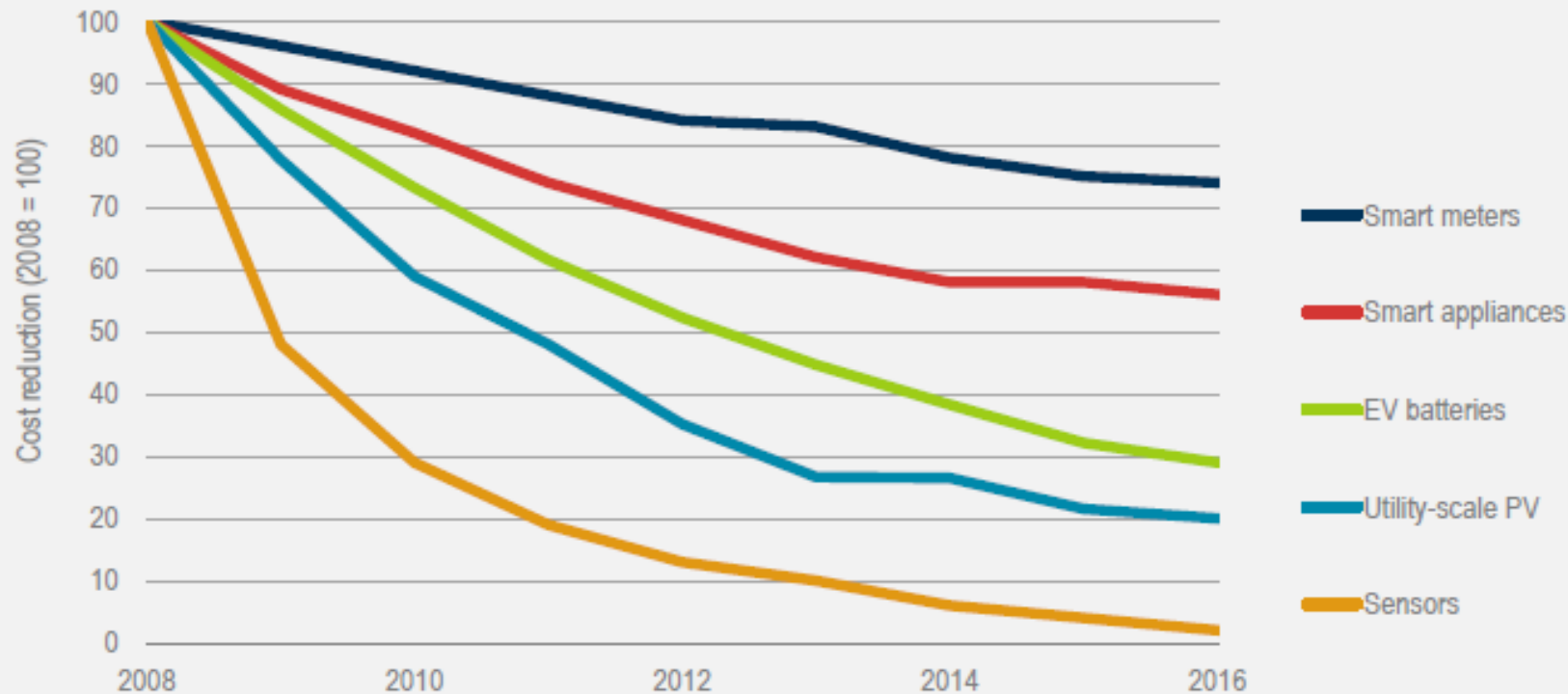
- **Impacts on energy demand** are still poorly known and in some sectors even the sign of the effect is not known and depends on scenarios:
 - “Network-enabled” appliances might do wonders in making our demands smarter but they will increase need for standby power
 - Transport, shared or not?

1) Digitalization and Energy Demand



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Figure 4.4 Unit costs of key emerging electricity technologies



Key message: Technology cost reduction is a key driver enhancing connectivity throughout the electricity sector.

Sources: IEA analysis based on Bloomberg New Energy Finance (2017); Holdowsky et al. (2015); IEA (2017a; 2017b; 2017c); Navigant Research (2017).

2) Digitalization and Energy Production

- Upstream and Downstream operation (oil and gas), conventional and unconventional
- Outages, O&M and lifetime of power plants

ENABLING INTEGRATION BETWEEN DEMAND AND SUPPLY

3) Digitalization and Society

- Less understood implications on employment, competitiveness, inequality, stability of democracy
- In turn this might have a huge mediating effect on the relationship between digitalization and emissions (and thus climate)





Digitalization



Decarbonization

Disruptive Digitalization For Decarbonization

2D4D



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Grazie



2D4D: Disruptive Digitalization for Decarbonization

