

ADP Technical Experts Meeting: Renewable Energy Supply

Deep Decarbonization Pathways

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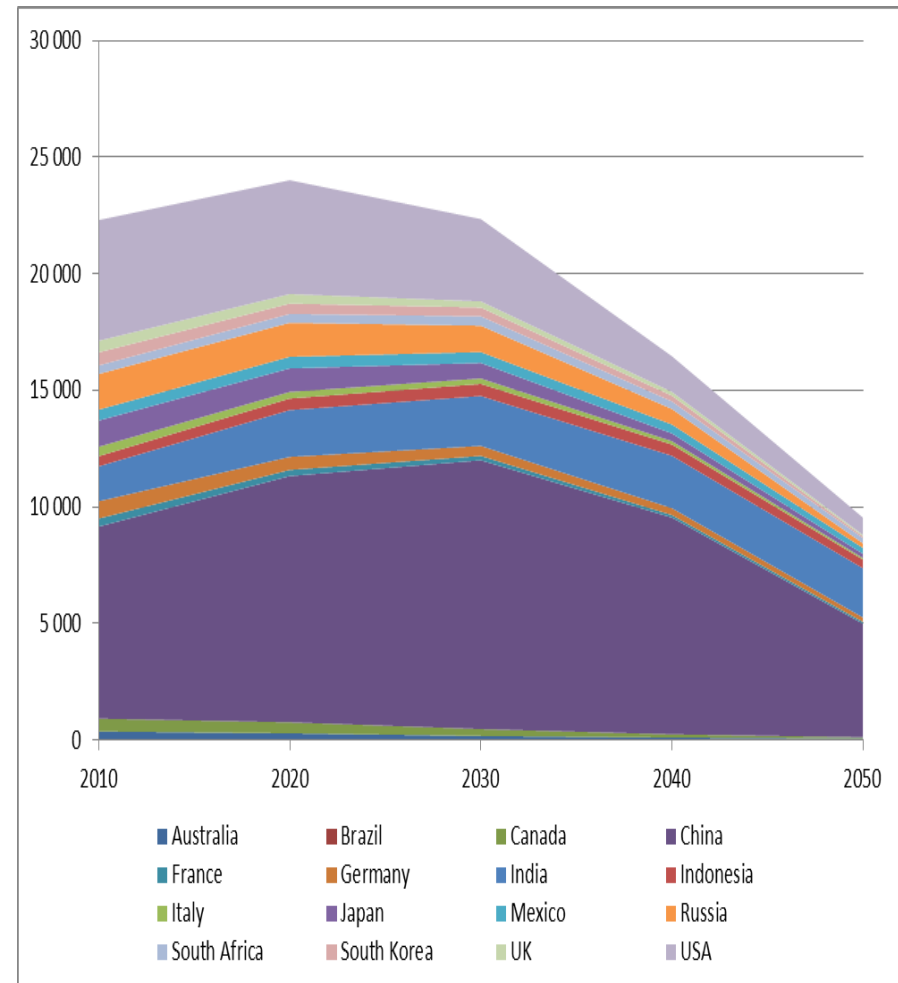
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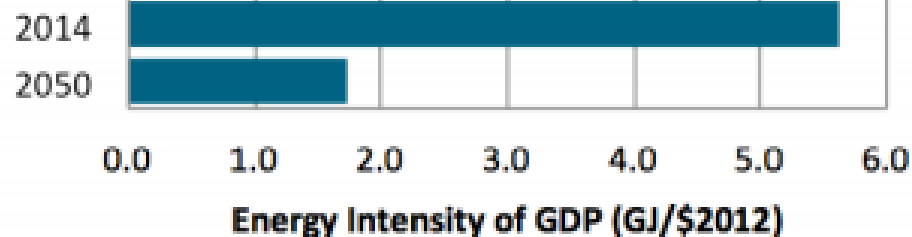
The Deep Decarbonization Pathways Project

- National, transparent and ambitious transition pathways
- Starting from the need for all countries to be at very low emissions in 2050
- Deep decarbonization is technically feasible with existing commercial and non-commercial technologies

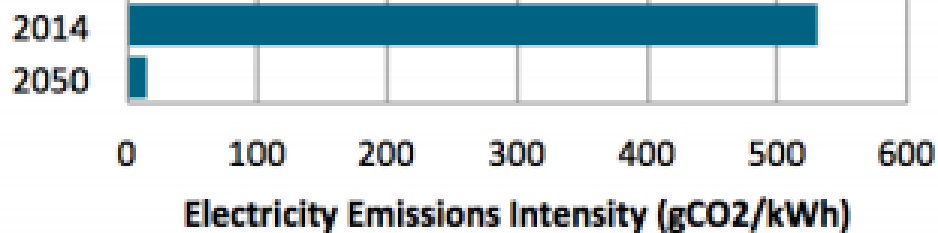


The Three Pillars of Decarbonization – the case of the US

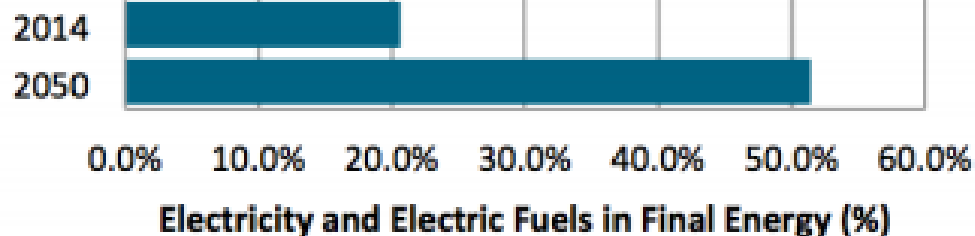
End-use Energy Efficiency



Decarbonization of Electricity

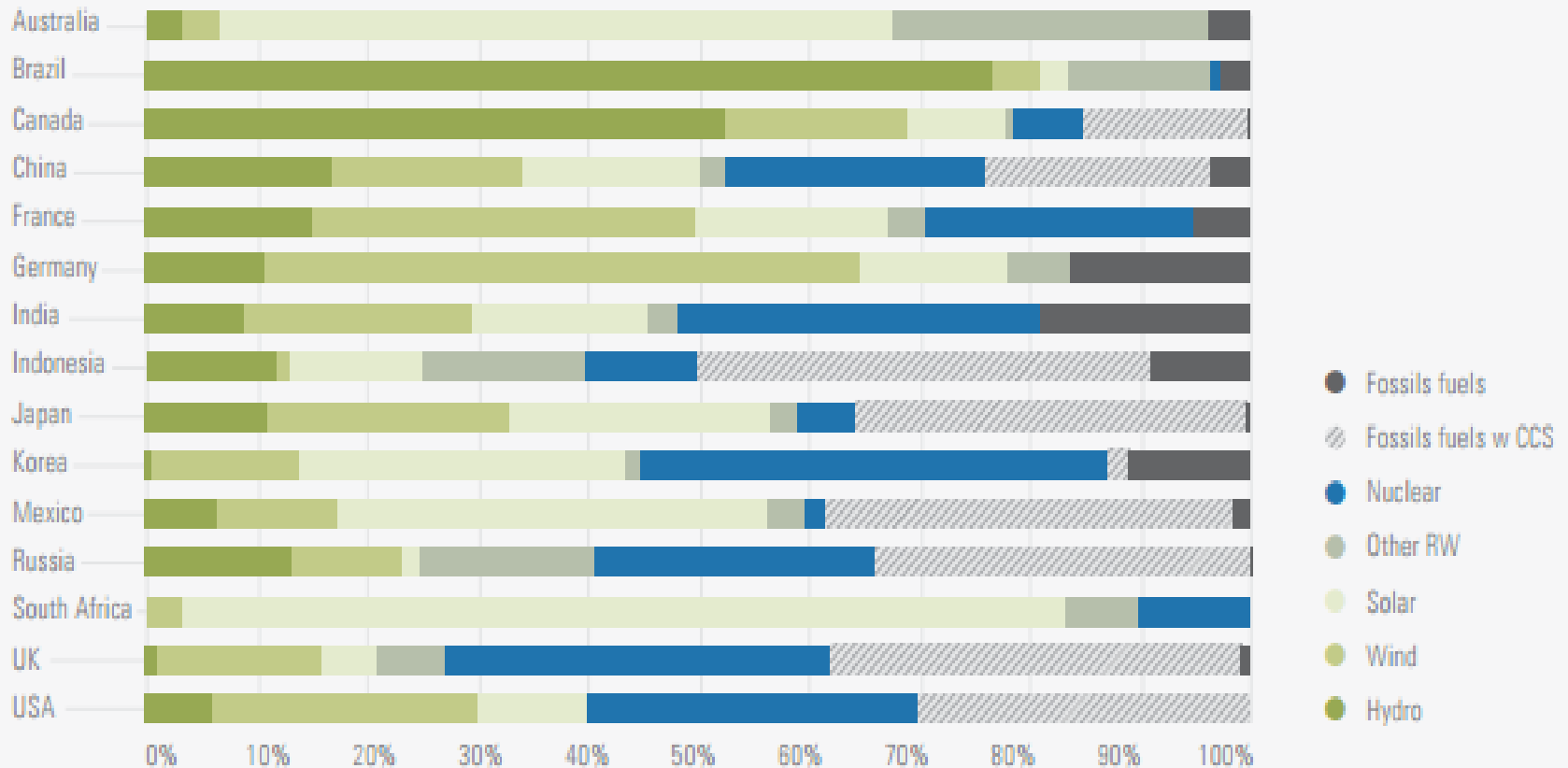


Fuel Switching



Renewable Energy in the Electricity Sector

Figure 6.11. Electricity generation mix in 2050



Investment costs – the case of Australia

Average annual capital investment in electricity generation, road transport and energy efficiency in industry and buildings, \$b

2013 Benchmark (as % of GDP)

Total private business investment:

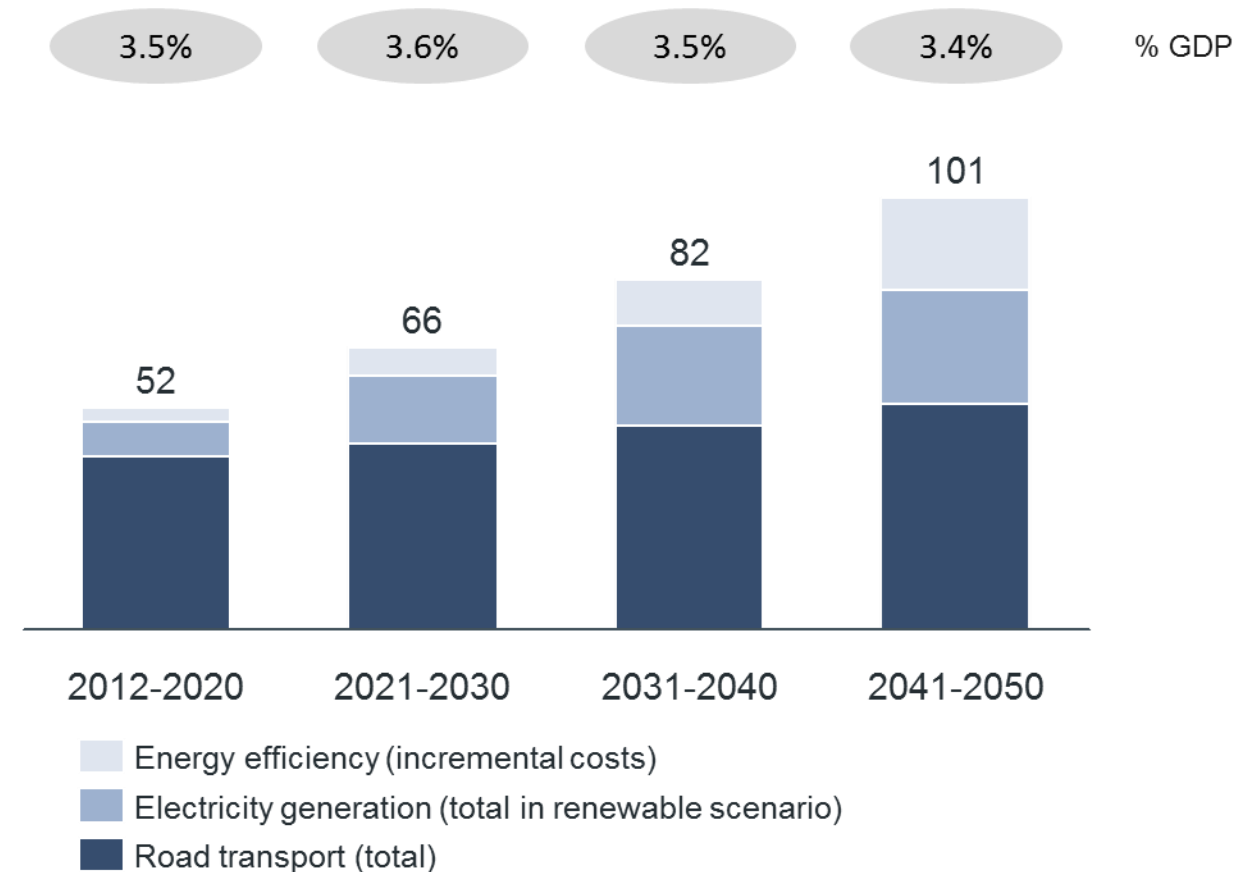
16.1%

Total private investment:

22.3%

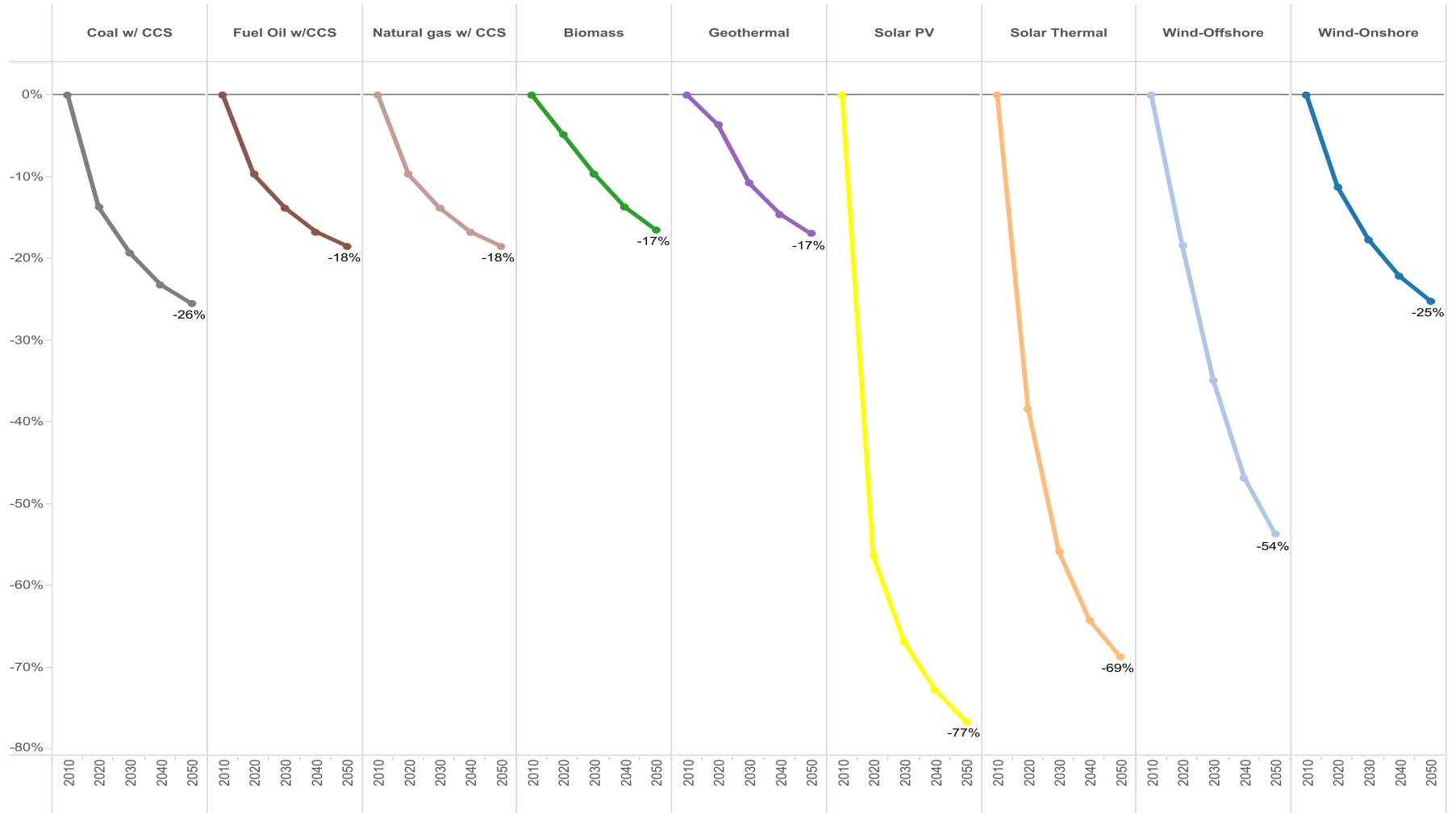
Total capital investment:

27.1%



Technology Deployment through Coordinated Rollout

Decarbonized Electricity Generation Cost Reductions:
Percentage Cost Reductions from 2010



Conclusions

- Deep decarbonization of global energy systems is technologically and economically feasible, but requires immediate and strong action
- Renewable energy plays a crucial role in a decarbonized energy system in all DDPP country studies
- The upfront investment needs of a renewable energy pathway are high, but can be compensated by energy efficiency and fuel expenditure savings
- Renewables have shown a very strong learning rate, this can be expected to continue with a consistent and strong global roll-out and strengthened R&D.

Resources

www.deepdecarbonization.org

Global Study 2014

http://www.iddri.org/Publications/Rapports-and-briefing-papers/DDPP_2014%20report.pdf