A few key facts on climate change… and on the implications for mitigation planning

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Stabilizing the climate requires full decarbonization

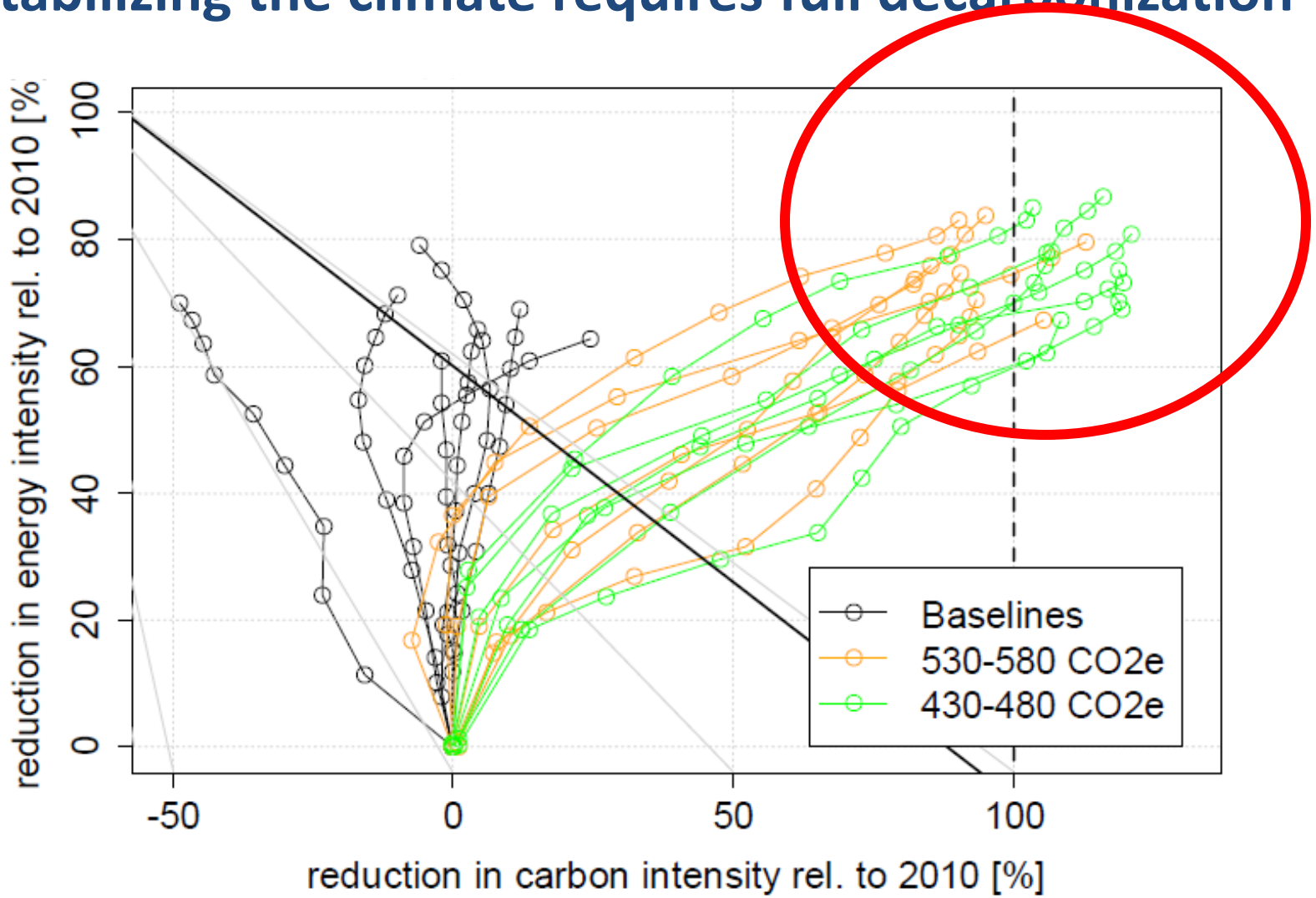
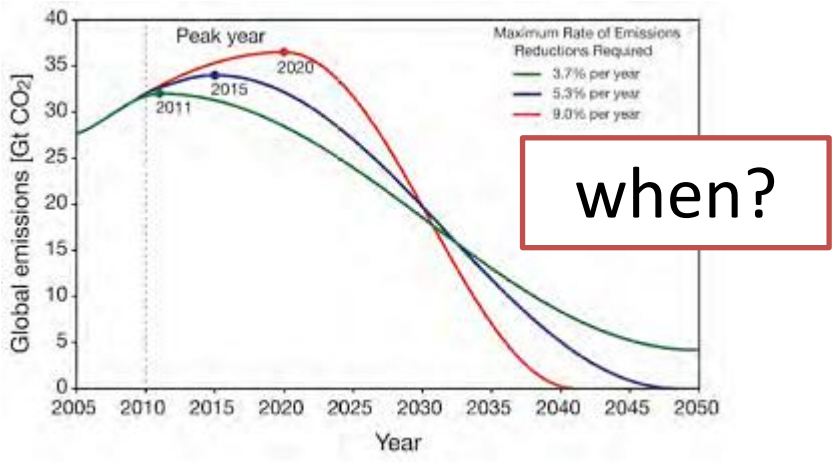


Figure WG3.6.17. Development of carbon intensity vs. final energy intensity reduction relative to 2010 in selected baseline, and mitigation scenarios reaching 550 and 450 ppm CO2-e concentrations in 2100

Policy question is not *whether* to decarbonize, but…

How?



when?

With what tools?

HOW?

All models suggest the same strategy

Energy efficiency in all sectors, including building, transport, etc.

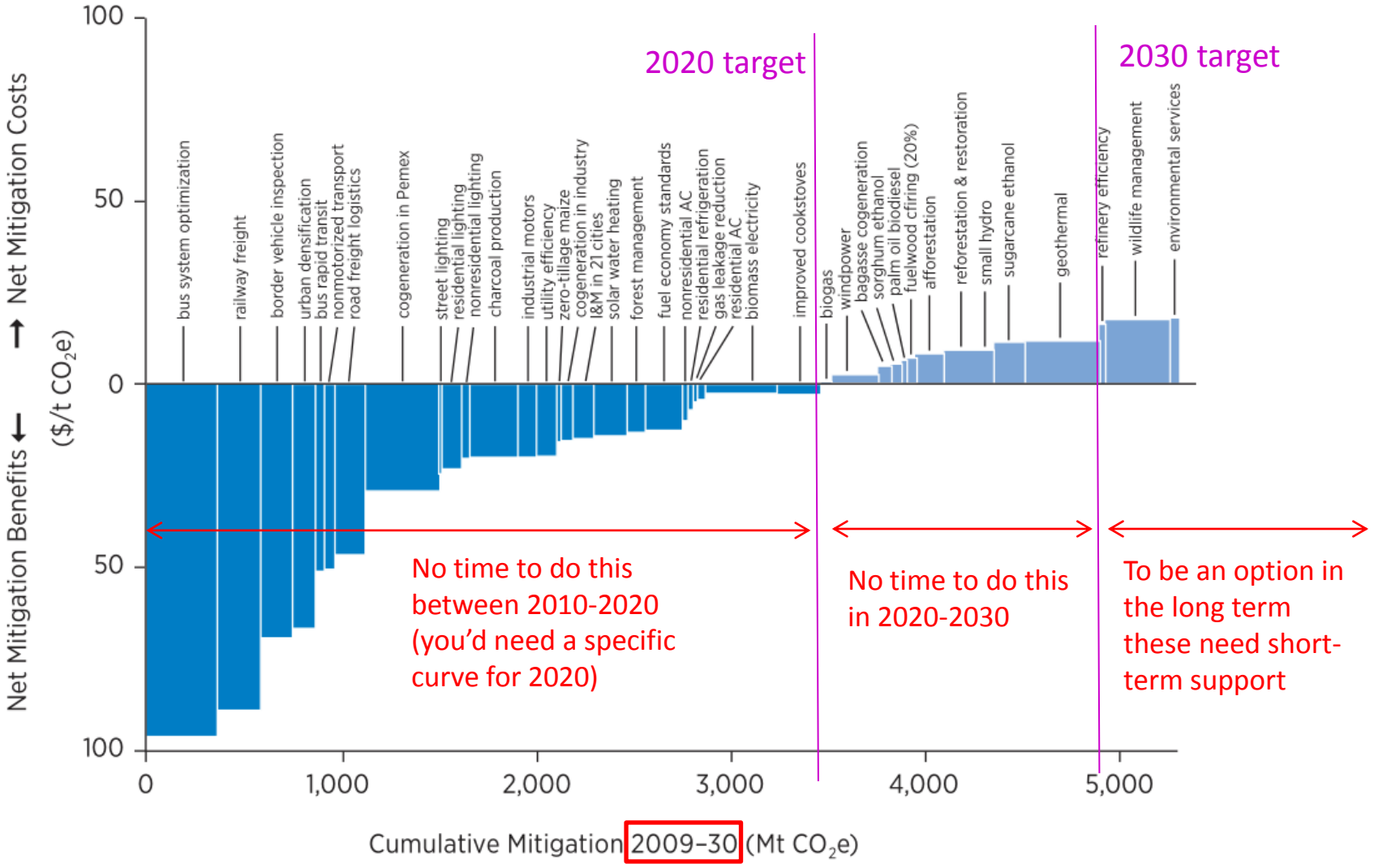
Electrification of transport, heating, and industries

Decarbonization of electricity generation, i.e. renewable, nuclear, and CCS

WHEN?

Reaching a shorter-term target through cheap options (supply curve approach) would cause carbon-intensive lock-in

Figure 3.2 | Marginal Abatement Cost Curve for Mexico (ESMAP, 2010a)



Source | ESMAP, 2010b.

USING WHAT TOOLS?

The need for a policy package

- Mainstream econ. lit. usually misses the point
- Carbon pricing important to ensure the adoption of existing technologies
- But unlikely to:
  - Address knowledge externalities, economies of scale, social norms and ingrained habits
  - Motivate long-term investments – including urban planning and infrastructure

The need for a policy package

- **Performance standards** are key part of policy package:
  - Familiarity: Every country has them
  - Credibility: can be reversed in the future, but ensure some action now
  - Political economy:
    - Switch costs to the MT
    - Create vested interest in low-carbon economy

A few more points…

Costs & “optimal” mitigation

- Careful to expound on costs of action… especially in absence of discussion of costs of inaction
- Much uncertainty…
- …hidden behind much subjectivity:
  - Discount rate
  - Growth rate
  - Technological progress
  - Damage function
- Move away from traditional CBA and focus on robust approaches…

Our advice to clients

Focus on :

- What offers immediate and local benefits
- What is urgent: avoid lock-in & deal with inert sectors first

How much can be achieved through “win-wins” is an empirical question – but let’s make sure to exploit them.

Take-away

- Stabilizing the climate requires decarbonization
- The policy question is when and how to decarbonize
- Policy packages are needed
- Pathways rather than targets
- Embrace uncertainty – don’t hide behind subjectivity
- Adopt decision-making tools that are appropriate to situations of deep uncertainty