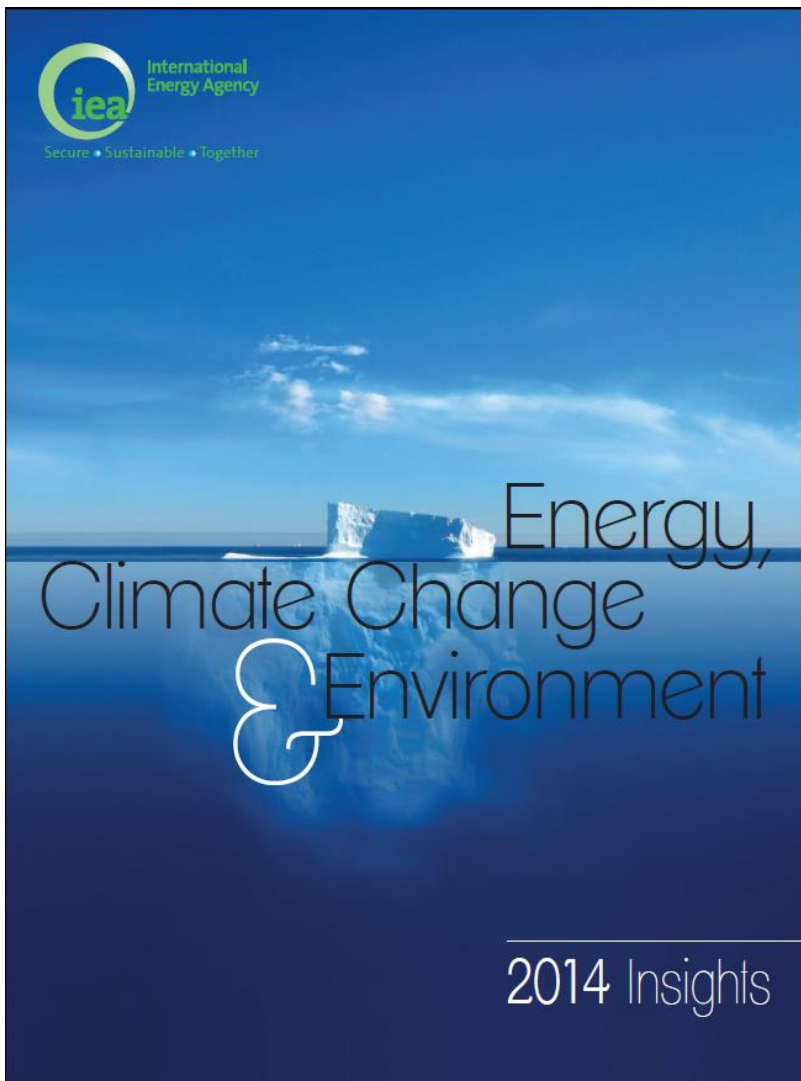




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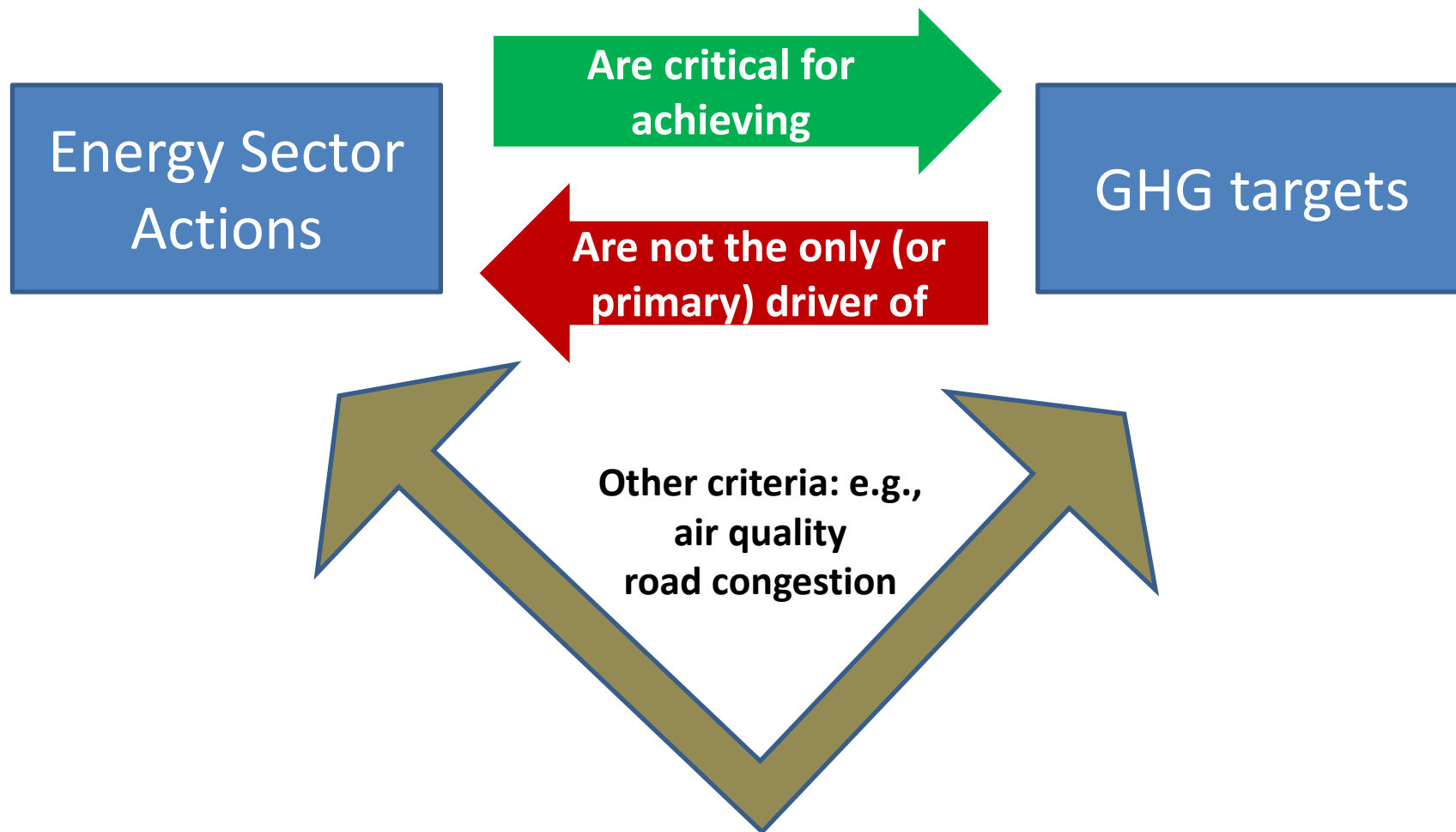
Demonstrating mitigation action: options for more diverse metrics in the UNFCCC

*Christina Hood
Environment and Climate Change Unit, IEA
5 December 2014*



Chapter 3:

Metrics for tracking progress in energy sector decarbonisation





International
Energy Agency
150
1974-2024

Reasons to consider other metrics

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- **Targeted to policy influences**
 - Many influences on total national GHG
 - Targets based on metrics that are influenced by policy could be more acceptable
- **Acting on the longer-term**
 - Measuring changes that will affect future GHG trajectory, even if not this year's emissions
 - Avoiding lock-in and bringing forward important but expensive abatement technologies
- **Capturing other benefits**
 - Economic, social, local environmental benefits

Typology of metrics

Type I metrics

- Total annual GHG emissions
- GHG per unit of GDP
- GHG per unit of energy supply

SHORT-
TERM

GHG goals

LONG-
TERM

Non- GHG goals

Type II metrics

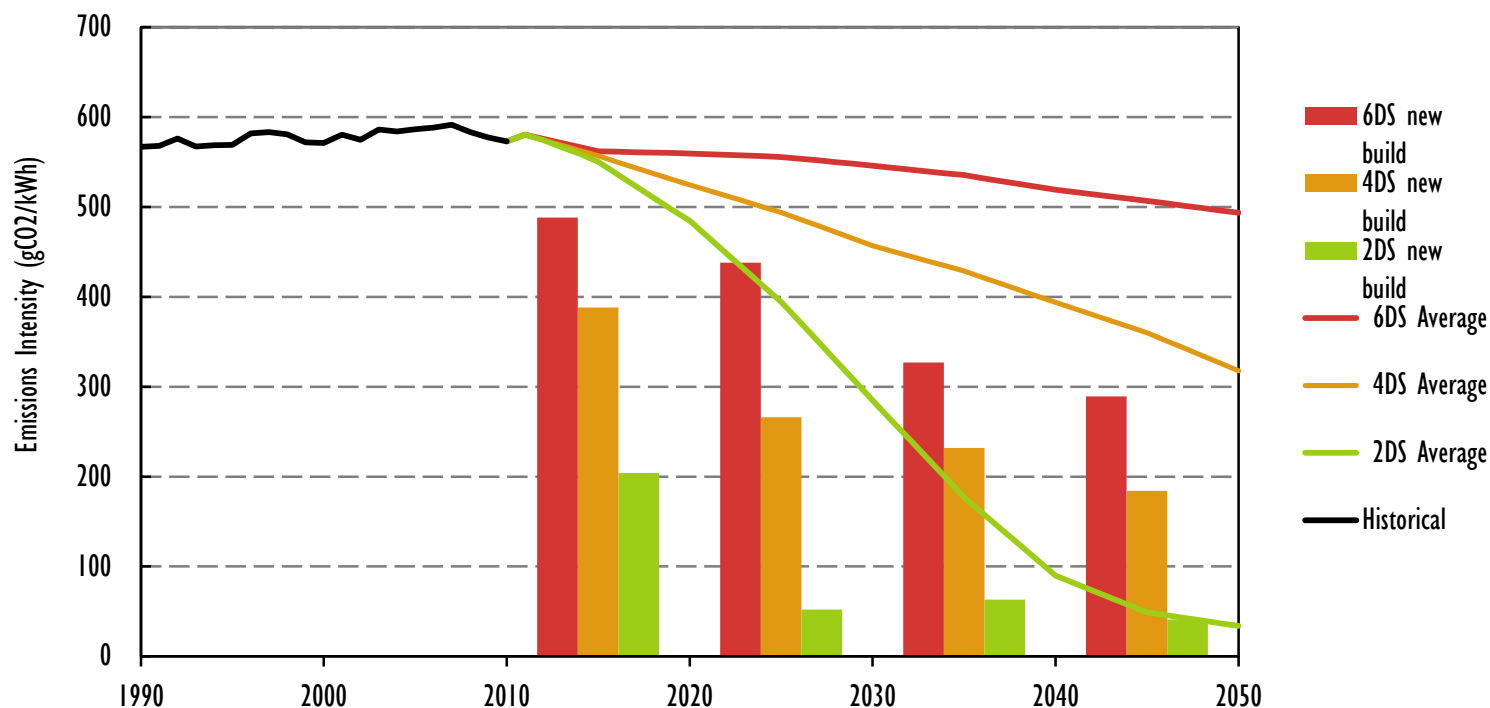
- Energy efficiency
- Renewable energy
- Low-carbon energy deployment goals

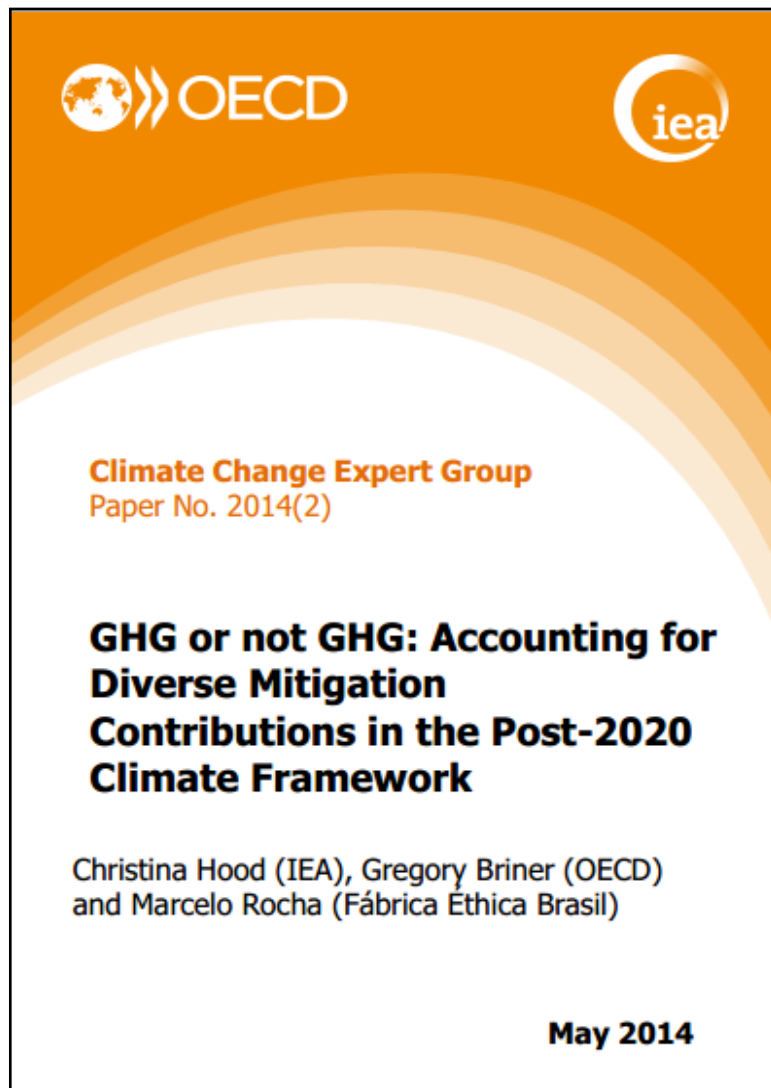
Type III metrics

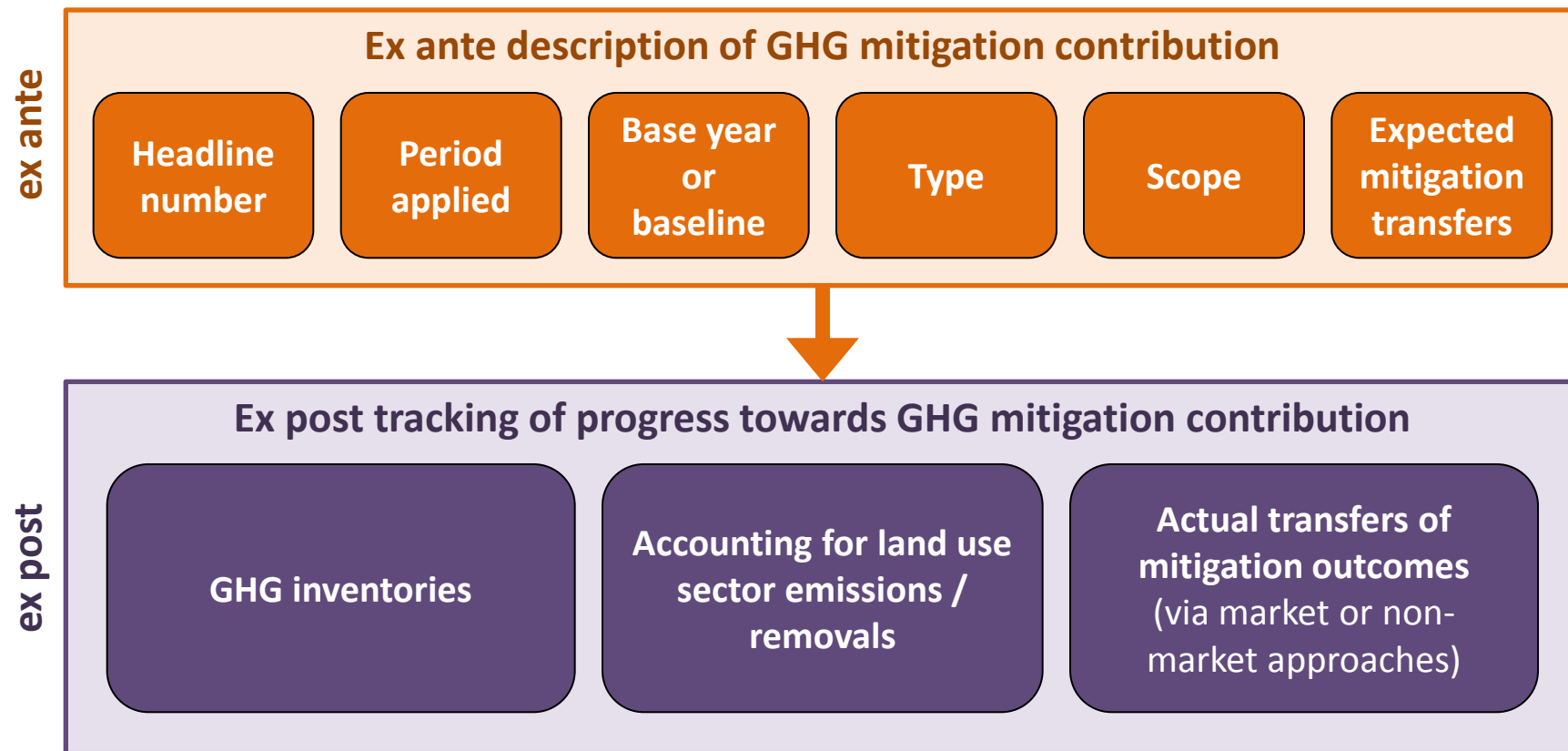
- Tracking R&D of key technologies
- Emissions intensity of new electricity investment

Type I and Type III metrics for the electricity sector

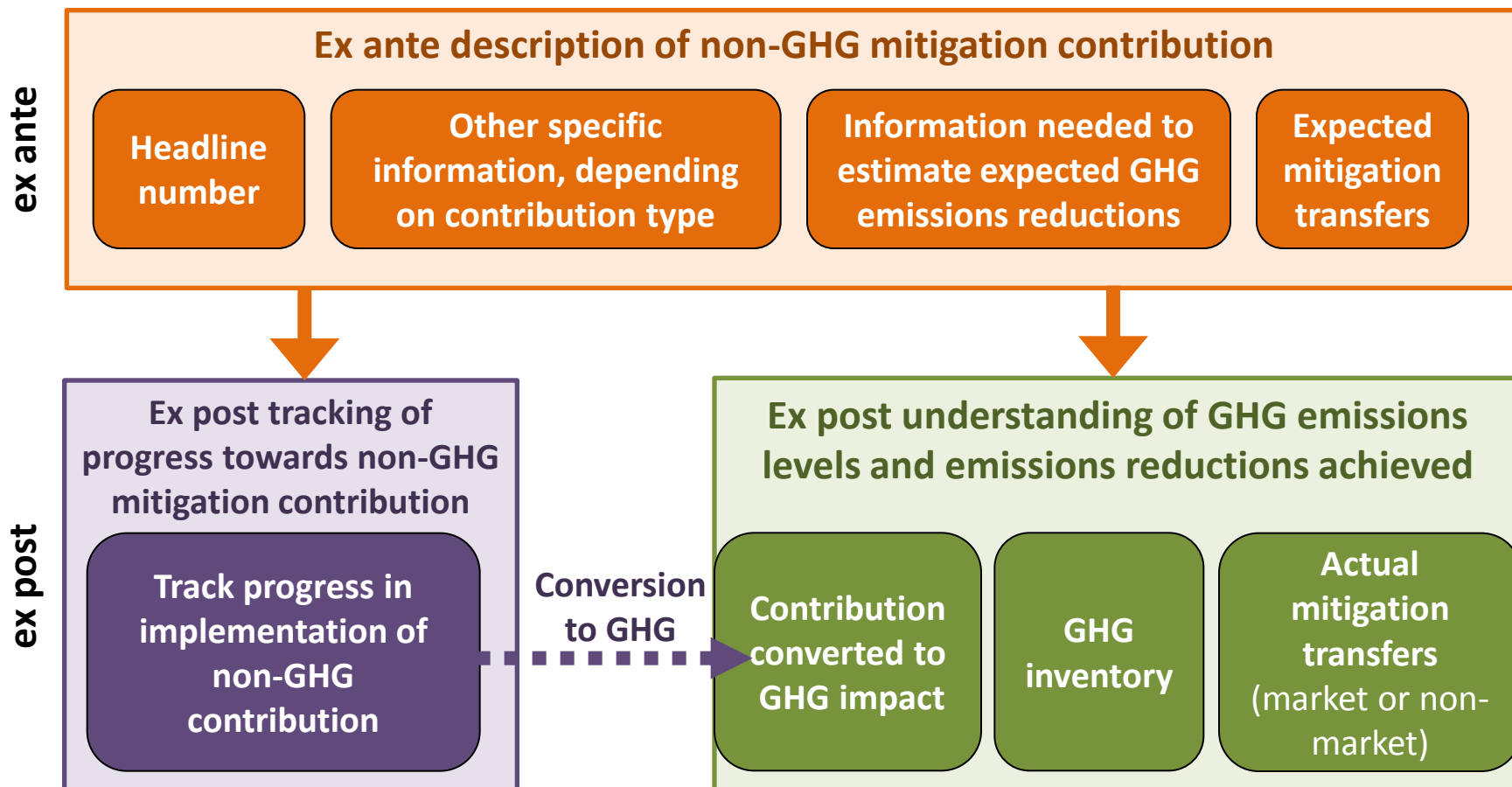
To achieve the 2DS, the average emissions intensity of new generation must be lower than that of natural gas before 2020, and only 10% of today's levels after 2020.







Prag, Hood and Barata (2013)



Challenges of accounting for more diverse metrics

- Data quality and availability varies heavily
- Conversion to GHG impacts would not be exact
- Pick'n'mix metrics could lead to countries choosing favourable metrics
- Finding a balance where alternative metrics help to build credibility for a country's broader actions whilst support GHG targets
- “Double Coverage” of emission reductions

Examples of “double coverage”

Party A	Party B	How double coverage could arise
Quantified GHG	Renewable energy capacity	If renewable energy target delivered in part by crediting mechanism (with units sold to Party A), could be double-counting of GHG reductions.
Renewable energy (transfers)	Renewable energy (capacity)	With trade of green certificates between Party A and B, there is potential for double-counting if one Party accounts for the transfers and the other doesn't.
Quantified GHG	Production of clean electricity	If electricity is exported from Party B to Party A via grid interconnection, the GHG reductions could be counted by both Parties.

THE WAY FORWARD

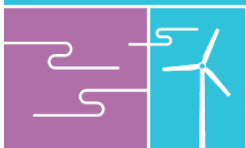
FIVE KEY ACTIONS TO ACHIEVE A LOW-CARBON ENERGY SECTOR



01 Seize the benefits of immediate action to bend the global emissions curve. To 2020, bridging 80% of the gap to an optimal 2°C path comes at no extra GDP cost.



02 Focus on electricity decarbonisation. Strong policies supporting low-carbon electricity could more than halve electricity emissions in 2030. This would save 9.5 Gt in 2030 - an amount larger than China's total 2012 energy emissions.



03 Reshape investment and accelerate innovation now in low-carbon technologies. Multilateral collaboration is critical to the development and tailoring of nationally appropriate technology solutions.

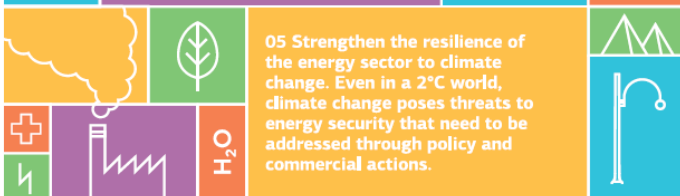


CO₂

04 Mobilise non-climate goals to promote energy sector decarbonisation. Health, transport, energy security, and other goals can also drive emissions reductions.



05 Strengthen the resilience of the energy sector to climate change. Even in a 2°C world, climate change poses threats to energy security that need to be addressed through policy and commercial actions.



Thank you

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