Making the case for Enhanced NDCs

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Context

- Ambition and implementation gaps
- NDCs 3.0 in 2025
  - Not all countries have submitted
  - More action is needed
- Enhanced NDCs
  - **Ambitious**: scaled up ambition, which collectively leads to a Paris-aligned pathway (no ambition gap).
  - **Implementable**: policies are implemented to reach the stated levels of ambition (no implementation gap).
  - **Investible**: finance is mobilised to enable policies implementation and technology deployment

Aim of the project:

Highlight the economic rationale for Enhanced NDCs

Scenarios

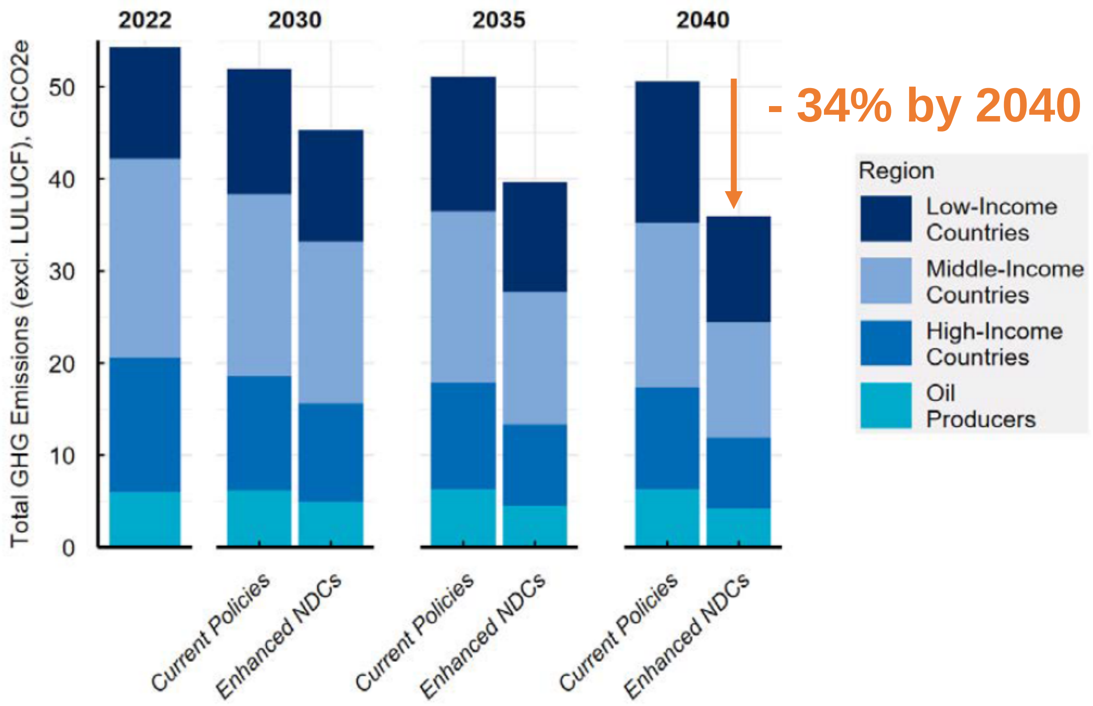
- **Current Policies scenario**
  - Policies already in place or legislated
  - Ambition and implementation gap in current NDCs
  - 2.4 degrees by 2100

- **Enhanced NDCs scenario**
  - Accelerated climate policies and investments
  - Emission reductions in line with the “well-below 2°C” goal of the Paris Agreement
  - 1.7 degrees by 2100

- Calibration based on IEA 2023 World Energy Outlook
  - Stated Policies (STEPS) and Announced Pledges Scenario (APS)

Emission reductions

Total GHG emissions (excluding Land Use, Land Use Change and Forestry (LULUCF) emissions) by country grouping and by scenario between 2022 and 2040, $GtCO_2e$



Source: OECD ENV-Linkages model, with inputs from the NiGEM and IEA’s GCEM models.

Macro-economic effects of climate policies

POLICY CONSTRAINTS	• Changes in production processes of firms • Changes in consumption patterns and prices • Changes in government expenditure
ENERGY TRANSITION	• Energy efficiency gains • Accelerated electrification and deployment of renewable energies and technologies
INCREASED INVESTMENT	• Resources needed to finance the transition, with expected returns • Strong links with macroeconomic policies and performance • Spurs economic activity
REVENUE RECYCLING	• Possibility to use revenues from carbon pricing or removals of subsidies, when applicable, to finance the transition or alleviate negative social impacts

Modelling toolkit

IEA: Energy projections (WEO 2023)
(energy mix, energy prices, investment)
IEA's Global Energy and Climate Model

Macroeconomic analysis
(investment – economic growth link)

NIESR's NiGEM model (Macro-Econometric)

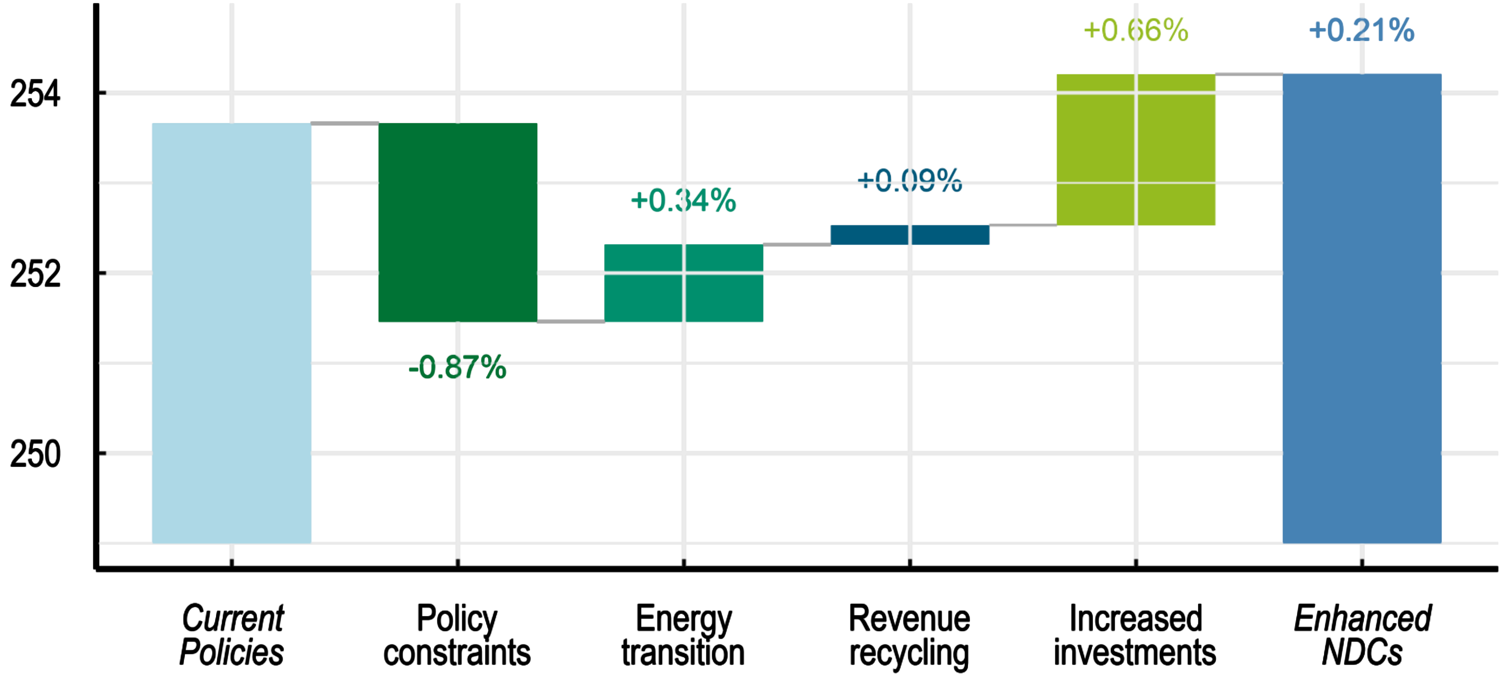
Economy-wide analysis
(sectoral projections, GHG emissions…)
OECD's ENV-Linkages Model: CGE

Socio-economic macroprojections
(demographics, labour, GDP…)
OECD's Long-term model: growth Model

Well-designed climate policies are compatible with economic growth

Enhanced NDCs can increase global GDP, even in the near term

Decomposition of changes in global GDP (2021 USD purchasing power parity) between the *Current Policies* and *Enhanced NDCs* scenarios in 2040



Source: OECD ENV-Linkages model, with inputs from the NiGEM and IEA's GCEM models.

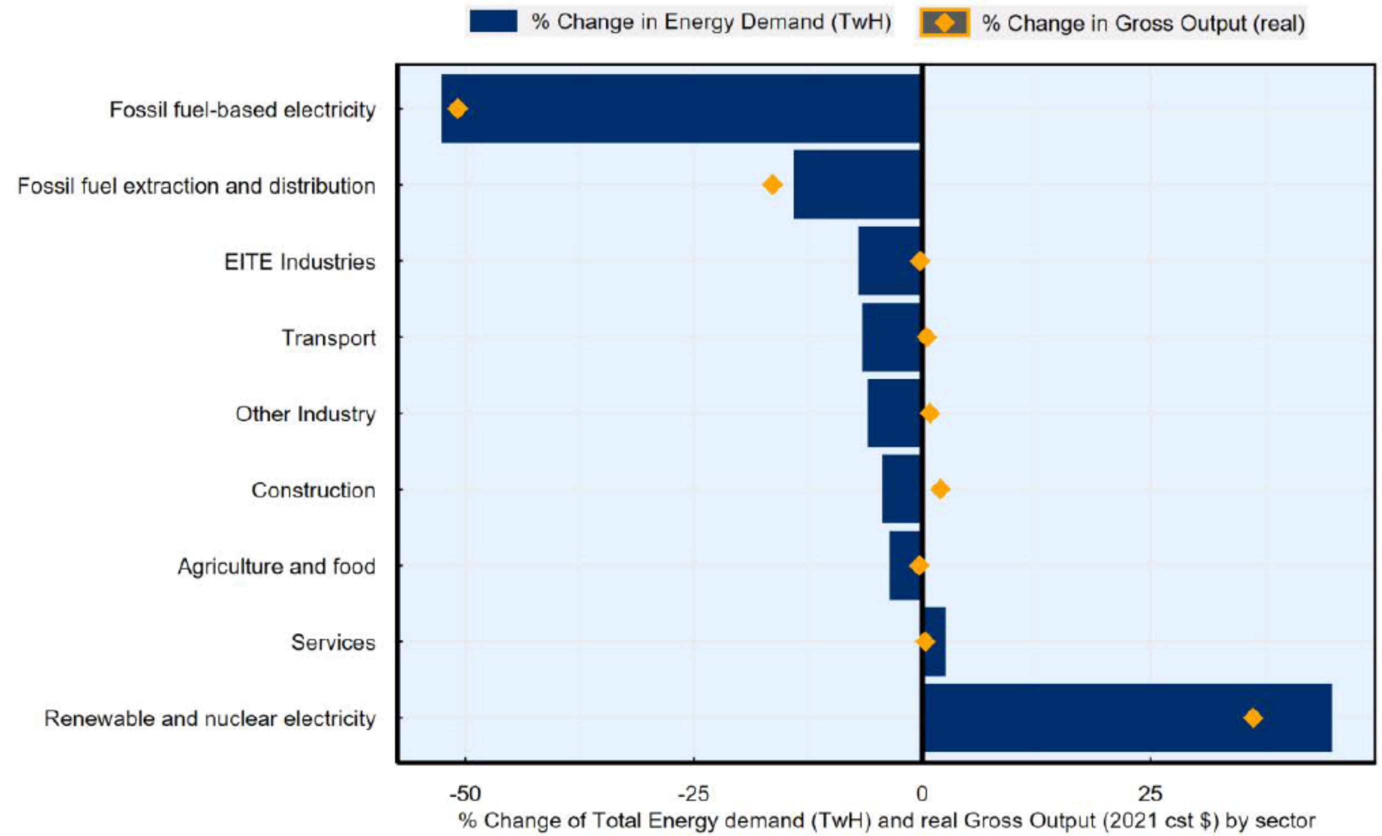
Well-designed fiscal and monetary policies can improve the global growth impact of Enhanced NDCs in the short to medium term

Additional global GDP effects with respect to *Current Policies* of *Enhanced NDCs* scenarios with alternative macroeconomic assumptions, in % points

Source: NiGEM model.

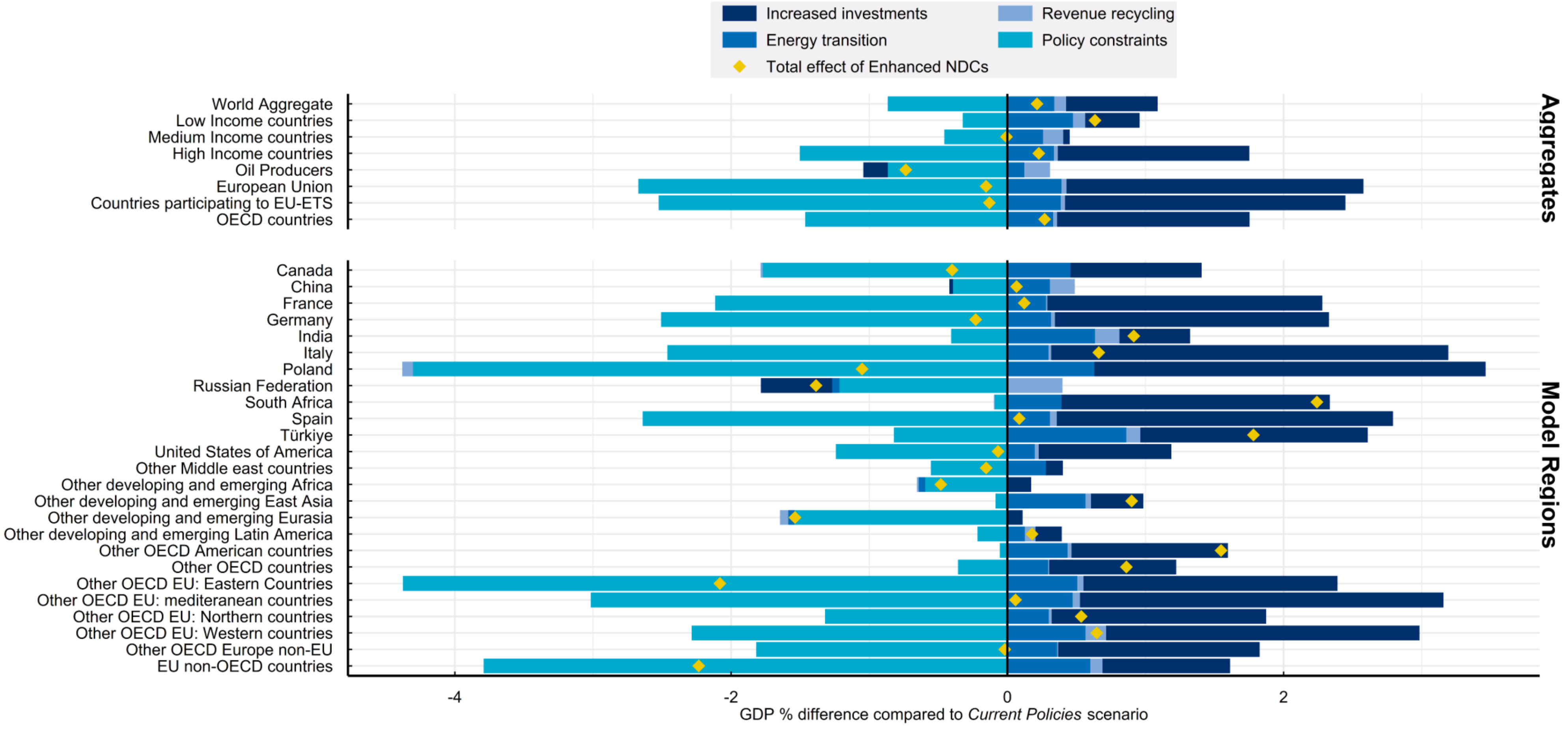
Energy demand is reduced in most sectors but increases in services

Difference in global sectoral energy demand (TwH) between *Current Policies* and *Enhanced NDCs* scenarios (%), 2040



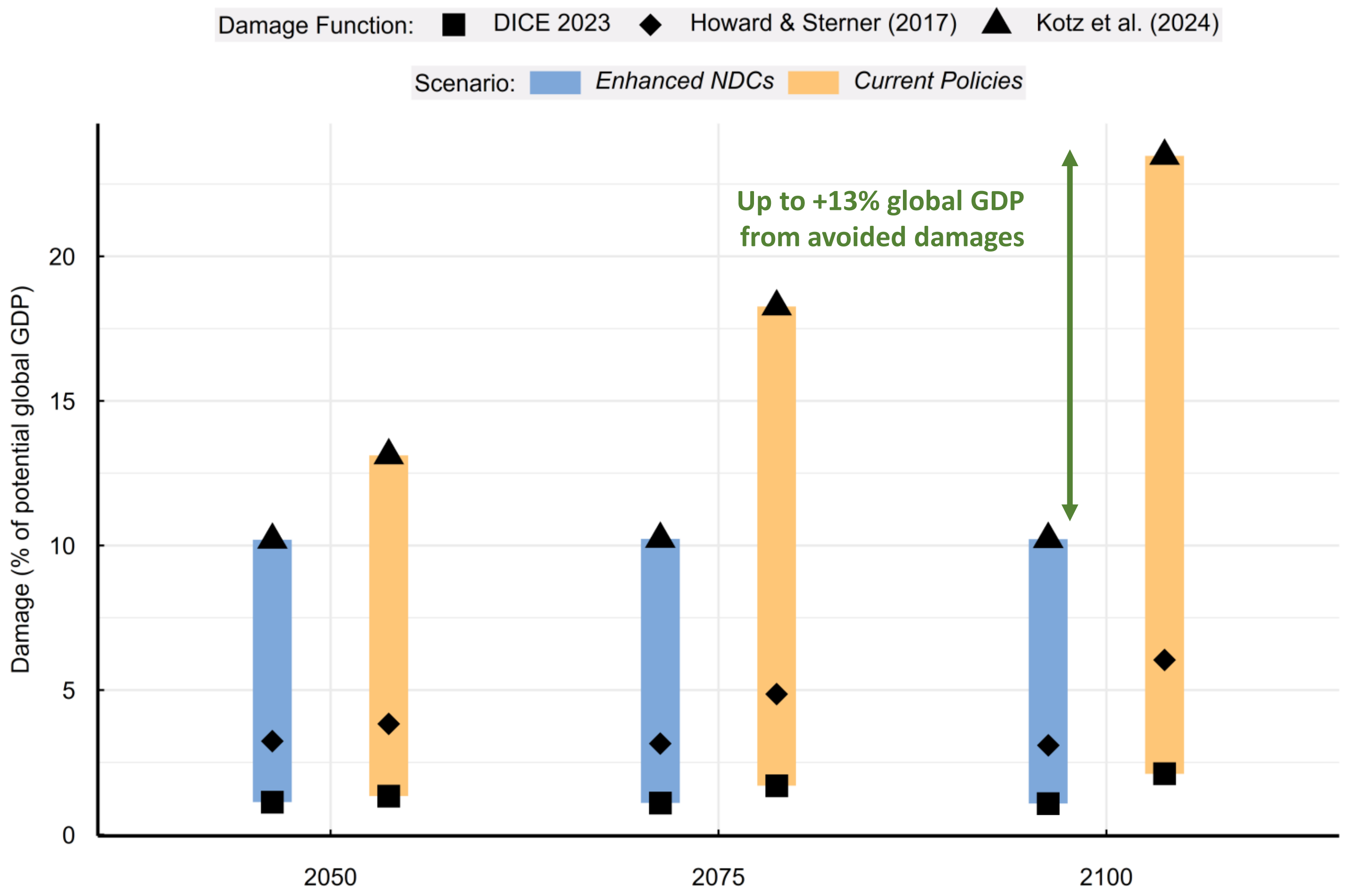
Source: OECD ENV-Linkages model, with inputs from the NiGEM and IEA's GCEM models.

Almost all regions would benefit economic growth, but not all would have more growth with Enhanced NDCs



Source: OECD ENV-Linkages model, with inputs from the NiGEM and IEA's GCEM models.

The economic case for climate ambition gets even stronger when factoring in avoided climate damages



Source: Authors, based on three damage functions (Howard and Sterner, 2017; Barrage and Nordhaus, 2024; Kotz, Levermann and Wenz, 2024).

Beyond GDP impacts

- Health and other environmental benefits, e.g. air pollution
- Interactions with other environmental issues, which depend on policy mix (e.g. forests and nature conservation)
- New energy security challenges (from fossil fuels to materials needed for batteries)

Source: OECD ENV-Linkages model, with inputs from the NiGEM and IEA's GCEM models.

Placing people and territories at the center of climate strategies is essential

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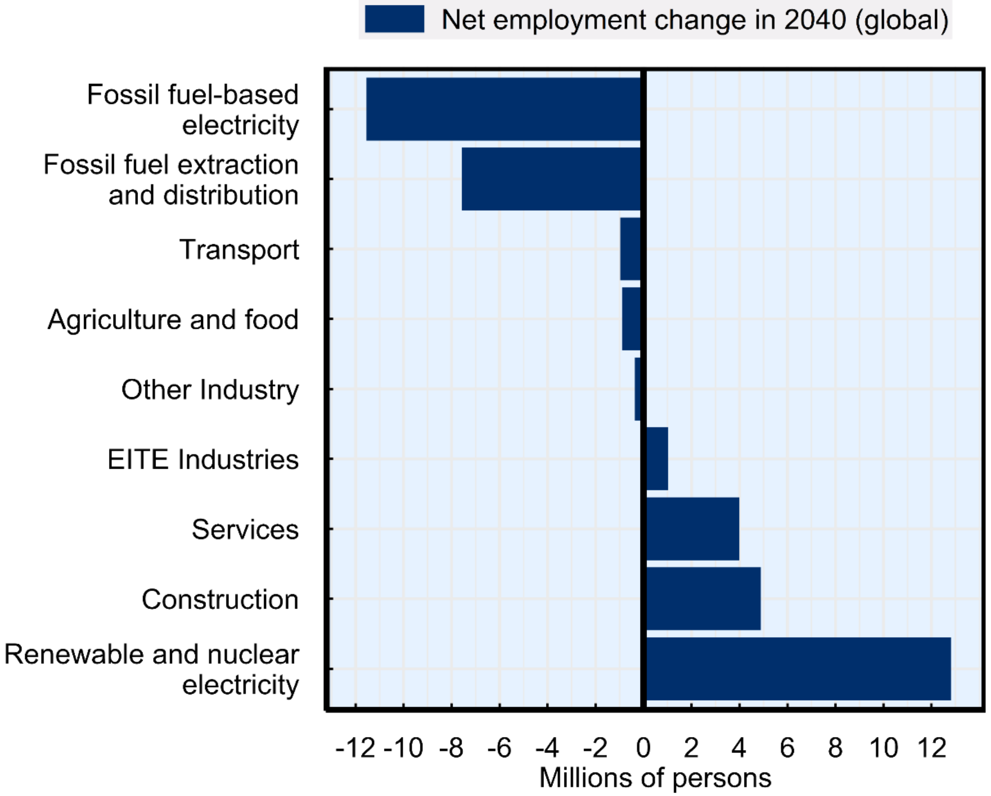
Climate action has large social benefits in the long run…

- Low-income and vulnerable populations are more exposed to climate risks and workers can benefit from green jobs

…but can be regressive and cause disruptions in the job market in the short run, requiring targeted approaches

- Well-designed support policies and compensation mechanisms are essential
- A coherent set of labour market policies can steer workers towards growing sectors

The net impact of Enhanced NDCs on global employment is marginally positive



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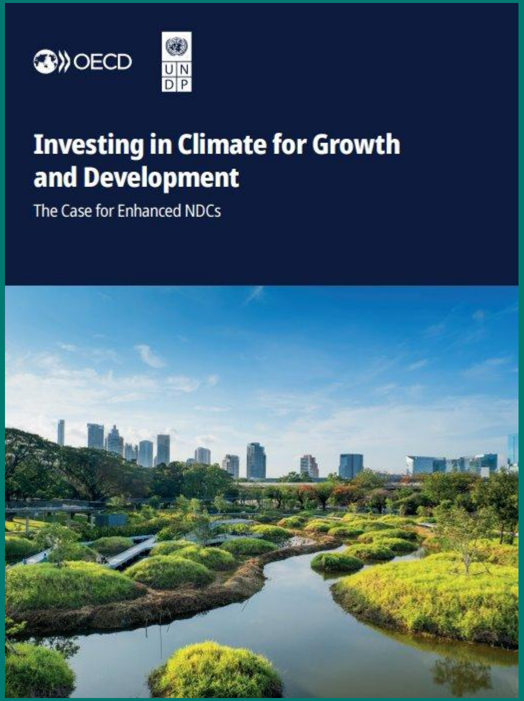
Key messages

- Explicit modelling of investment can highlight economic opportunities from the transition
- Enhanced NDCs bring costs but also economic gains, which balance each other out
- Effects vary by region; the transition will be more difficult in some countries
- Large benefits from reduced climate damages in the second half of the century



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Thank you

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