Some arguments for increasing EU's 2030 climate ambition

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- Avoiding unnecessary investments
- Preventing too high reliance on negative emissions
- Keeping higher ambition feasible
- Stimulating innovation
- Supporting domestic low-carbon industries
- Keeping Paris together
- Reducing financial stability risks

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 730427 (COP21 RIPPLES)

The current legal framework is more ambitious than 2030 targets

Table: EU's 2030 emission target is higher than emissions implied by current policies and targets

Implied by current targets	Nationally Determined Contribution (NDC)
2.9 Gt (-48%)	3.3 Gt (-40%)

Source: In-depth analysis accompanying the EU Long term Vision (p.198)
Note: total GHG incl. LULUCF

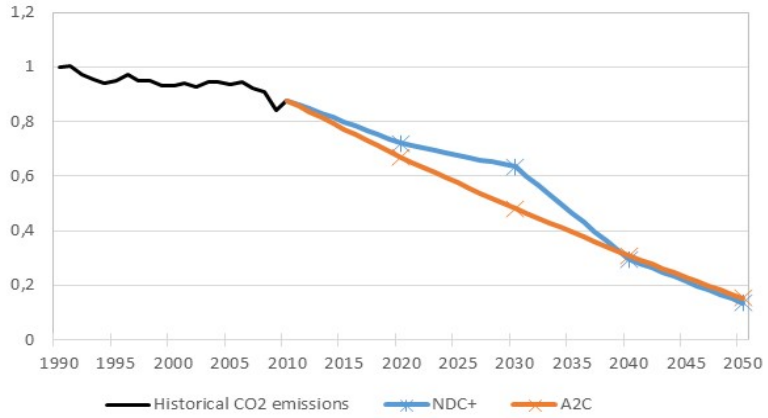
The current targets are incompatible with the 2°C goal

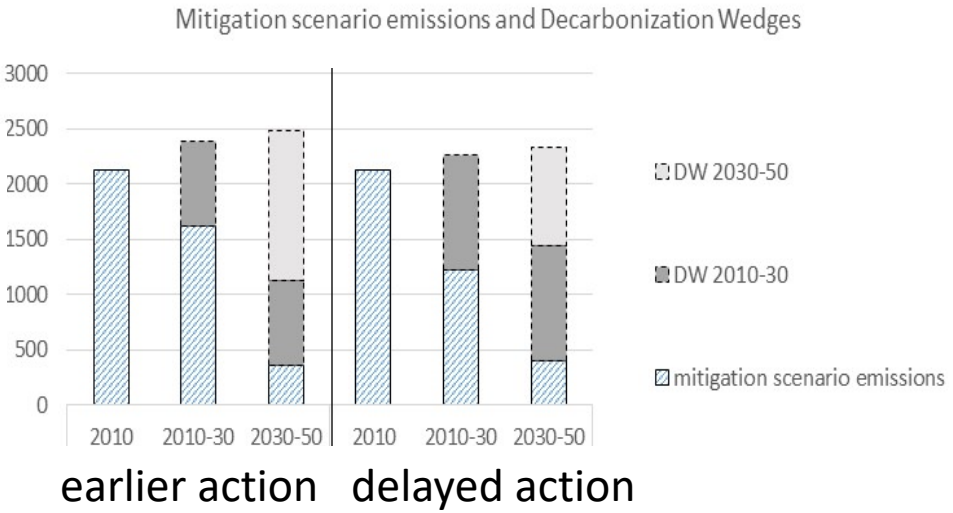
- The current global set of nationally determined contributions (NDCs) - including the EU one from 2015 - are consistent with 3°C global warming
- The EU needs to communicate a revised NDC and 2050 ambition to the UNFCCC in 2020

Delayed action will result in very unbalanced efforts before and after 2030

Ambitious and earlier action allows a stable level of effort to be maintained until 2050, while delayed action postpones the effort heavily to the period 2030-50

Figure: Emissions in the EU-5 region for Current-NDC and Enhanced-NDC scenarios





Late decarbonisation benefits electrification, but at high cost

Table: Results for electrification in EU-5

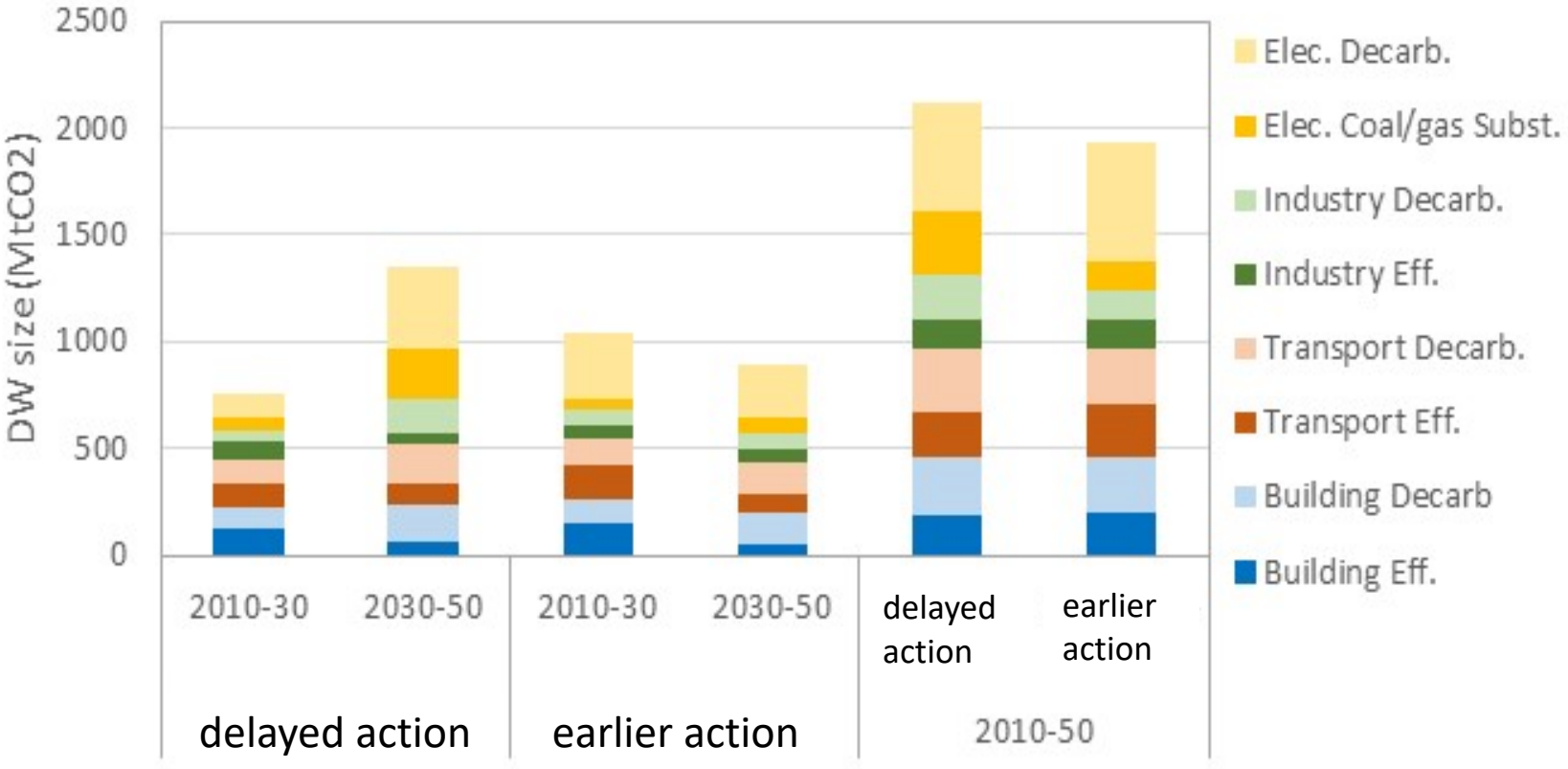
	Share of electricity in energy consumption in 2050	Increase in electricity consumption 2030-2050
earlier action	38 %	650 TWh
delayed action	51 %	1300 TWh

This sharp increase raises the question of socio- and techno-economic feasibility.

Late decarbonisation calls for carbon capture and storage (CCS), causes a short-live gas-demand bulge & the abrupt transition after 2030 might cause social pain

The earlier action scenario results in a continuous but significant decrease of coal in the energy mix and therefore does not use CCS or the substitution of coal for gas.

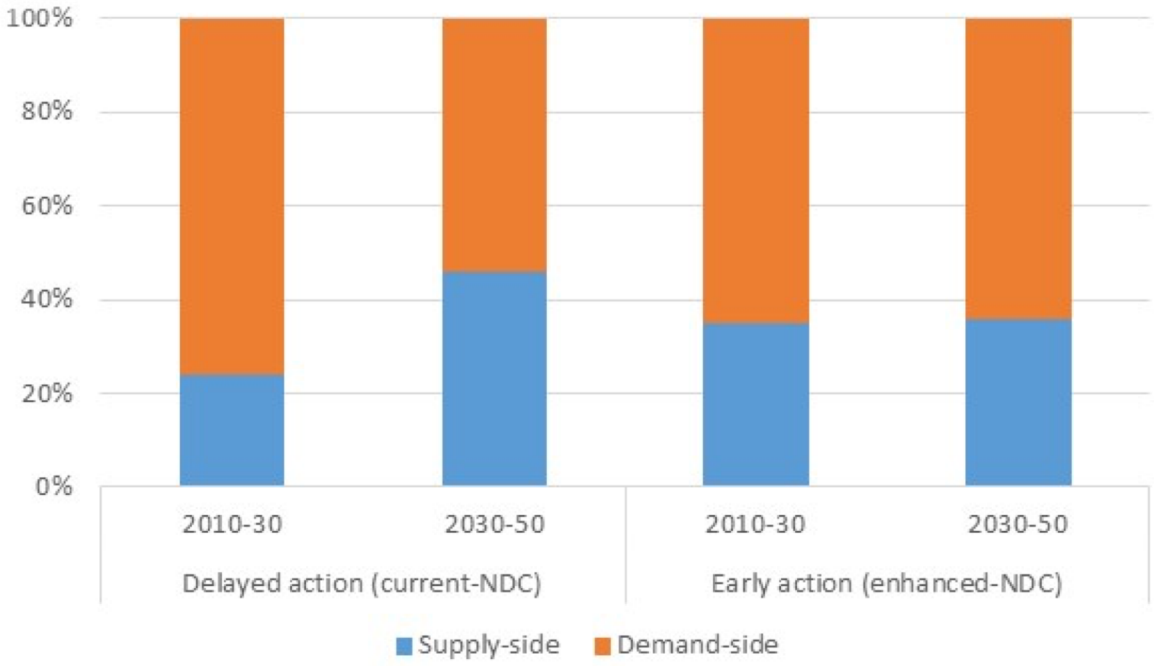
Figure: Sectoral decarbonisation efforts - EU-5



Easy 2030 targets can be reached by reducing demand – but then it gets difficult for 2050

By way of contrast, in the earlier action scenario, both supply and demand-side measures can be symmetrically distributed between both periods.

Figure: Contribution of demand-side and supply-side reduction efforts (% of total DW)



To keep 1.5°C within reach – EU's 2030 emissions need to be significantly below the current target

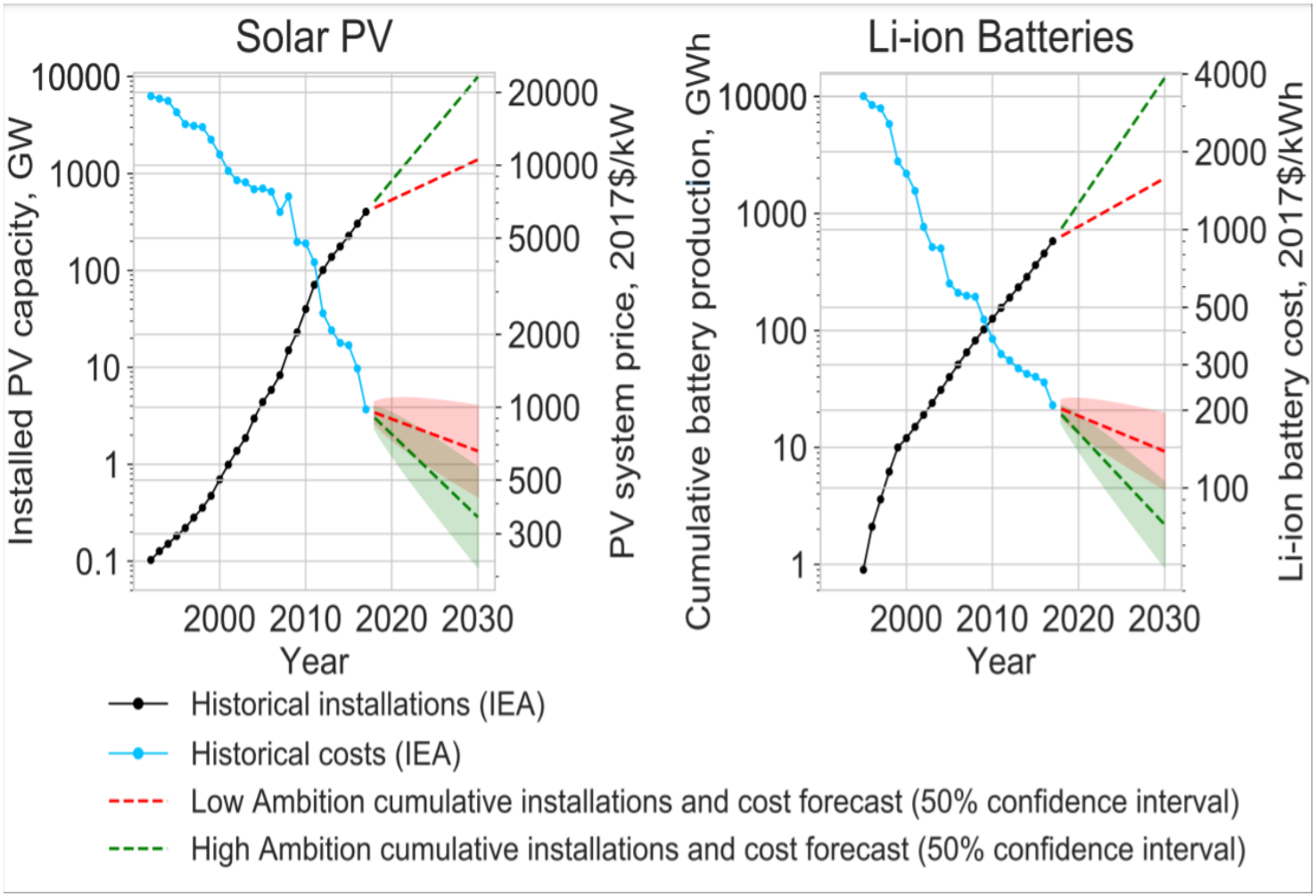
- The IPCC 1.5C Special Report finds that to keep temperature increase below 1.5°C, global GHG emissions should be in the range of 25-30 MtCO2eq by. That is about half the level implied by NDCs (52-58 GtCO2eq).
- The report is clear that any delays in achieving emissions reductions by 2030 will lead to higher overall mitigation costs and particularly steep costs increases in the 2030-2050 period, and to a high dependency on so-called negative emissions

Without early action we might need to rely on carbon dioxide removals

Maintaining the EU's climate leadership role

- "Leading by example" was for a long time the precept of EU climate policy in the international realm. Not increasing the 2030 target could well set a dangerous precedent.
- More specifically, not increasing the ambition of the first NDC could reduce the EU's clout within the UNFCCC negotiations.

Faster capacity expansion can reduce future cost of low-carbon technologies dramatically



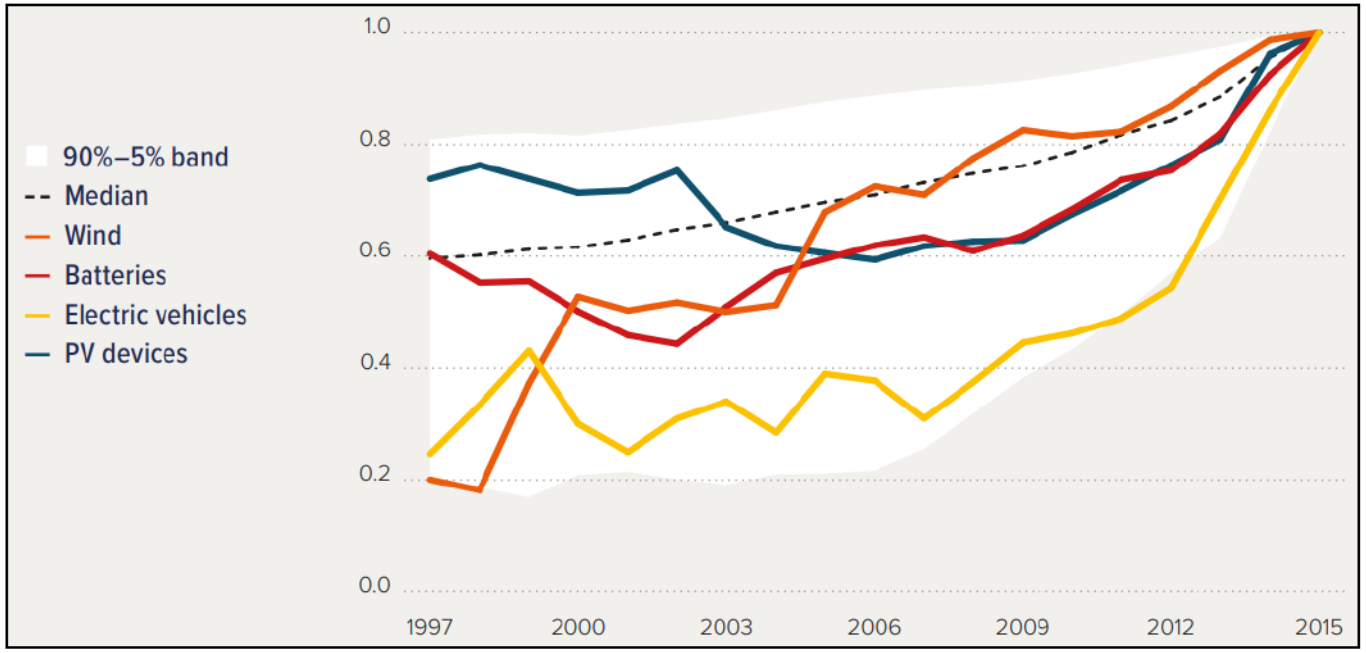
Switching earlier to faster learning technologies implies economic benefits over time

The low carbon technologies race is still open

- Countries rarely make large jumps in terms of the products that they are particularly good or bad at exporting, but certain countries might find it easier to develop new strength in emerging low-carbon sectors, than in more mature sectors.

Figure 1-1: Correlation between current (2015) and past specialization

Exports, 1997 – 2015, showing RCA



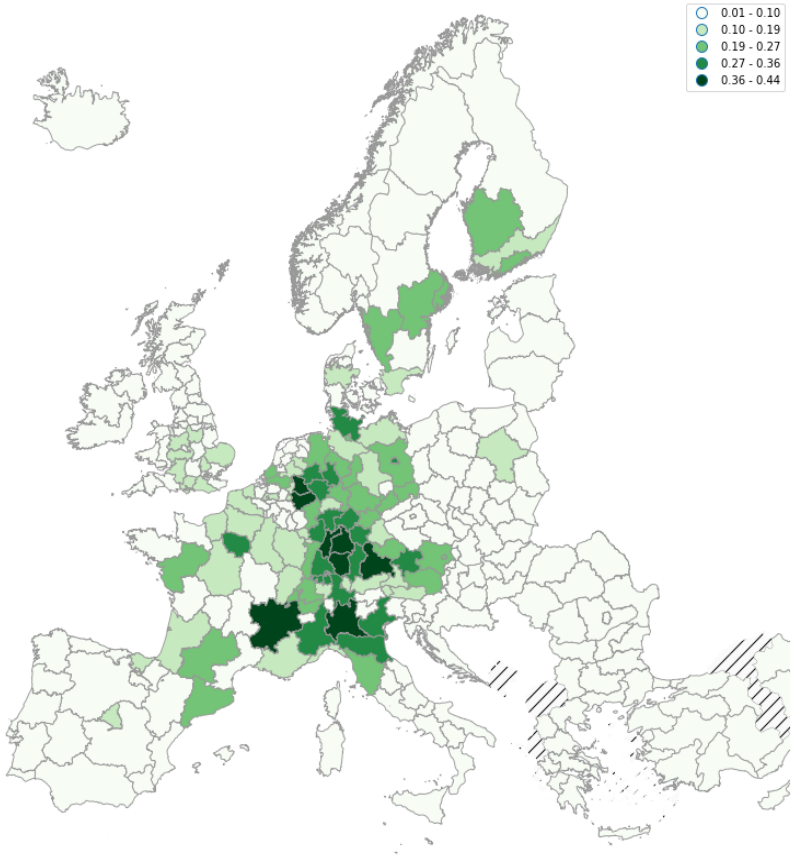
Source: Zachmann and Kalcik (2017), based on UN Comtrade.

Note: The dashed line is the median correlation, across 5,842 export products. The shaded area comprises the RCA and RTA correlations of all technologies between the 5th and the 95th percentiles of the distribution

Specific European regions have the potential to specialise in certain low carbon technologies

- Early action can help to translate this potential into an actual competitive edge
- A credible commitment to ambitious targets can contribute to translate regional potential into an actual competitive edge.

Figure: Potential RTA (2018) for NUTS2 European Regions in electric vehicles.

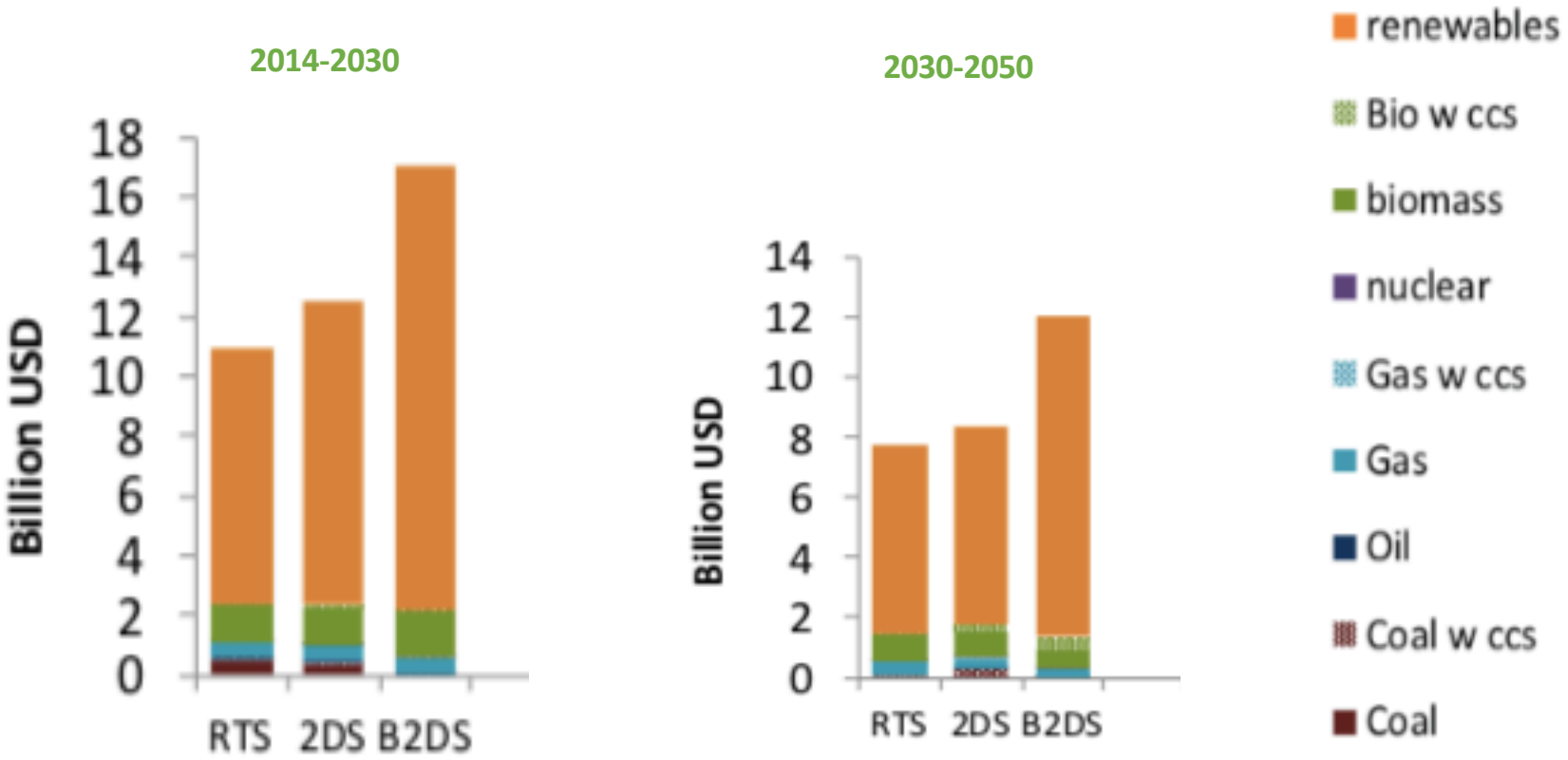


Delaying action to after 2030 poses an even higher risk to financial stability

- The financial sector is exposed to
  - physical risks from increasing frequency and severity of **physical climate impacts** (e.g. damages infrastructure and affects value of assets) and
  - **transition risks** cause by policy, technology, and market shifts that will lead to the reevaluation of assets in a low-carbon economy
- Delaying action until after 2030 will increase the disruptive effects for the financial sector compared to a 1.5°C scenario where climate policy is enacted smoothly and with immediate effect

To avoid stranded assets and economic disruption in the EU, there is urgency for increasing low-carbon and phasing-out fossil fuel investments

Figure: Average annual investments in electricity generation



Note: RTS – Reference Technology; 2DS – 2°C Scenario; B2DS – Beyond 2°C scenario
Based on SIAMESE modelling results

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