UNITE EUROPE, SAVE THE EARTH:
our common challenge!

European Civil Society Meet-Up

4-5 October 2019
Vilnius (Lithuania)

Union of European Federalists
Union Europäischer Föderalisten
Union des Fédéralistes Européens

EUROPOS FEDERALISTŲ SĄJUNGA LIETUVOJE

We are EUROPE

Co-funded by the Europe for Citizens Programme of the European Union

The cost of climate policies in Europe and beyond: how to make ambitions affordable?

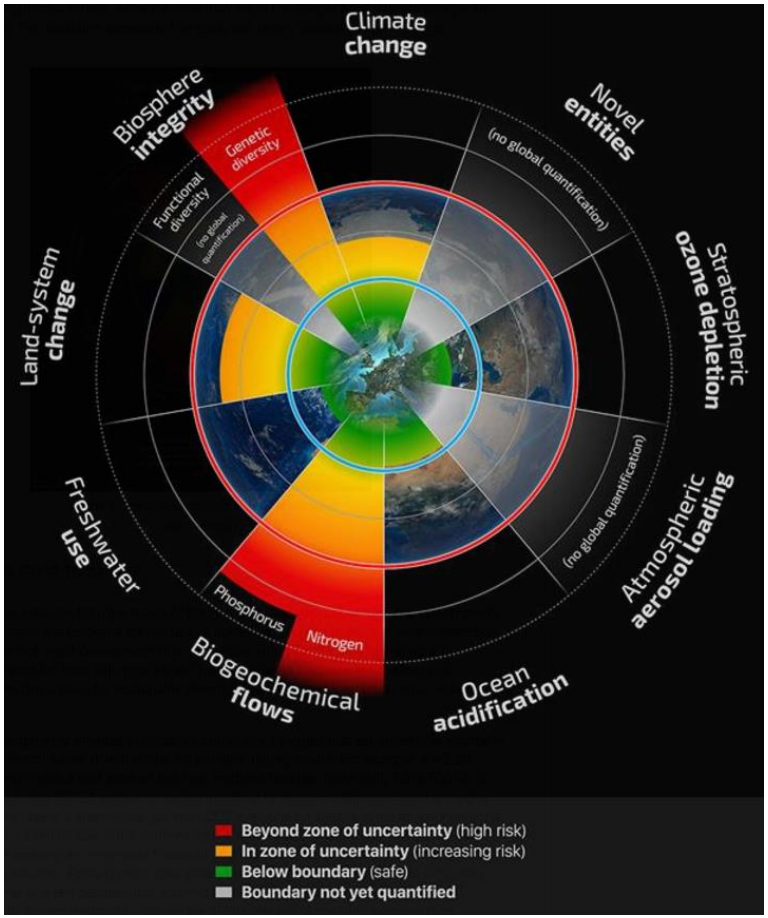
Discussion on economic aspects of climate policies

Session 1

MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE

SOGESID SPA
INGEGNERIA TERRITORIO AMBIENTE

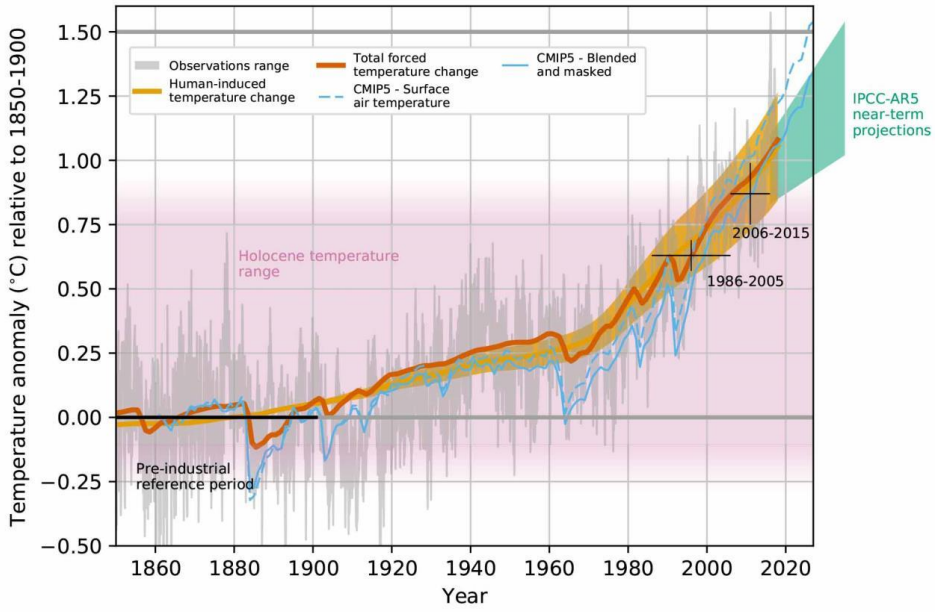
Where we are



Source: Rockstroem et al. (2009) and Steffen et al. «Planetary Boundaries: Guiding human development on a changing planet», Science, 16.1.2015

Beyond our planetary boundaries

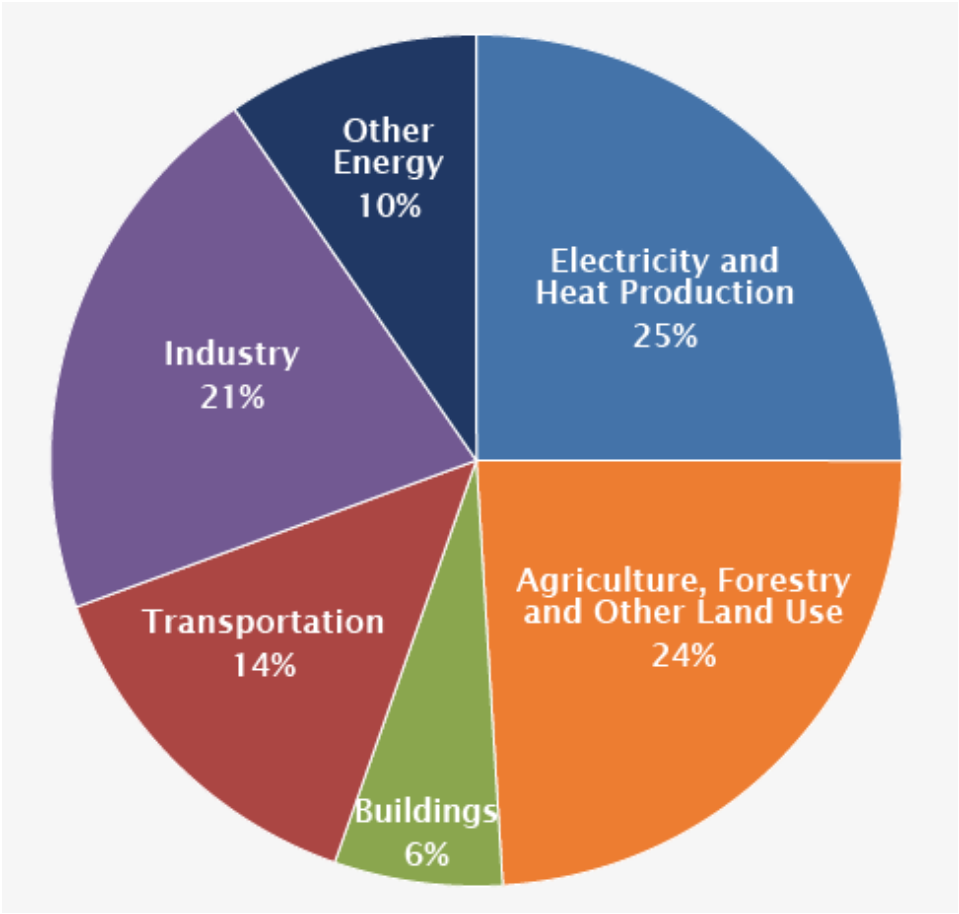
Already 1° above pre-industrial levels



Source: IPCC, 2018

Where we are (2)

CO_2 Emissions: Where do they come from?

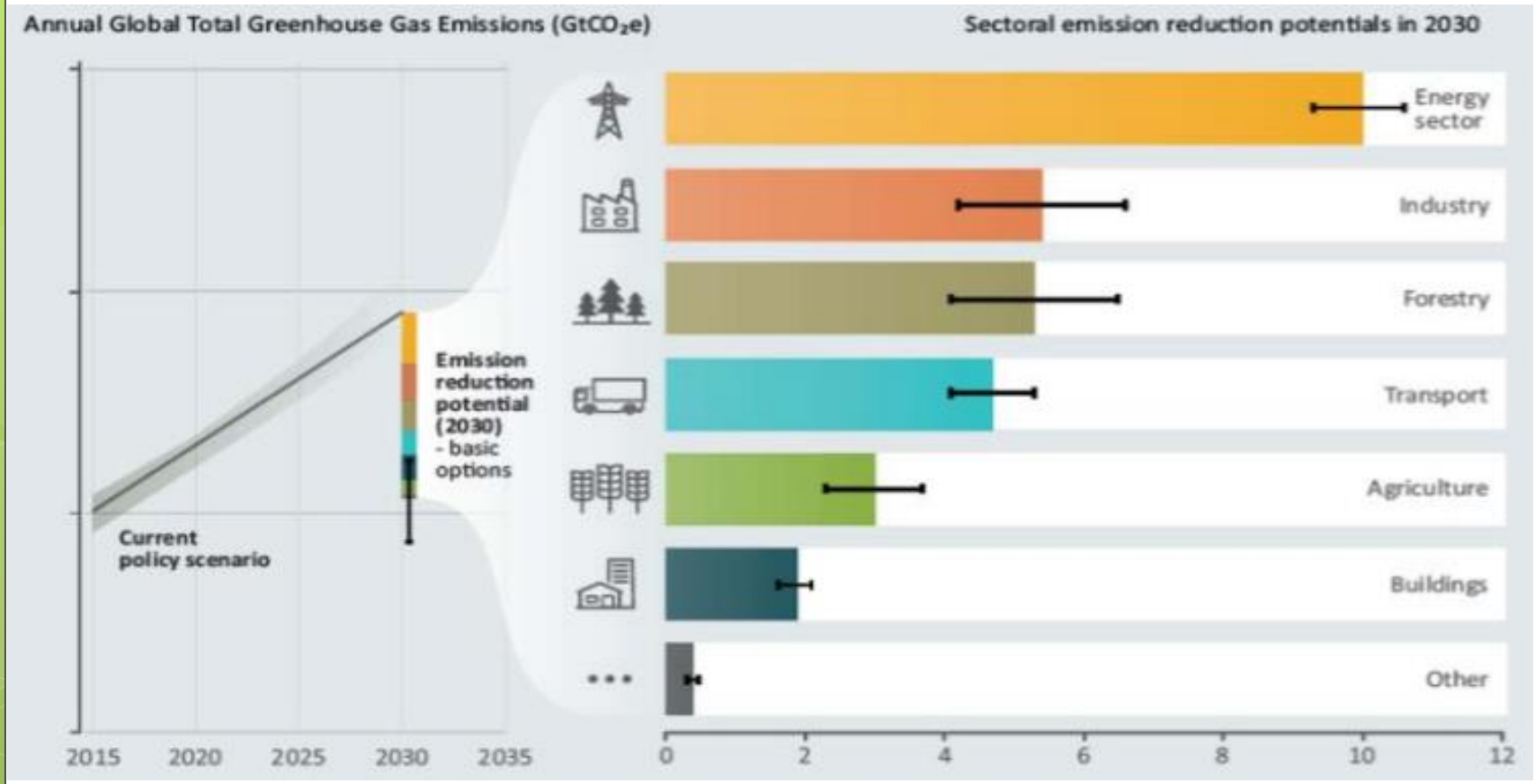


Source: IPCC (2014) «Contributors to the IPCC WGIII Fifth Assessment Report»

"Limiting the risks from global warming of 1.5°C in the context of sustainable development and poverty eradication implies ***system transitions*** *that can be enabled by an increase of adaptation and mitigation* ***investments, policy instruments, the acceleration of technological innovation and behaviour changes***" *IPCC 1.5°C*

Where we are (3)

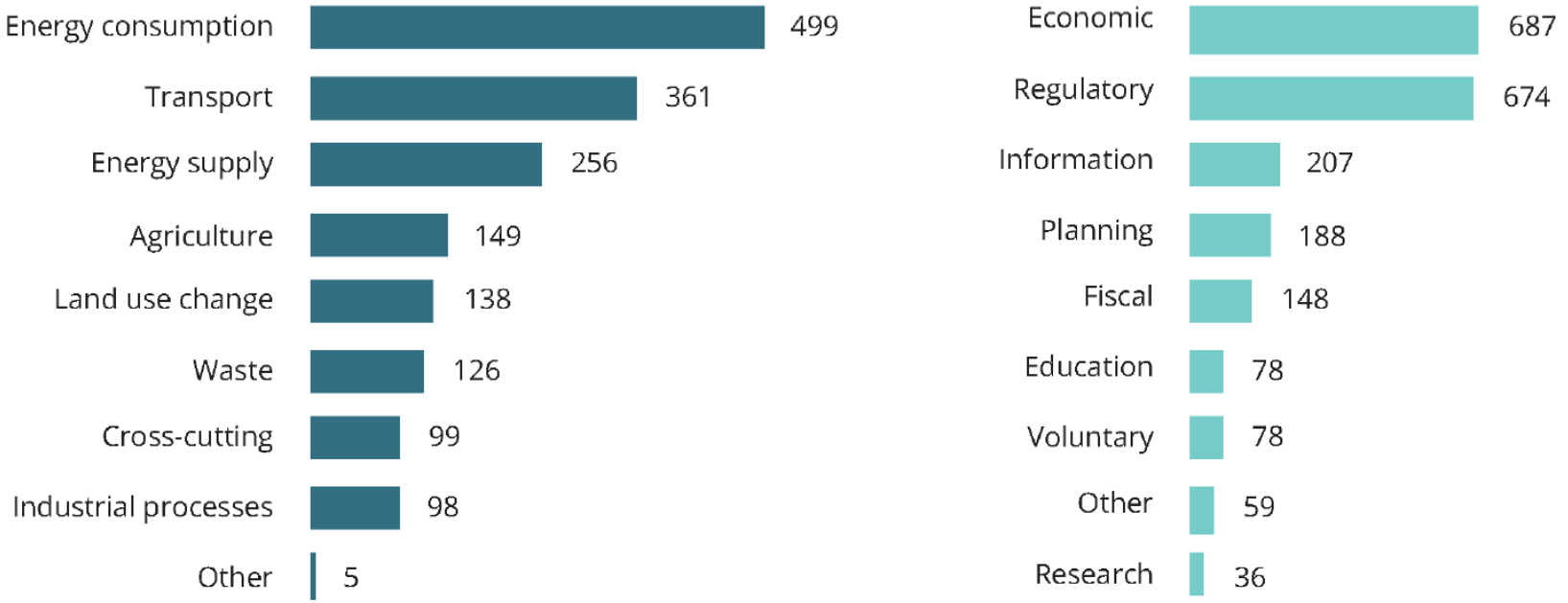
The emissions reduction potential in six key sectors, at cost <US$100/tCO2e, is sufficient to close the emissions gap in 2030



UN Environment, Emissions Gap Report, 2018

Current EU climate policies

Main sectors (left) and instrument types (right) related to national policies and measures reported in 2017



Sources: EEA «Tracking climate policies in European Union countries», 2018

- "7th National Communication & 3rd Biennial Report from the European Union under the UN Framework Convention on Climate Change (UNFCCC) (required under the UNFCCC and the Kyoto Protocol)", December 2017
- EEA database on climate change mitigation policies and measures in Europe

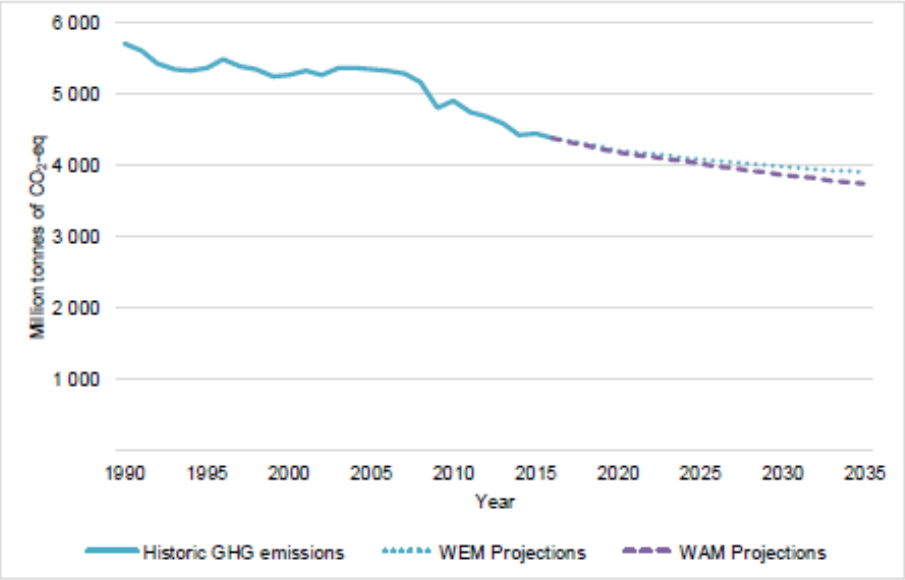
Economy-wide emission reduction target

2030 targets

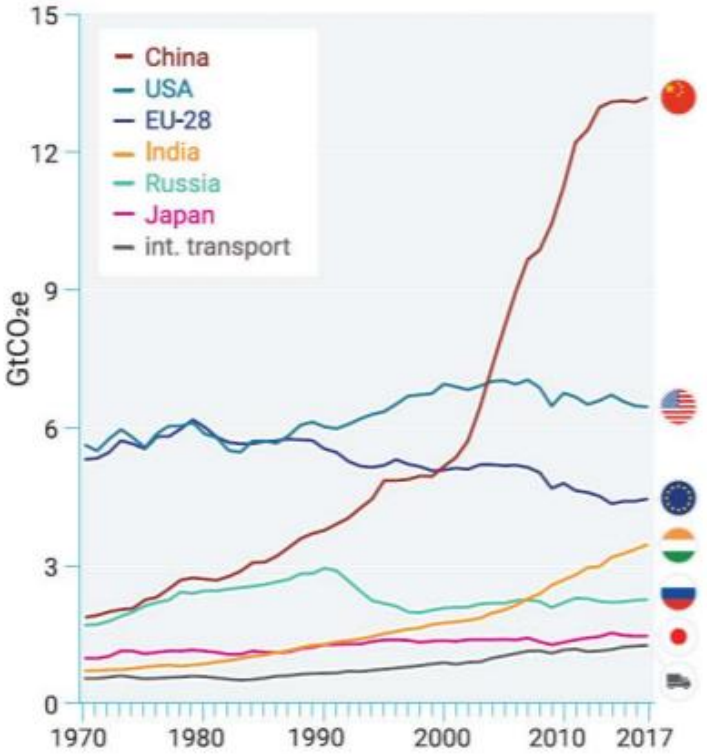
- At least 40% cuts in **greenhouse gas emissions**(1990): -40%
  - -43% (2005) EU ETS sectors (electricity, produzione elettrica, raffinazione, acciaio, cemento, carta, ecc.)
  - -30% non-ETS sectors (effort sharing decision)
- At least 32% share for **renewable energy***
- At least 32.5% improvement in **energy efficiency***

- **Long term strategies** (dec. 1/CP.21, §35)
  - COM/2018/773: - 80% to climate neutrality in 2050

Figure 5-1 Total, aggregate, absolute historic and projected EU-28 GHG emissions



7NC/3BR to the UNFCCC of the EU, 2018



UN Environment, Emissions Gap Report, 2018

Financing the transition

- **Remove Environmentally Harmful Subsidies**
  - it eliminates a price distortion and accordingly increases efficiency in resource allocation.
  - by making fossil fuels more costly, contributes to the reduction of GHG emissions.
  - It alleviates the fiscal burden for the government freeing public resources.
  - options for revenue recycling (model)
- **Environmental Fiscal Reform**
  - potential for double dividends, shifting away from labour taxation towards energy or carbon taxation
  - Drawbacks: env. taxes might increase prices in the economy somewhere else causing inflation effects to be compensated.

Financing the transition (2)

Carbon pricing

Carbon Tax	*vs*	*ETS*
Carbon tax directly targets the price of carbon (via tax) and the market determines the amount of CO_2.		ETS directly targets the volume of CO_2 emissions and the market determines the price.

Both place a «price on carbon», in order to reduce greenhouse gas emissions, and raise considerable amounts of new revenue, whether by taxation or emission quota auctioning.
New revenues that could be use to:

- reduce income taxation, in particular on jobs generated by green economy;
- promote innovation and diffusion of low-carbon technologies and products;
- financing sustainable patterns of production and consumption;
- financing subsidies for energy renewable sources;
- increase financing of energy efficiency measures;
- reduce accumulated public debt.

CARBON PRICING INITIATIVES AROUND THE WORLD

implemented or scheduled for implementation

46 NATIONAL
28 SUBNATIONAL
jurisdictions

11 $GtCO_2e$ = 20%
of GHG emissions covered

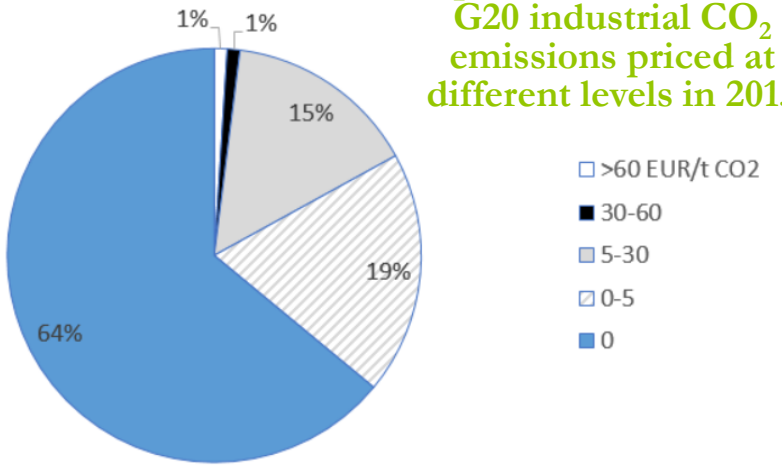
Range of prices in existing initiatives
US$1 - 127/$tCO_2e$

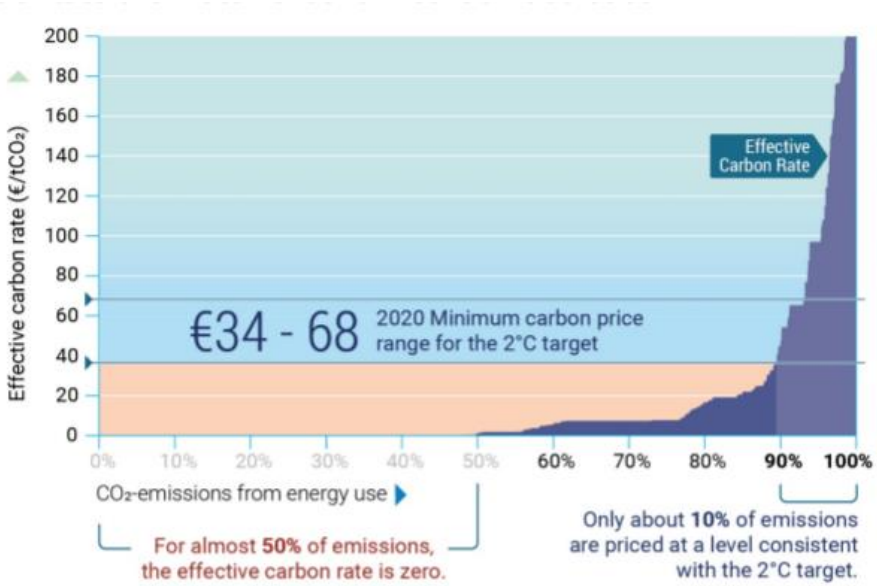
51% of the emissions covered are priced < US$10/$tCO_2e$

US$44 BILLION
raised in carbon pricing revenues in 2018.

Source: «State and Trends of Carbon Pricing 2019», World Bank – April 2019.

Proportion of OECD and G20 industrial CO_2 emissions priced at different levels in 2015





UN Environment, Emissions Gap Report, 2018

Financing the transition (3)

- **Re-orienting finance flows**

EC Action Plan on '**Financing Sustainable Growth**' adopted March 2018, it has three main objectives:

1. Reorient capital flows towards sustainable investment
2. Mainstream sustainability in risk management
3. Foster corporate transparency and long-termism in financial and economic decision-making

- Taxonomy
- Benchmarks
- Disclosure

Financing the transition (4)

International climate finance

- Climate-related development cooperation
  - Bilateral cooperation
  - IFIs/MDBs, multilateral climate change funds
  - UN Agencies

THE WORLD BANK

ADB ASIAN DEVELOPMENT BANK

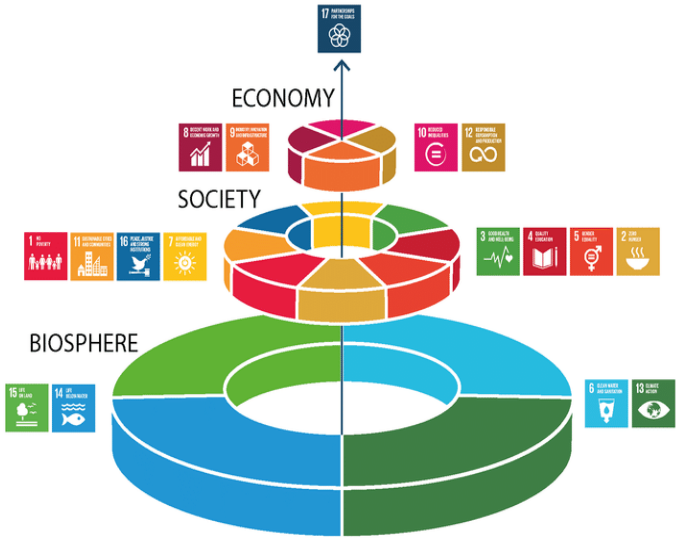
AFRICAN DEVELOPMENT BANK GROUP

ADAPTATION FUND

GREEN CLIMATE FUND

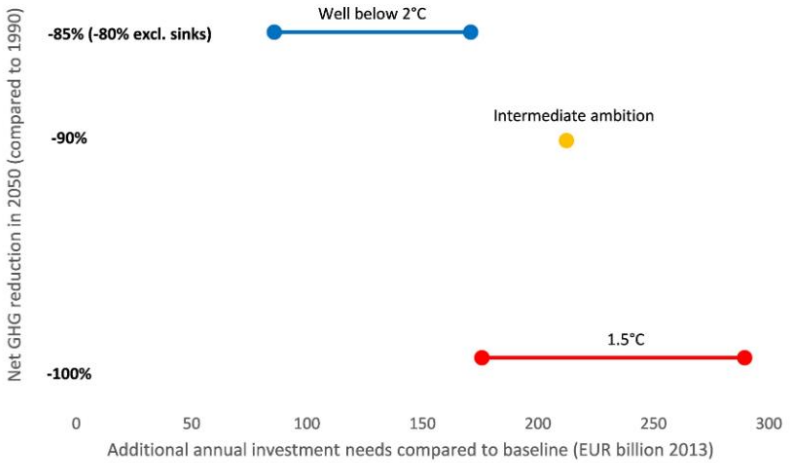
gef

- FfD Agenda and SDGs



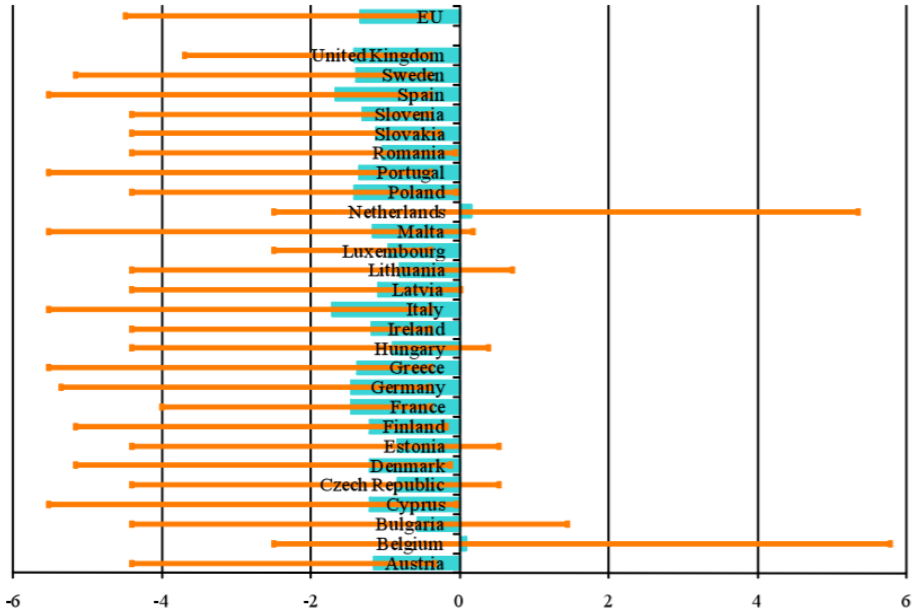
Costs of climate policies

- challenge: wide range of $/ton and few quantified



COM/2018/773 "A Clean Planet for all"

Figure 2. The 2020 welfare impact (percentage) of the EU 20/20/2020 package per Member State and for the EU as a whole; the bars show the average of six published estimates; the lines indicate the range of results.

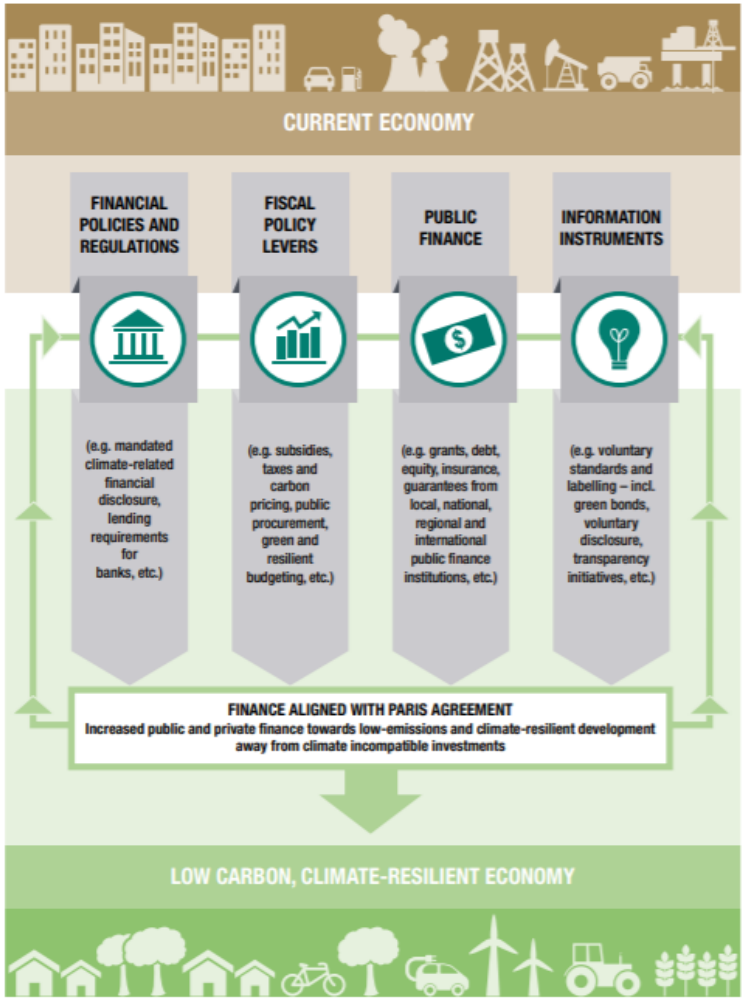


Tol, 2010, 'The Costs And Benefits Of EU Climate Policy For 2020'

Costs of inaction

Investments in climate action

Figure S2 Government tools to shift and mobilise finance

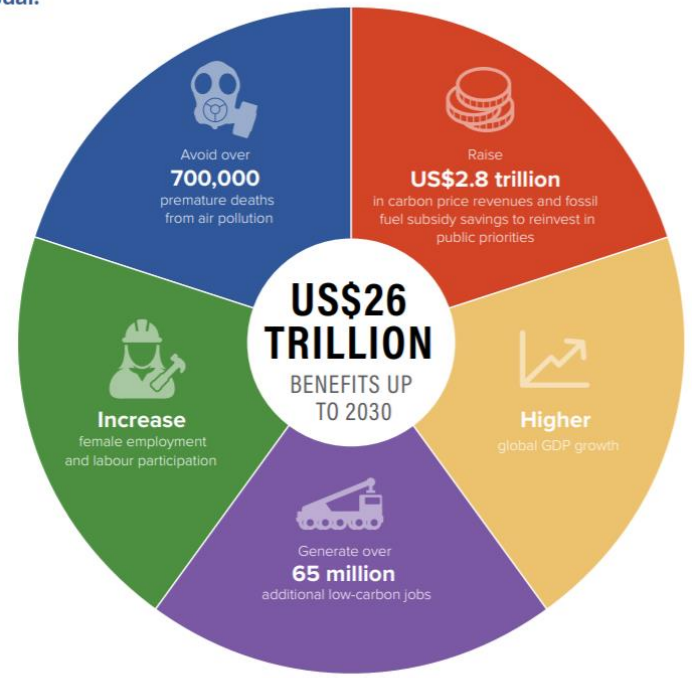


Source: authors' own, adapted from Watson and Schindler (2017).

ODI, 2018, Making finance consistent with climate goals

Figure 2

The Global Benefits of a Decisive Shift to a Low-carbon Economy when Compared with Business-as-usual.



Source: The results cited for the US$26 trillion in direct economic benefits are cumulative for the 2018–2030 period, whereas the other data points reported are for the year 2030. Source: Garrido, L., et al., 2018.[73]

NCE, 2018, Unlocking the inclusive growth

Thank you!

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MINISTERO DELL'AMBIENTE
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SOGESID SPA
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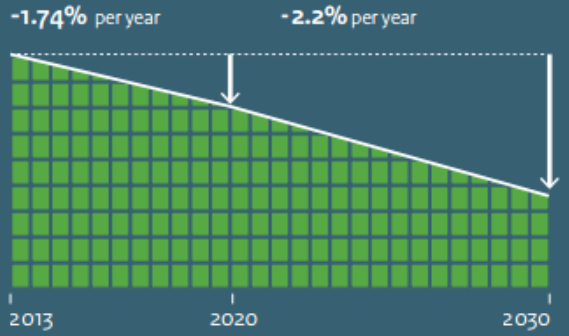
Emission allowance

An emission allowance offers the right to emit 1 tonne of CO_2. All EU ETS companies must surrender one emission allowance for each tonne of CO_2 they have emitted over the course of the year.

emission allowance — 1 tonne CO_2

Within the EU ETS, a maximum number of emission allowances is available; this amount equals the total allowable volume of CO_2 emissions, or cap.

CO_2 emissions are reduced by lowering the cap.



Allowances below the cap for the period 2013-2020 can be broken down as follows:

48% are sold by means of auctions

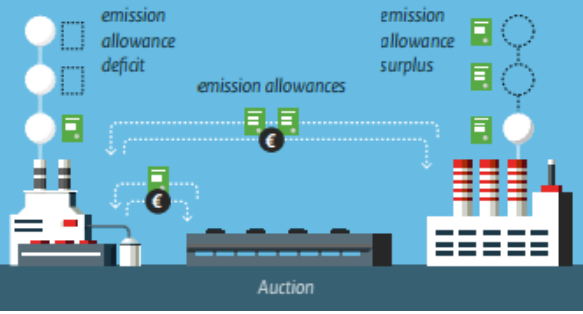
47% are allocated to businesses free of charge (see explanation on carbon leakage)

5% are reserved for new facilities or expansions of existing ones.

Trading consists of emission allowance transactions

Companies with insufficient allowances must purchase allowances to cover their deficit.

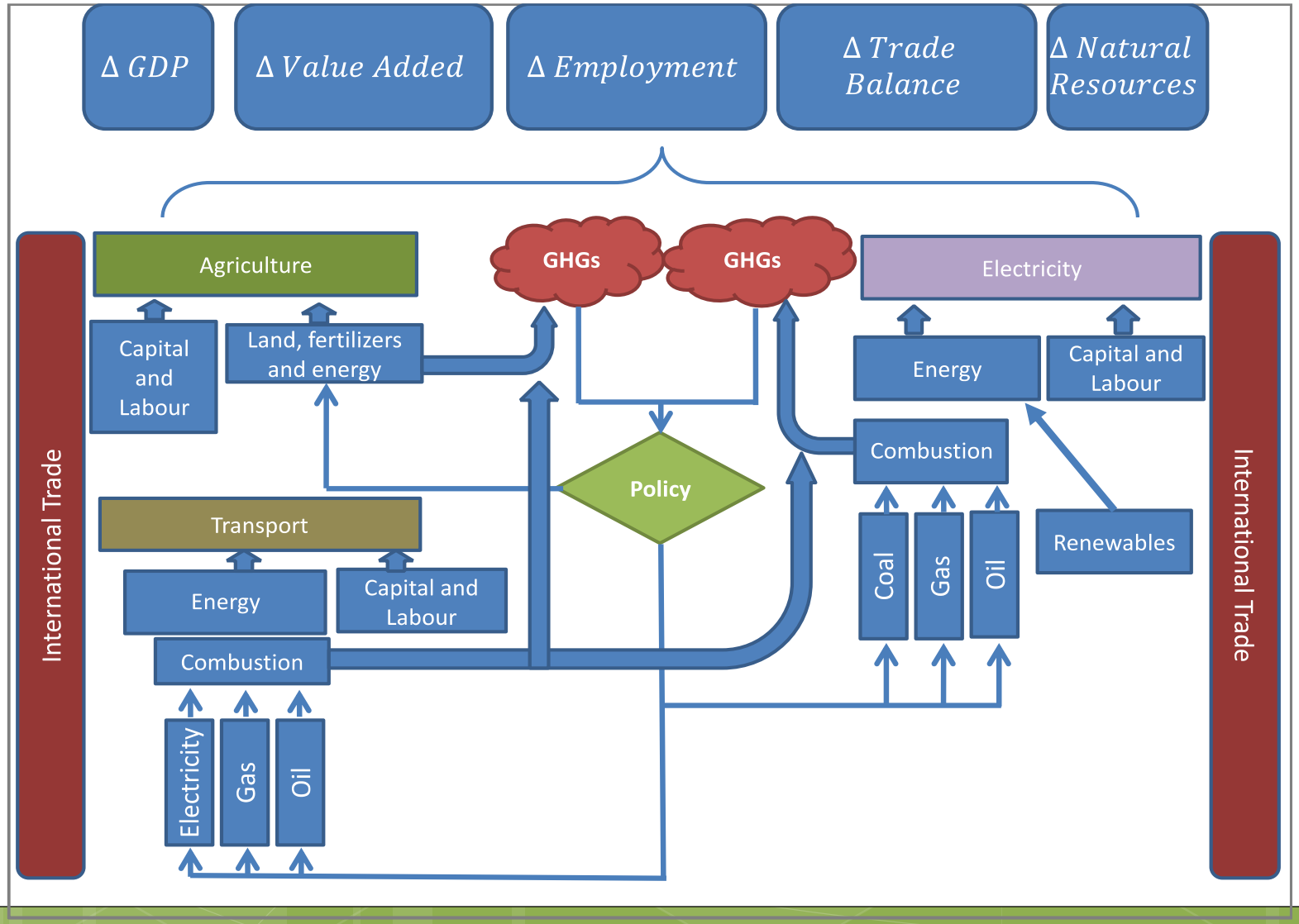
Companies with lower CO_2 emissions may sell their surplus allowances.



The emission allowances market operates on a supply and demand basis, effectively attaching a price tag to all CO_2 emissions. Businesses try to choose the most cost-effective option:

This system, whereby each company weighs the relevant pros and cons, ensures that the cheapest CO_2 reduction measures are taken first.

The model


Δ GDP
Δ Value Added
Δ Employment
Δ Trade Balance
Δ Natural Resources
International Trade
Agriculture
Capital and Labour
Land, fertilizers and energy
GHGs
GHGs
Electricity
Energy
Capital and Labour
Combustion
Policy
Transport
Energy
Capital and Labour
Combustion
Electricity
Gas
Oil
Coal
Gas
Oil
Renewables
International Trade

Scenario description

We simulate the removal of almost 12 billion euro with three static scenarios:

- "Scenario A" in which the removal of subsidies would only result in a reduced government expenditure (e.g. for purposes such as reducing government deficit and debt);
- "Scenario B" where revenues that result from the removal are split equally in three types of recycling: i) increase the current budget savings, ii) subsidize renewables and iii) improve energy efficiency of the industry sector;
- "Scenario C" where government savings are recycled lump-sum to reduce the labour cost of "skilled" workers.

Results

	Scenarios *(% change wrt baseyear)*		
	a)	b)	c)
GDP	-0.58%	0.82%	1.60%
Emissions	-2.13%	-2.68%	-0.88%