НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ

FOSSIL-FUEL EXPORTING COUNTRIES UNDER THE PRESSURE OF LOW-CARBON TRANSITION: IS THERE A ROOM FOR CARBON PRICING?

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CHALLENGES OF LOW-CARBON TRANSITION FOR FOSSIL-FUEL EXPORTING COUNTRIES (FFEC)

- Exposed to volatile commodity markets that generate macroeconomic instability
- Risks of real exchange rate fluctuations – reduced competitiveness of the rest of the economy
- The concentration of large resource rents can result in poor governance, which undermines longer-term growth

Climate-related risks:

- Physical impacts of climate change associated with weather-related events
- Macrostructural risk of a global transition to a low-carbon development

Reduced demand for fossil-fuel exports

Reduced demand for fossil-fuel assets

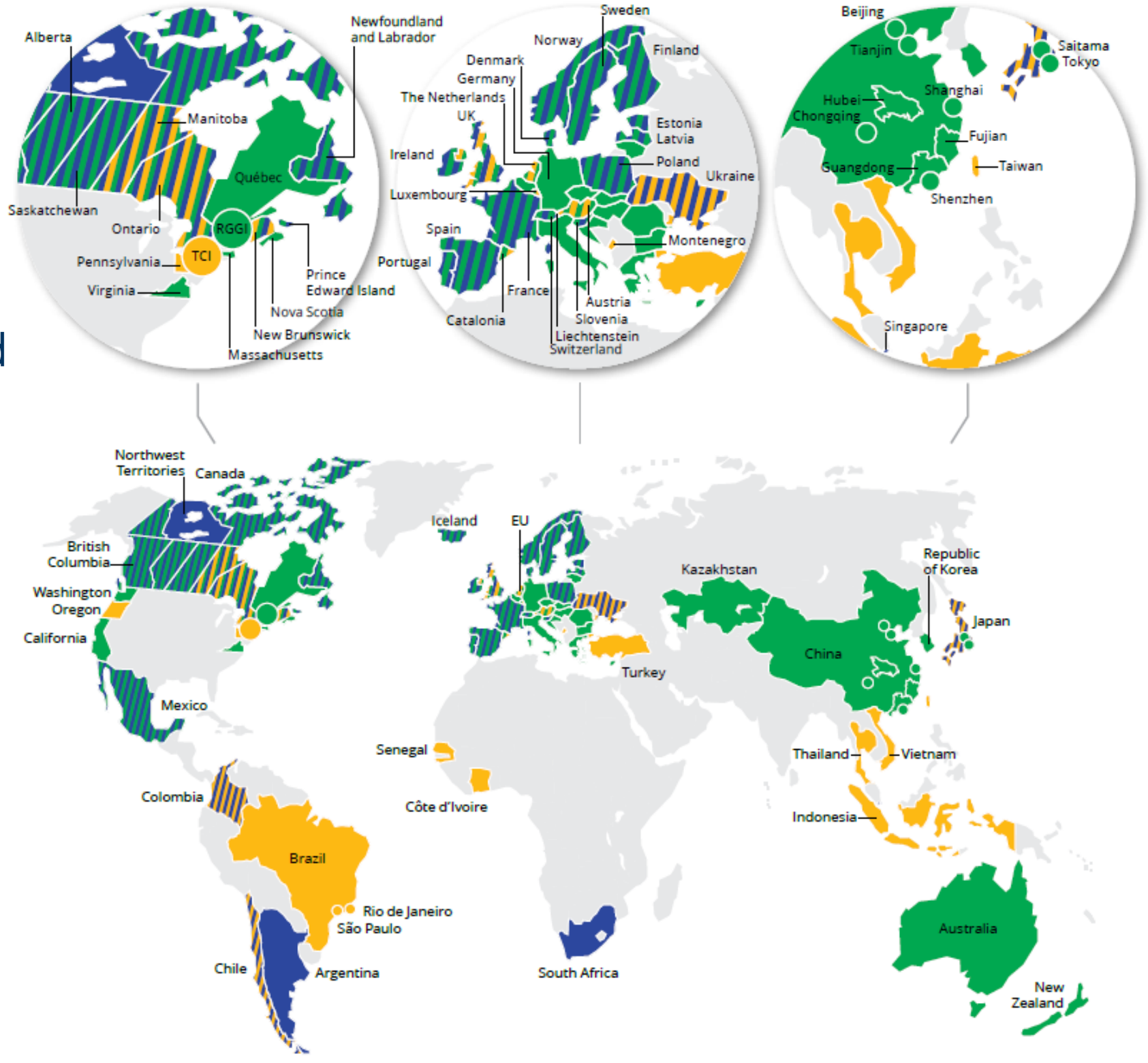
Reduced demand for fossil-fuel technologies

CLIMATE POLICIES IN FFEC ARE WEAKER THAN IN ENERGY-IMPORTING COUNTRIES

- Emissions reduction policy in fossil-fuel exporting countries is associated with high opportunity costs for the fuel and energy complex, related industries and could lead to the reduction of international competitiveness of national businesses in the short run
- Fossil-fuel exporting countries with higher resource rents tend to have less ambitious climate policies [Tørstad et al., 2020]
- Energy security concerns and goals to decrease energy import dependency often strengthen climate policies [H.Schmitz, 2017]
- Energy-importing countries and countries with lower energy self-sufficiency tend to have more ambitions emissions reduction policies and use more advanced instruments like carbon pricing

Implemented or scheduled for implementation carbon pricing initiatives at national and subnational level

Source: [World Bank, 2020]



- ETS implemented or scheduled for implementation
- Carbon tax implemented or scheduled for implementation
- ETS or carbon tax under consideration
- ETS and carbon tax implemented or scheduled
- Carbon tax implemented or scheduled, ETS under consideration
- ETS implemented or scheduled, ETS or carbon tax under consideration
- ETS and carbon tax implemented or scheduled, ETS or carbon tax under consideration

ONLY 9 OUT OF 60 CARBON PRICING INITIATIVES GLOBALLY IMPLEMENTED BY FF EXPORTING ENTITIES

Name of the initiative	Year of implement ation	Share of emissions covered	Sectors and/or fuels covered	Description
Alberta TIER	2007	48%	Industry and power sectors except for industrial process emissions	Baseline-and-credit ETS that allows the use of facility-specific benchmarks and covers facilities that emit at least 100 ktCO2e per year
Australia ERF Safeguard Mechanism	2016	50%	Industry and power sectors including industrial process emissions	Baseline-and-offset system that intends to ensure that emission reductions purchased through the ERF are not offset by significant increases in emissions above business-as-usual levels elsewhere in the economy
BC GGIRCA	2016	0%	Liquefied natural gas (LNG) facilities	Baseline-and-credit system that enables a price to be put on emissions of industrial facilities or sectors exceeding a specific limit. 100% overlap with BC carbon tax
BC carbon tax	2008	70%	All sectors with some exemptions for the industry, aviation, transport and agriculture sectors	Tax that aims to encourage people and businesses to innovate and find the most cost-efficient methods of reducing emissions
Canada federal OBPS	2019	9%	Electricity generation and industrial facilities that emit 50 ktCO2e per year or more	System that consists of two components: a tax-like component that is a regulatory charge on fuels and a baseline-and-credit ETS for emissions-intensive and trade-exposed industrial facilities
Canada federal fuel charge	2019	19%	All sectors with some exemptions for industry, agriculture and transport sectors; covers 21 types of fuel	
Kazakhstan ETS	2013	50%	Power sector, certain industry sectors and centralized heating	Recently restarted system that aims to achieve cost-effective GHG emissions
Norway carbon tax	1991	62%	All sectors with some exemptions for certain sectors; covers natural gas, liquid and gaseous fossil fuels	Tax that aims to achieve cost-effective GHG emissions; it is split into an excise tax on mineral products and a separate law for petroleum activities on the continental shelf
South Africa carbon tax	2019	80%	Industry, power, buildings and transport sectors with some exemptions (irrespective of the fossil fuel used)	Tax that aims to price carbon by obliging the polluter to internalize the external costs of emitting carbon, and contribute towards addressing the harm caused by such pollution

MITIGATION POLICY OPTIONS:

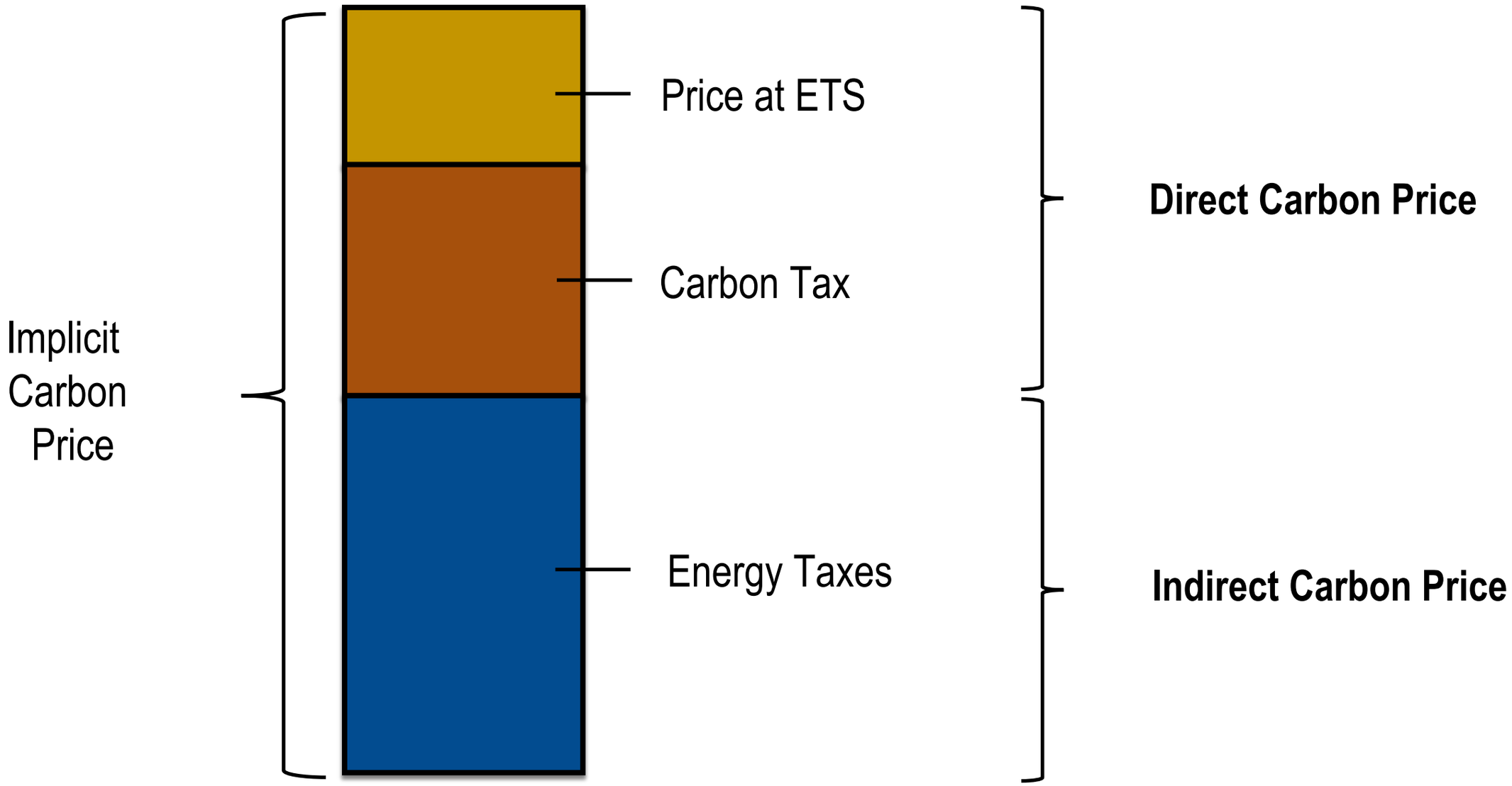
Ways to reduce GHG emissions

→ Reduce energy consumption

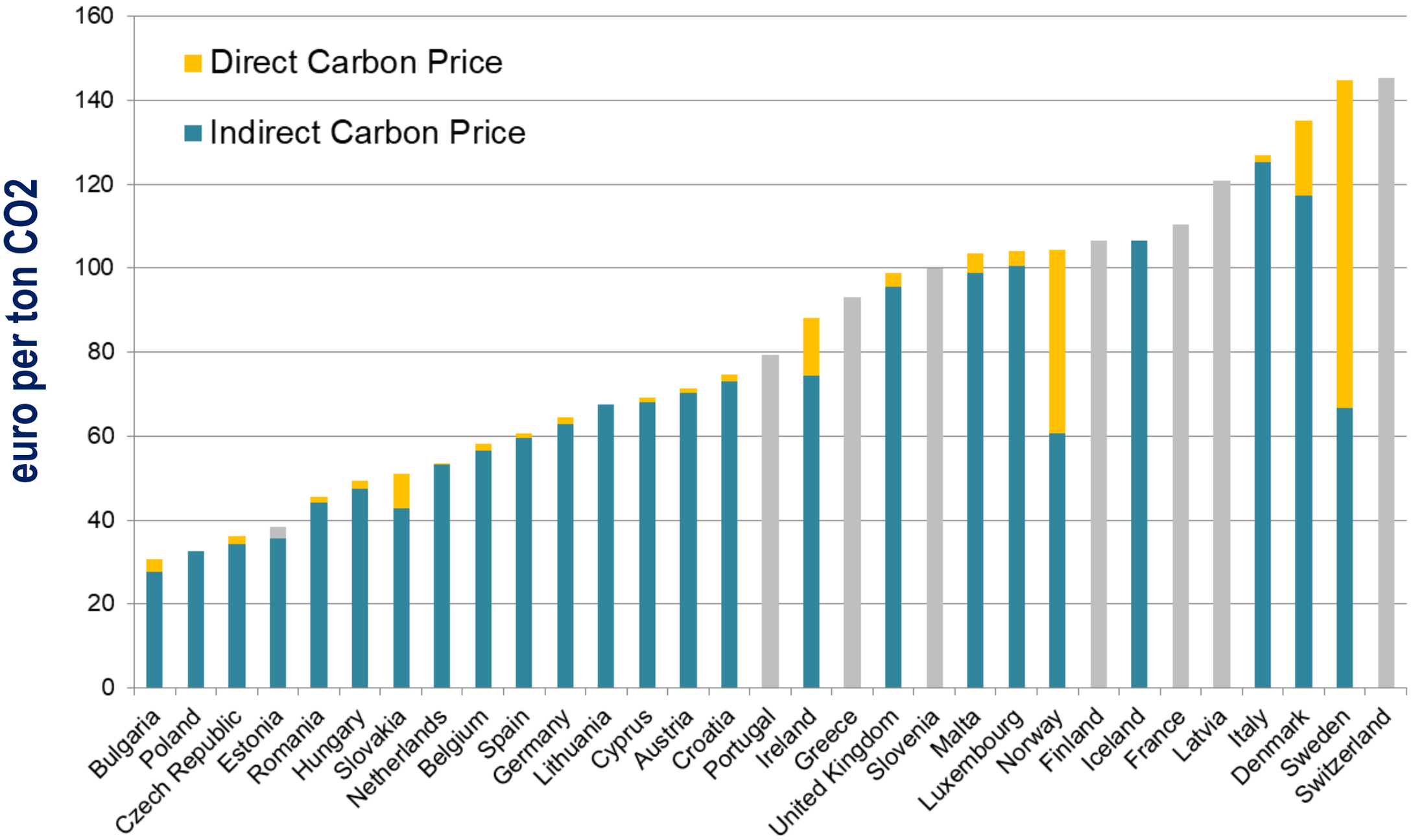
→ Switch to less carbon-intense energy sources

- Carbon pricing is attractive because it allows using both ways of emissions reduction
- However, especially in developing countries, energy consumption reduction targets may hinder economic growth. Gradual switch to less carbon-intense energy sources represents a more promising option
- A possible way out – not a high carbon price, but carbon balanced energy taxation system. More carbon balanced energy taxation system implies energy taxation which is more proportional to carbon intensity of different energy products – coal, oil products, natural gas

DIFFERENT VIEW ON CARBON PRICE: IMPLICIT CARBON PRICE



IMPLICIT CARBON PRICE IN EUROPE



ENERGY TAXES VS. PURE CARBON PRICE

- Energy taxes (which are not differentiated based on carbon content) by themselves could be a strong instrument for emissions reduction

31 European countries, 2008-2018:

- An increase in implicit carbon price by 1% leads to 4% decrease in emissions level
- Both direct (carbon tax and ETS) and indirect (energy taxes) carbon price contribute to statistically significant and comparable emissions reduction. No statistically significant differences between the impact of both groups found

- Solution for low-carbon strategies in FFEC: work with energy taxation by introducing elements of direct carbon price into the extensive body of energy taxation

RISKS OF LOW-CARBON TRANSITION FOR RUSSIA

- Climate-related actions outside of Russia will lower the country's GDP growth rate by about one-half of a percentage point by 2030 [Makarov et. al. 2020].

- EU carbon border adjustment mechanism scheduled to be introduced before 2023 will bring losses to Russian exporters of carbon-intense goods (5 bln USD annually) [KPMG, 2020]

Russia ratified Paris Agreement in 2019 and gradually develops the normative base in the area of low-carbon development. Opportunities of carbon pricing is being discussed.

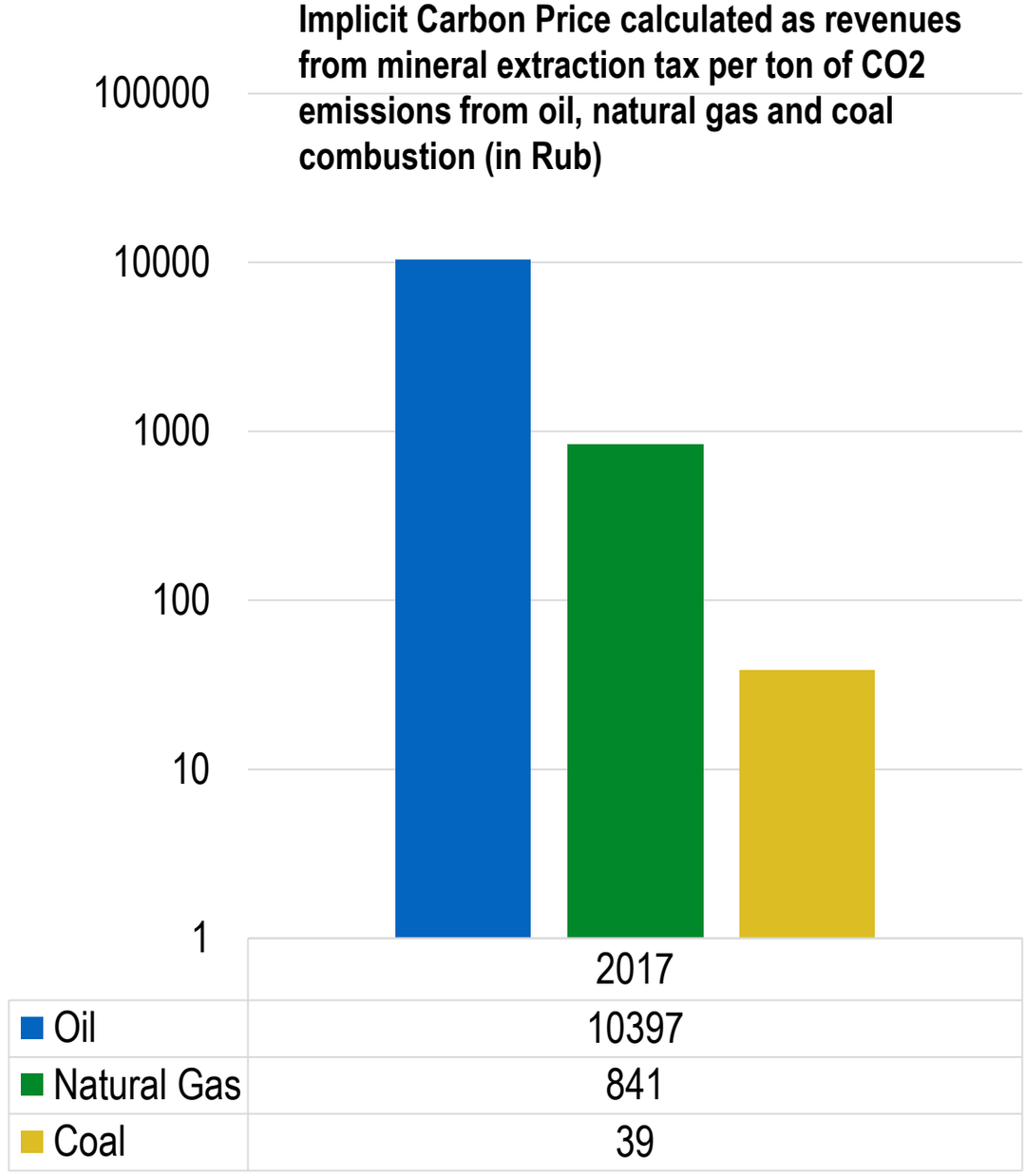
However, introduction of high carbon price imposes risks of:

- Rising price levels and falling real incomes of the population
- Declining international competitiveness of carbon-intensive industries

Possible way out: to work with existing taxes in the fuel and energy complex

CARBON REGULATION IN RUSSIA: AN OPTION

- Reliance on the current tax system in the fuel and energy complex
- Making energy taxations more carbon balanced
- Fiscal neutral nature of the regulatory system (parallel cuts in other taxes)



Implicit Carbon Price calculated as revenues from mineral extraction tax per ton of CO2 emissions from oil, natural gas and coal combustion (in Rub)

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