

# OLLI Study Group 395

## Climate Policies: what works, what doesn't.

Miria Pigato

### Class # 9: Making Climate Policies Work



# Outline

- What is political economy?
- The political economy of the environment
- Fossil fuel subsidies
- Case studies: Iran, Ecuador, British Colombia, Canada, Washington State.

[illegible]

- It analyzes the allocation of scarce resources not only among competing ends but also among competing individuals, groups, and classes.
- Political economy thus begins with the observation that actual policies are often quite different from “optimal” economic policies.

- It analyzes the allocation of scarce resources not only among competing ends but also among competing individuals, groups, and classes.
- Political economy thus begins with the observation that actual policies are often quite different from “optimal” economic policies.

# Political Economy of the Environment

The political economy of the environment aims to deepen our understanding of the interplay between the economy, the environment, and human well-being. When applied to pollution and environmental degradation, the political economy of the environment poses three basic questions:

- **Who wins?** Who benefits from economic activities that degrade the environment? If no one benefits (or at least thinks they do), these activities would not occur.
- **Who loses?** Who is harmed by environmentally degrading activities? If no one is harmed in current or future generations, these would not matter from the standpoint of human well-being.
- **Who decides?** Why can the beneficiaries of these activities impose environmental costs on the people who are harmed by them?

# Three possible reasons why polluters manage to impose environmental costs on others.

## 1. **The winners are here today**, whereas the losers are future generations.

- In this case, addressing environmental degradation requires an ethic of inter-generational responsibility on the part of those of us who are alive today.

## 2. **Imperfect information**: those who bear the costs may be unaware of the harm or unaware of its causes.

- In this case, the remedy is environmental education, and in particular right-to-know laws that protect the public's right to information about environmental harms and who is responsible for them.

## 3. **Inequality**: those who bear the costs do not have sufficient purchasing power or political power to prevail over the use and abuse of the environment.

- In the third case, the solution lies in a redistribution of power.





**Dirty fossil fuel investments and a new AI inventory of global emissions in the spotlight during 'Finance Day' at COP27**

COP 27, Egypt

# The challenge of defining fossil fuel subsidies

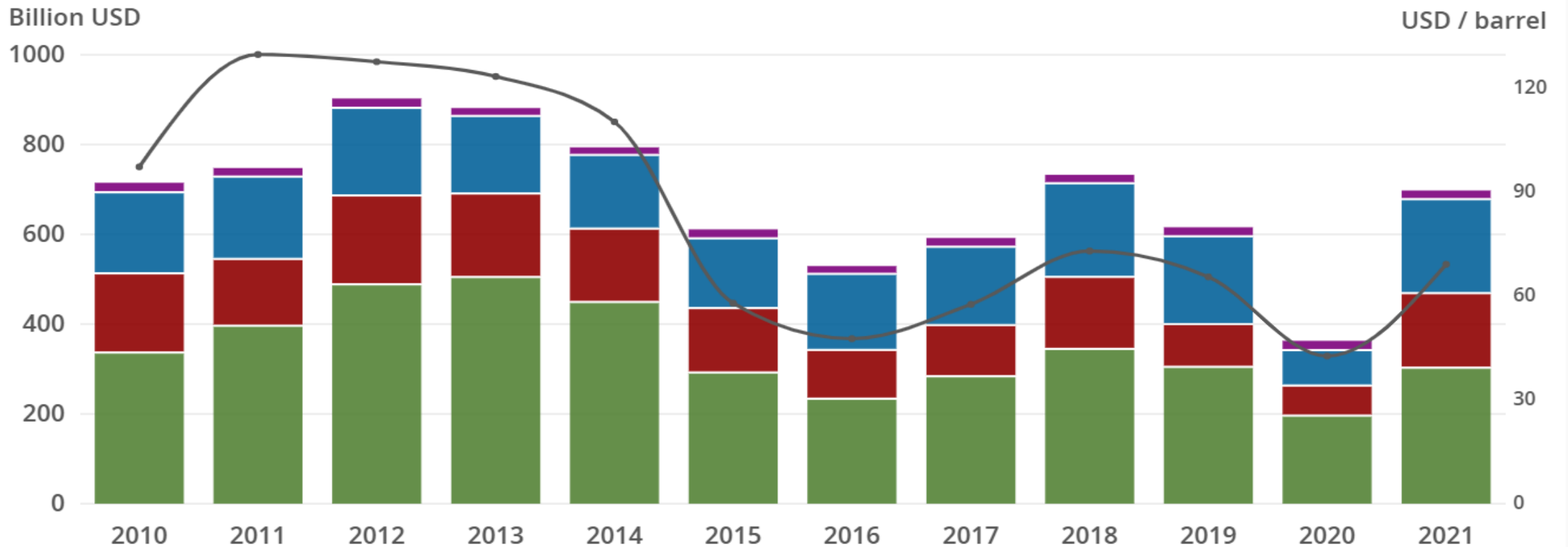
Fossil fuel subsidies are a way for governments to provide stability and economic security in the absence of well-functioning social welfare systems. They are also a source of patronage and clientelism. Defining and calculating fossil fuel subsidies is difficult:

- **The International Energy Agency (IEA)** uses the price-gap approach: it compares domestic energy prices to the international market price and calculates the 'price gap'.
- **The Organization for Economic Co-operation and Development (OECD)** uses an inventory approach, which is based on the WTO's 1994 definition of fossil fuel subsidies as a "financial contribution by a government that confers a benefit on its recipient": it includes grants, loan guarantees, tax breaks, and the provision of goods or services. It also covers producers' support.
- **The Overseas Development Institute (ODI)** uses the WTO definition of subsidies and it adds loans given by majority state-owned banks and investments by state-owned enterprises (SOEs) in fossil fuels.
- **The IMF** counts the full costs of using fossil fuels as a subsidy. This includes any financial burden which falls on society due to the effects of air pollution or climate change caused by using fossil fuels.

# Fossil Fuels Support by Energy Product

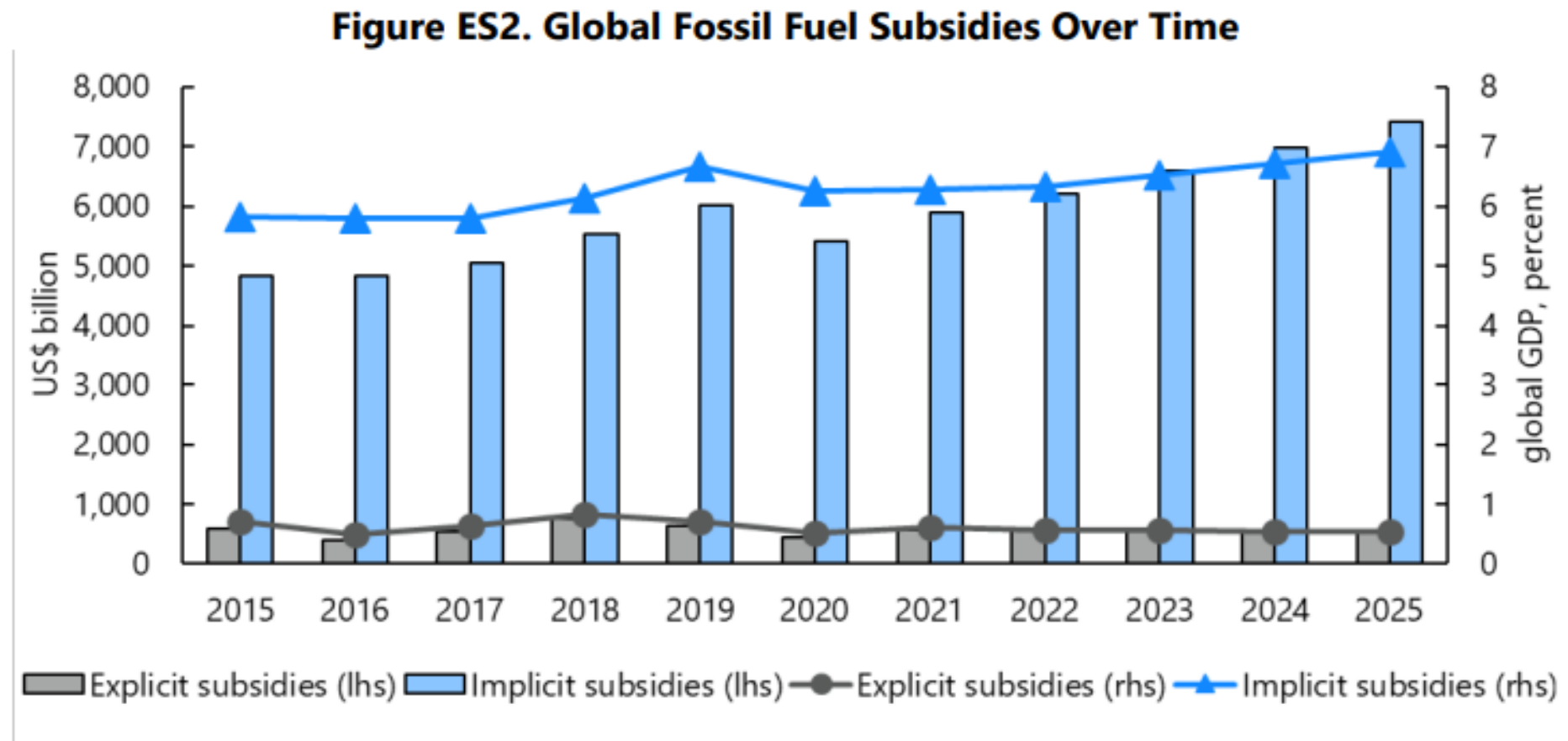
G20-IEA combined estimates (51 economies)

Coal Electricity Natural gas Petroleum Oil price per barrel





# IMF's estimates of fossil fuel subsidies



Source. IMF staff.

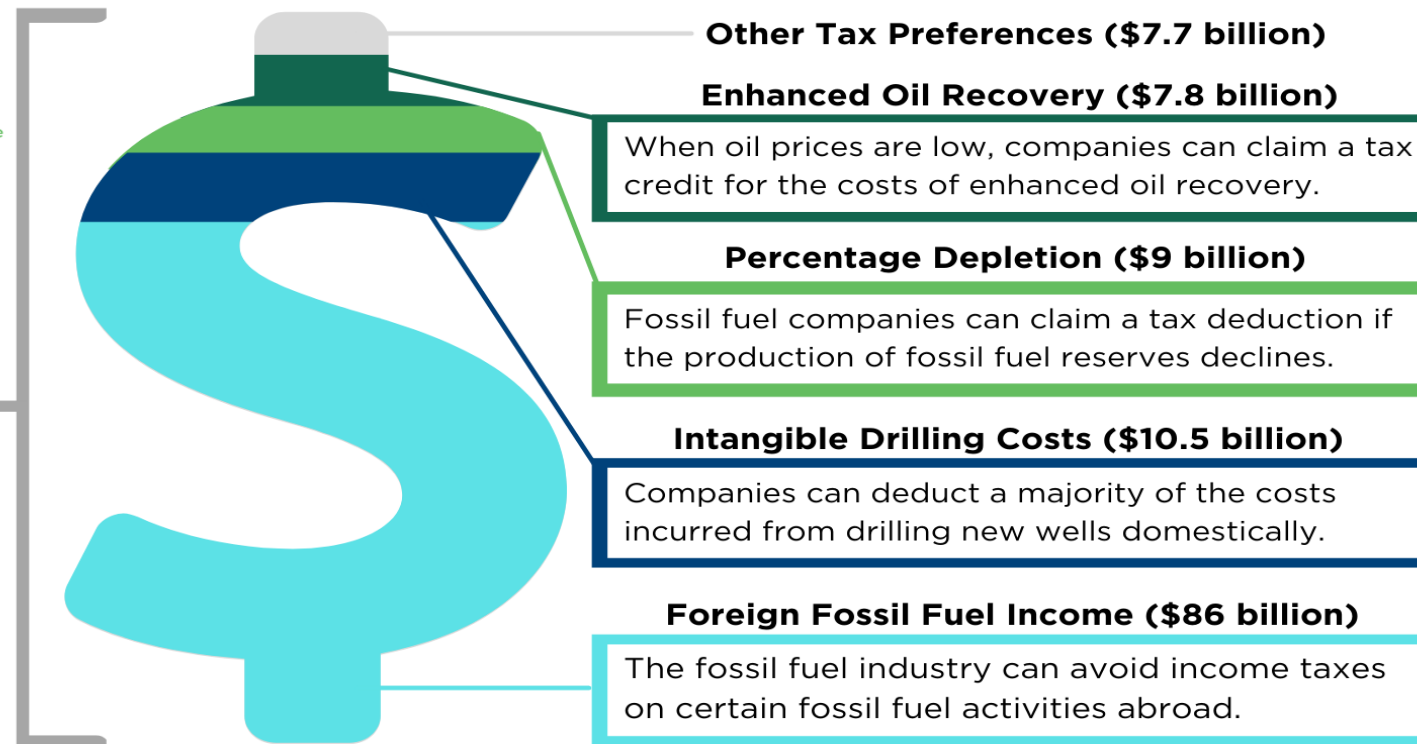
Note. 2019 and 2021 onwards use projections for fuel use and fuel prices, respectively.

# Biden's suggested reform of fossil fuel subsidies

## Fossil Fuel Tax Breaks Eliminated by the Proposed FY2022 Budget



**\$121 billion\***  
Total estimated revenue increase



\*The estimated revenue increases are over a ten-year period from 2022-2031.

Graphic By: Emma Johnson

# Reforming fossil fuel subsidies

While there is no single recipe for successful subsidy reform, country experiences suggest the following:

- **Big reforms often occur during a crisis.** Typically politicians ignore the need for energy subsidy reform until it is too late and the fiscal strain is huge.
  - Windows of opportunity: when the price of oil is low (the cost of reform is low) and when oil prices are high (the cost of failure to reform is high).
- **A comprehensive energy sector reform plan** with clear long-term objectives with an analysis of the impact of reforms.
- **Transparent and extensive communication and consultation** with stakeholders, including information on the size of subsidies and how they affect the government's budget.
- **Price increases must be phased** in over time.
- **Measures to protect the poor through targeted cash or near-cash transfers** or, if this option is not feasible, a focus on existing targeted programs that can be expanded quickly;
- **Institutional reforms that depoliticize energy pricing**, such as the introduction of automatic pricing mechanisms.

# Political economy concerns about climate policies

## Output and employment losses:

- Work by Metcalf and Stock (2020) on the EU: they find no negative impacts of carbon taxes on output and employment in 15 EU countries that levy a carbon tax, partly because these taxes were low and partly because of recycling the revenue through cuts in income taxes lead to positive growth impacts.
- But: they also find an 8.4% decline in the share of manual workers and a 13.3% (5%) increase in the **share of technical workers** (professionals). They also find evidence of sectoral shifts in GDP and employment away from carbon-intensive sectors toward lower carbon-intensive sectors.

**Climate policies are regressive** and will harm low-income households. However:

- Revenue can be returned to households in ways that enhance the progressivity of carbon taxes
- Safety nets can be reinforced (minimum wages, universal health care, flex-security).

## Competitiveness

- Use border carbon adjustment
- Industry relocation is mostly driven by labor cost differences, a minor role of changes in energy prices.



# The job-killing argument

- Evidence points to small negative impacts of carbon pricing in the labor market. In aggregate, the costs of these impacts are significantly smaller than the benefits. However, the losses are concentrated in specific areas, sectors, and social groups.
- **Climate reforms come on top of globalization and automation** (Marin and Vona, 2019).
- Communities with heavy industries are particularly harmed by long-term deindustrialization. Even if the main causes are others, communities fight climate policies.

# Do green policies create jobs?

## Evidence:

- In 2009 the US implemented the **American Recovery and Reinvestment Act (ARRA)**, a plan that included a clean energy component of about US\$90 billion (of which renewable energy accounted for approximately US\$21 billion).
  - ARRA created more jobs than any equivalent conventional spending on infrastructure and supported some 900,000 job years in clean energy fields from 2009 to 2015.
  - Popp et al. (2020) find that green ARRA investments had a large positive effect on job creation over the medium term (2013-2017), with approximately 15 jobs created per \$1 million of green ARRA spending.
- Garret-Peltier (2017) focuses on short-run employment impacts of green policies: on average, each \$1 million shifted from brown to green energy will create a net increase of 5 jobs.

# The job-creation potential of environmental policies depends on the availability of relevant green skills

## Do all green jobs require new skills?

- Jobs that support green activities but do not require significant changes in tasks, skills, or knowledge. (example: bus drivers). **No re-skilling** is needed.
- **Green-enhanced skills** jobs are existing jobs that require significant changes in tasks, skills, and knowledge because of greening (for example electricians for electric vehicles).
- **Green new and emerging** jobs are unique jobs (as defined by worker requirements) created to meet the new needs of the green economy (for example fuel cell engineers).
- Evidence from the American Recovery and Reinvestment Act shows that:
  - New “green” manual jobs require more training than brown jobs, but similar set of skills.



# Case Studies



# Iran's successful fossil fuel subsidies reform



# Iran: a textbook implementation

**Big reforms often occur during crises.** In 2010, as the government of the Islamic Republic of Iran faced a huge fiscal crisis, fossil fuel subsidies represented more than 10% of GDP.

In December, the Government ended the subsidy program for bread and energy products and replaced it with direct compensatory payments. The Targeted Subsidies Reform Act raised Iran's domestic oil prices to 90 percent of their export value by 2015 (compared to 5 percent in 2008).

However, compensatory payments to 80 percent of Iran's population were deposited in specially-created bank accounts starting in October 2010, two months before the reform.

By December 2011, Iranian households received about US\$30 billion in freely usable cash, and another \$10–\$15 billion were advanced to enterprises aimed at reducing energy intensity.



# The reform was initially a great success

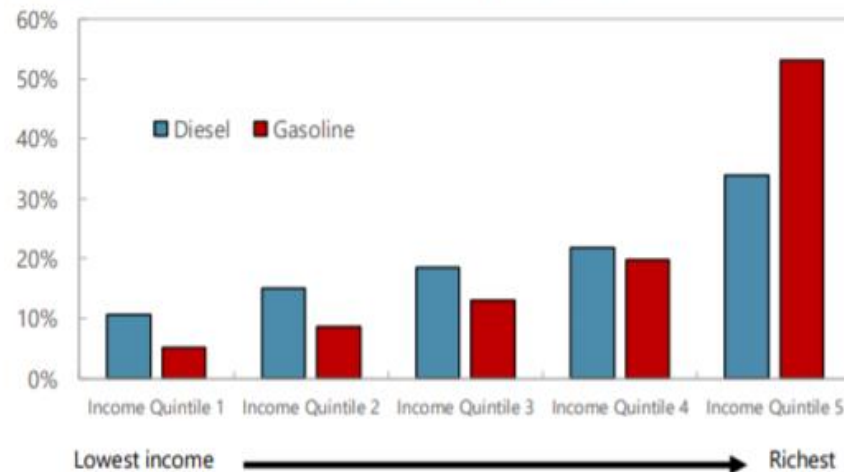
- The authorities antedated benefits in locked accounts. Cash transfers – which amounted to very significant sums - were made available to each person on the same day of the price increase.
- Public support for the reform was raised by a large-scale informational campaign.
- The reform reduced the poverty headcount ratio by 61 percent and inequality of final income (measured by Gini) by 21 percent between 2010 and 2014 (Enami, Lustig, and Taqdiri 2016).

**However, by 2013, energy prices were once again well below their global levels. The program failed because:**

- The government set the level of cash transfers well above new revenues from the increases in the price of energy and had to print money to pay for the deficit. This resulted in inflation. Public support for the program decreased and parliament decided to freeze further price adjustments.
- International sanctions targeting Iran's oil exports and Iran's currency, resulted in an economic crisis.

# 2019: Ecuador's failed fossil fuel subsidies reform

**Ecuador: Beneficiaries of Diesel and Gasoline Subsidies by Income Group 1/** (In percent of total subsidies, pre-reform)



Source: Schaffitzel et al (2019) "Can government transfers make energy subsidy reform socially acceptable? A case study on Ecuador. IDB Working Paper Series N° IDB-WP-01026, and Staff calculations.

1/Average monthly income per-capita, in US\$, is as follows: Quintile 1, \$49.3; Quintile 2, \$100.9; Quintile 3, \$154.9; Quintile 4, \$238.4; and Quintile 5, \$591.8 (ENEMDU, 2018).

- In 2019, subsidies to gasoline, diesel, electricity, and liquefied petroleum gas represented **7% of the budget** – or US\$ 2.3 billion per year. They were expensive and mostly benefited the rich.
- On October 1, 2019, Ecuador's government announced the removal of the subsidies for gasoline and diesel as part of a larger austerity package in response to an International Monetary Fund.
- Almost immediately the price of gasoline rose to \$0.80 per liter (**US\$2.30/gallon**) from \$0.64 per liter (**US\$1.85/gallon**) and the cost of diesel more than doubled.
- Violent and widespread protests started on Oct. 2 and continued for a week.
- After 11 days of unrest, Ecuadorian President Lenin Moreno backed down and reversed the policy.



# Carbon taxation: The French Experience

## **First attempt to introduce carbon taxation in 2014:**

- Set at 7 € /tCO<sub>2</sub> under the form of a "carbon component" added to the existing energy consumption tax (TICPE).
- Entities covered by the EU-ETS get reimbursement. 3/4 of the revenues were targeted to the financing of the CICE, a tax credit for competitiveness and employment, and the rest went into the general budget.
- There were no protests, as oil prices were very low.

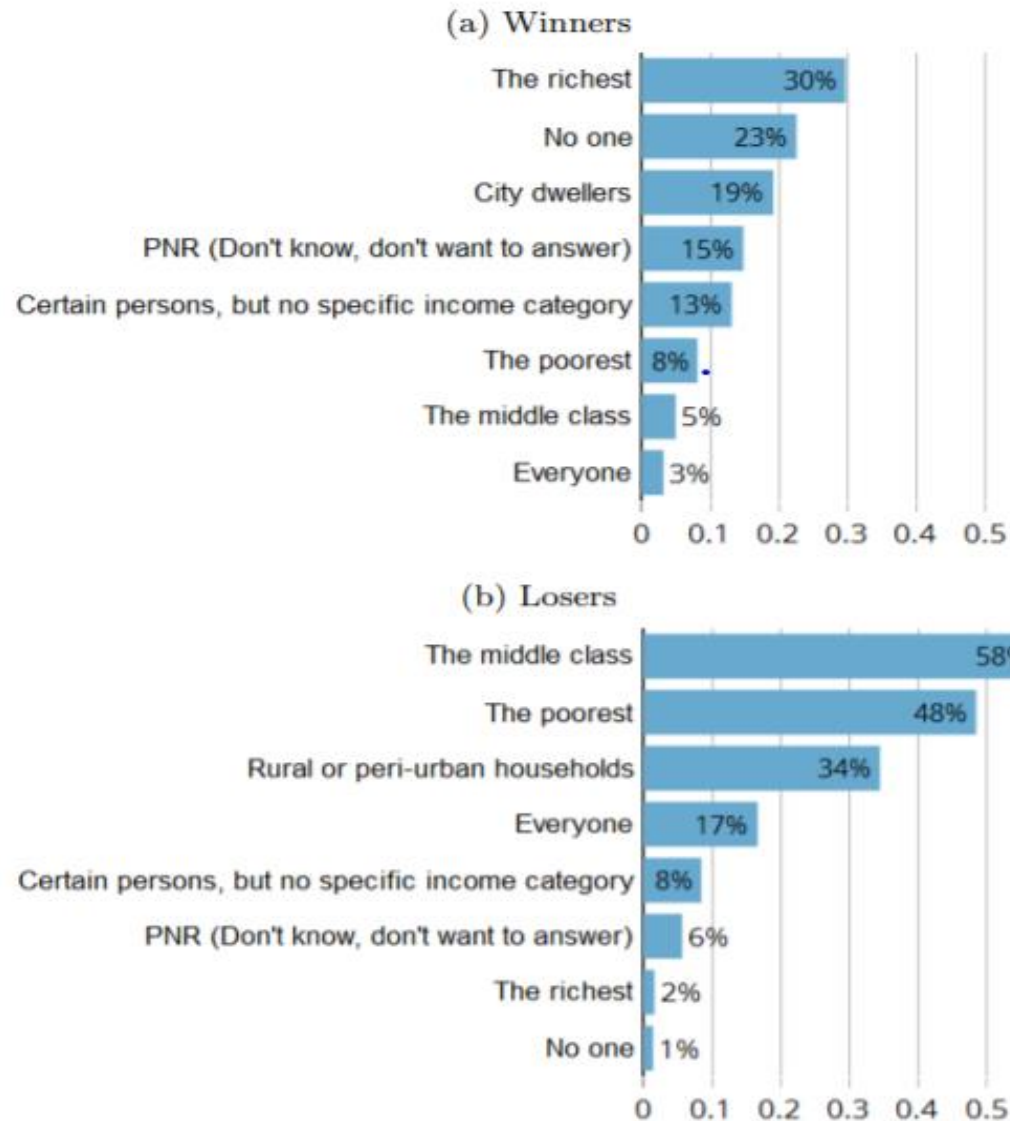
The carbon tax increased from **€14.50** in 2015 to **44.6€/tCO<sub>2</sub> in 2018** and was expected to reach 86.2€/tCO<sub>2</sub> by 2022.

# The Yellow vest protest

- The plan to increase the carbon tax in 2018 was abandoned, following the large-scale protests of the Yellow Vests— largely supported by public opinion—in the context of high fuel prices.
- **The Yellow Vest movement** started as a protest against the carbon tax increase and the elimination of the solidarity tax on wealth in 2018. The protestors advocated economic justice and called for economic and institutional reforms.
- The Yellow Vest movement received more support in rural areas.



## France, 2019: Perceived winners and losers from carbon taxes

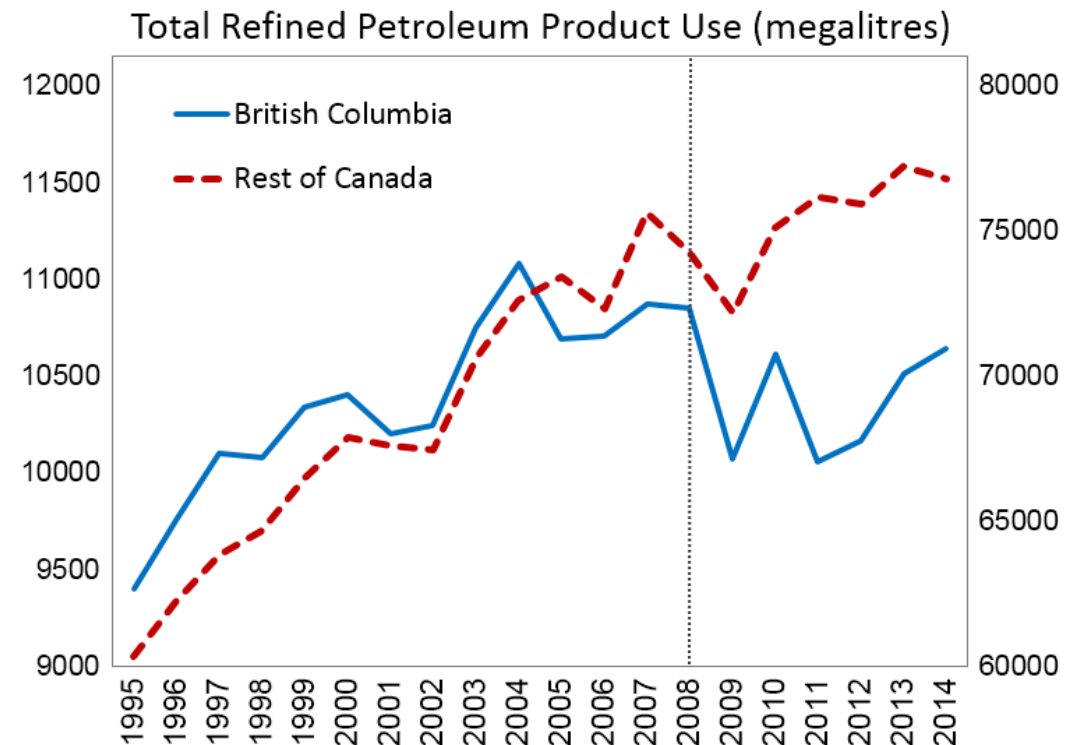


Survey conducted in March 2019  
(Opinion Way, 2019):

- 30% of respondents expect the richest household to win from the carbon tax;
- the losers are the middle class and the poor.

# The British Columbia case

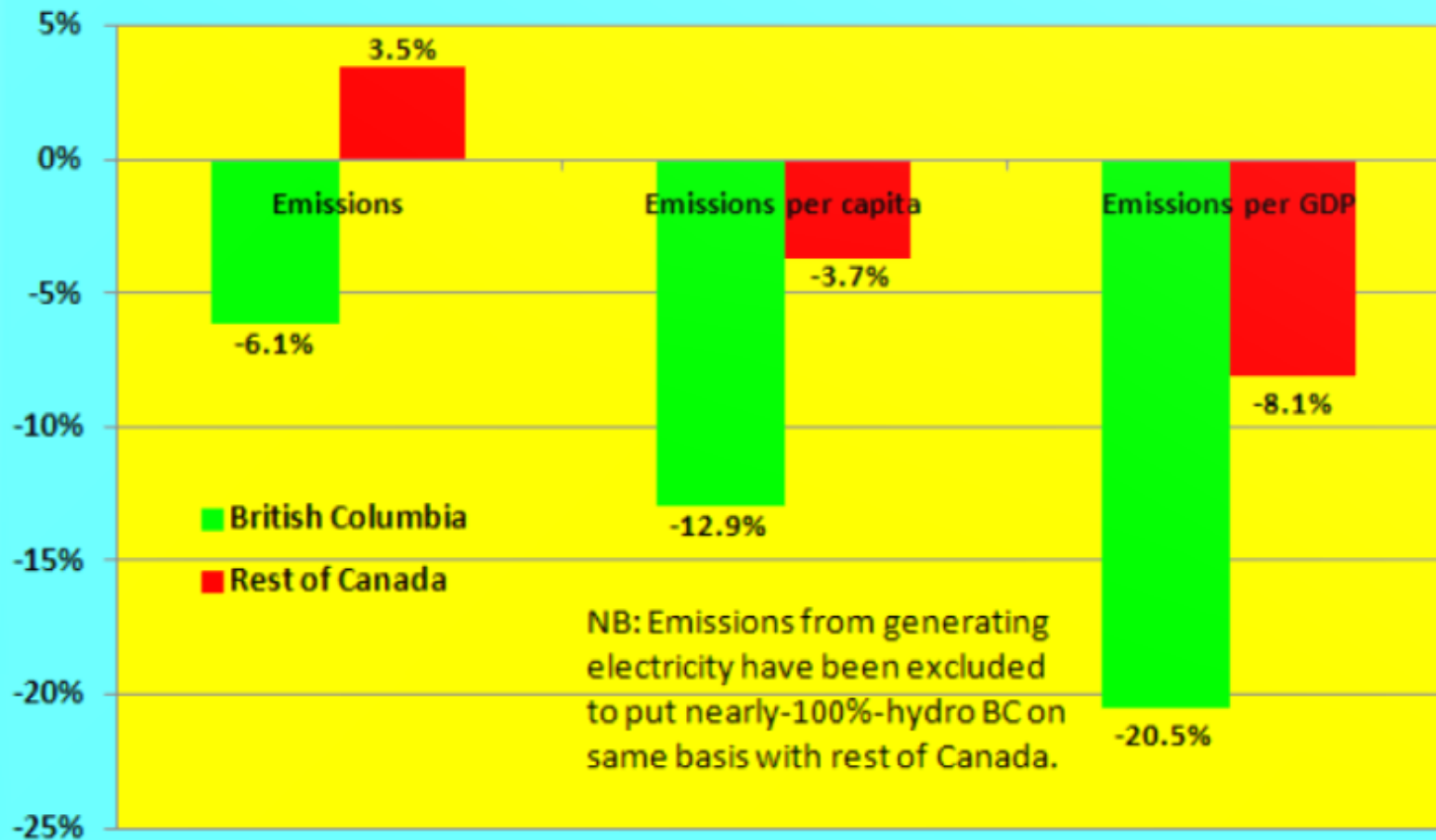
- Polls in 2007 indicated that climate change was at the top of Canadian voters' agenda.
- Strong leadership from Gordon Campbell, liberal premier at the time.
- In 2008, British Columbia established a tax on fossil fuels, starting at C\$10 per metric ton of CO<sub>2</sub>-equivalent and increasing to C\$30 per metric ton by 2012.
- Use of revenues: revenues generated were returned to consumers through tax credits, rebates, and lower corporate and personal income taxes.





# Emissions fell while the economy grew

Change in GHG Emissions, Post-Tax  
(2008-2013 avg) vs. Pre-Tax (2000-2007)



- The tax increased from \$10 in 2008 to \$30 per ton of CO<sub>2</sub> in 2014.
- The economy of British Columbia grew about 12 percent — higher than the national average
- Carbon emissions per person went down almost 13 percent, much faster than in the nation as a whole.

Source: <https://citizensclimatelobby.org/laser-talks/british-columbias-revenue-neutral-carbon-tax/>

# Canadian Federal Tax

- In April 2019, Canada implemented a **federal carbon tax**, under the Greenhouse Gas Pollution Pricing Act. All provinces must either adopt a strong climate policy of their own or accept a “backstop” federal carbon tax. Seven of the 13 Canadian provinces and territories are currently using the federal “backstop” plan.
- In 2020 the tax rate was C\$30 per ton of CO<sub>2</sub>. It increased by C\$10 per ton until 2022 and then will increase by C\$15 per ton each year until it hits C\$170 per ton in 2030.
- **The Canadian federal carbon tax is highly progressive.** Revenues from the carbon tax are collected at the province level and redistributed back to the citizens of the provinces as carbon dividends, except for a small amount to cover the administrative costs of running the scheme. They are distributed in the form of cuts to personal and corporate income taxes, low-income tax credits, and a property tax reduction for northern and rural homeowners.
  - Remaining issue: Canadian citizens are not well informed about the carbon tax, in particular concerning the refund to which they are entitled (i.e. the size of the carbon dividend).
- The Canadian federal carbon tax represents the best real-world model of a carbon tax and dividend.

# Washington State: I-732 ballot initiative

## **A proposed ballot initiative for a “revenue neutral” carbon tax:**

- All the revenue raised by the tax would have been automatically returned as cuts in other taxes;
- The tax would have started at \$15 per ton in 2017, rising to \$25 per ton in 2018, and then rising every year thereafter at 3.5 percent plus inflation, topping out at \$100 a ton (in 2016 dollars).
- By- partisan proposal: Support came from a few prominent Republicans, many democrats, and liberal and conservative economists. Western States Petroleum Association was officially neutral.
- Opposition from Association of Washington Business and from much of the environmental groups (Sierra Club, Gov. Inslee, Naomi Klein). Why? They were not sufficiently consulted; they felt the policy itself did not do enough for the communities most likely to be impacted by climate change and/or the transition to clean energy.

**I-732 got 41% of the vote in Nov 2016 and was rejected**

# Washington State: I-631 ballot initiative

- **The 1631 coalition went all the way in the other direction from 732.** It proposed to **levy a fee** of \$15 per metric ton of carbon emissions. Revenues from the tax were estimated to reach \$1 billion annually by 2023
- Plan to invest 70 % of the revenues in “clean air and clean energy.” 15 percent would support low-income energy consumers, and the transition of fossil fuel workers out of the industry; 25 percent would go to “clean water and healthy forests,” increasing the resilience of the state’s natural ecosystems, and 5% to assist rural communities impacted by climate change.
- Supported by a broad coalition of progressive groups, tribes, health advocates, all quarters of the left, hundreds of pro-clean-energy businesses, unions, and liberal billionaires like Michael Bloomberg, Tom Steyer, and Bill Gates. Proponents raised about \$16 million.
- Strongly opposed by the Western States Petroleum Association: it raised \$31.5 million to oppose 1631.
- **I-631 initiative got 43% of the vote in Nov 2018 and was rejected.**

# Building public support for environmental tax reforms

Starting point: Voters are instinctively against new taxes, even if they are explicitly aimed at preventing environmental harm.

## How to increase political acceptability

- Phase in taxes/caps over time; taxes can then be raised progressively
- Use revenues to address distributional and environmental concerns.
- Communicate the distributional effects of the reform and measures taken to overcome these effects.
- Stress **the local consequences of not taking the reforms**: local pollution, health problems, road congestion.
- Use fiscal incentives in favor of cleaner cars, subsidies or mandates for renewable energy, energy-efficiency standards on new buildings and cars, or bans on incandescent lighting.

# References

- Coady, David, Ian Parry, Louis Sears, and Baoping Shang. 2017. "How Large Are Global Fossil Fuel Subsidies?" World Development 91: 11–27. <https://www.sciencedirect.com/science/article/abs/pii/S0305750X16304867>
- Douenne and Fabre. Public support for carbon taxation: Lessons from France. Thomas Douenne, Adrien Fabre 01 May 2022: <https://voxeu.org/article/public-support-carbon-taxation>.
- Ali Enami, Nora Lustig & Alireza Taqdiri, 2016. "[Fiscal Policy, Inequality, and Poverty in Iran: Assessing the Impact and Effectiveness of Taxes and Transfers](#)," [Working Papers](#) 1605, Tulane University, Department of Economics, revised Sep 2017.
- Garrett-Peltier, Heidi, 2017. "[Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy, and fossil fuels using an input-output model](#)," [Economic Modelling](#), Elsevier, vol. 61(C), pages 439-447.
- Guillaume D, R. Zyttek, and M. Reza Iran—The Chronicles of the Subsidy Reform Prepared, IMF Working Paper Middle East and Central Asia Department, July 2011. <https://www.imf.org/external/pubs/ft/wp/2011/wp11167.pdf>
- International Institute for sustainable development (2019), How Reforming Fossil Fuel Subsidies Can Go Wrong: A lesson from Ecuador, October 24, <https://www.iisd.org/articles/lesson-ecuador-fossil-fuel-subsidies>.
- Metcalf, Gilbert E., and James H. Stock. 2020. "Measuring the Macroeconomic Impact of Carbon Taxes." AEA Papers and Proceedings, 110: 101-06. DOI: 10.1257/pandp.20201081
- Mildenerberger, M., Lachapelle, E., Harrison, K. et al. Limited impacts of carbon tax rebate programs on public support for carbon pricing. Nat. Clim. Chang. 12, 141–147 (2022). <https://doi.org/10.1038/s41558-021-01268-3>
- Popp, D, F Vona, G Marin and Z Chen (2020), "The Employment Impact of Green Fiscal Push: Evidence from the American Recovery Act", NBER working paper No w27321.
- Vona F.(2018): Job losses and political acceptability of climate policies: why the 'job-killing' argument is so persistent and how to overturn it, Climate Policy, DOI: 10.1080/14693062.2018.1532871 To link to this article: <https://doi.org/10.1080/14693062.2018.1532871>
- White House Archive 2016: <https://obamawhitehouse.archives.gov/the-press-office/2016/02/25/fact-sheet-recovery-act-made-largest-single-investment-clean-energy>;



# Thank You!!

