



# Regional Climate Week

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# Latin America and the Caribbean

Panama City, Panama – 23-27 October 2023



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# Session 1b: Introduction to carbon pricing



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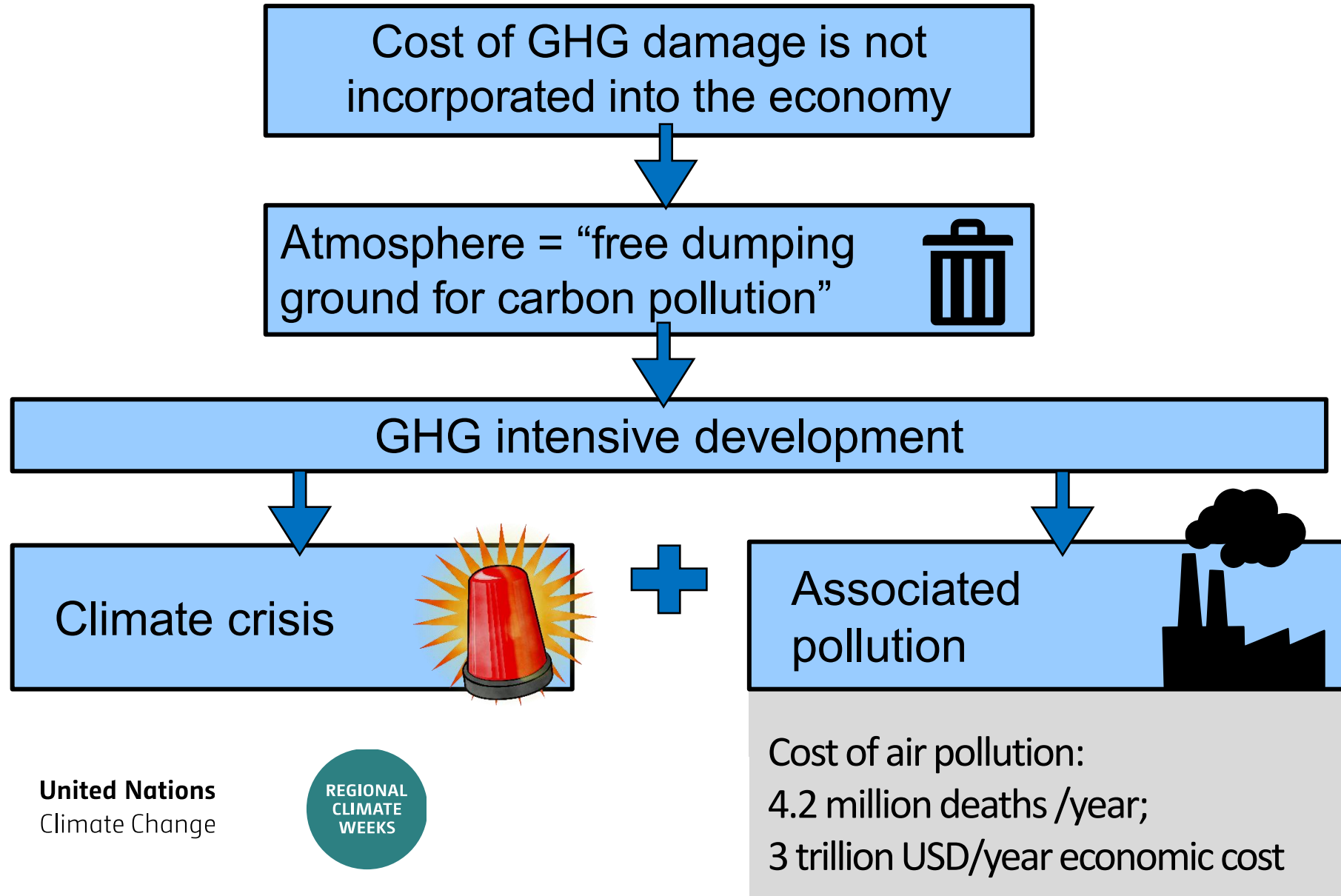
# What is carbon pricing?



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# Initial situation: World without Carbon Pricing:



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# Carbon Pricing - Opportunities

- **Putting a price on carbon reduces emissions and the costs associated with these emissions**, costs that end up being borne by everyone, including companies and societies, through an array of impacts resulting from climate change.
- Carbon pricing has long been recognized as a **cost-effective** means to reduce greenhouse gas (GHG) emissions.
- Proposed national actions to mitigate climate change, embodied by Nationally Determined Contributions (NDCs), are widely understood to be collectively insufficient to achieve the ambitious goals of the Paris Agreement.
  - Carbon pricing has proven to be **one of the most effective tools to unlock potential from the private sector**, companies, as well as investors. It is therefore an important **part of the toolkit** available to policy makers, both to **achieve current NDCs at least cost** and to **encourage greater ambition in future**.



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# Price signal on carbon emissions

## Carbon Price:

What is it?

- Price signal on greenhouse gases (GHG) emissions: **X\$ per tCO<sub>2</sub>e**

Why put it in place?

- To **take into account** [all of] [part of] the **cost of carbon pollution** (social cost of carbon) in decisions (planning, investments, operations, etc.).
- Recognized by most economists as the **simplest**, most **straightforward** and most **cost-effective** way to address GHG emissions

*“Putting a price on carbon is the only effective way to curb emissions to combat climate change”*

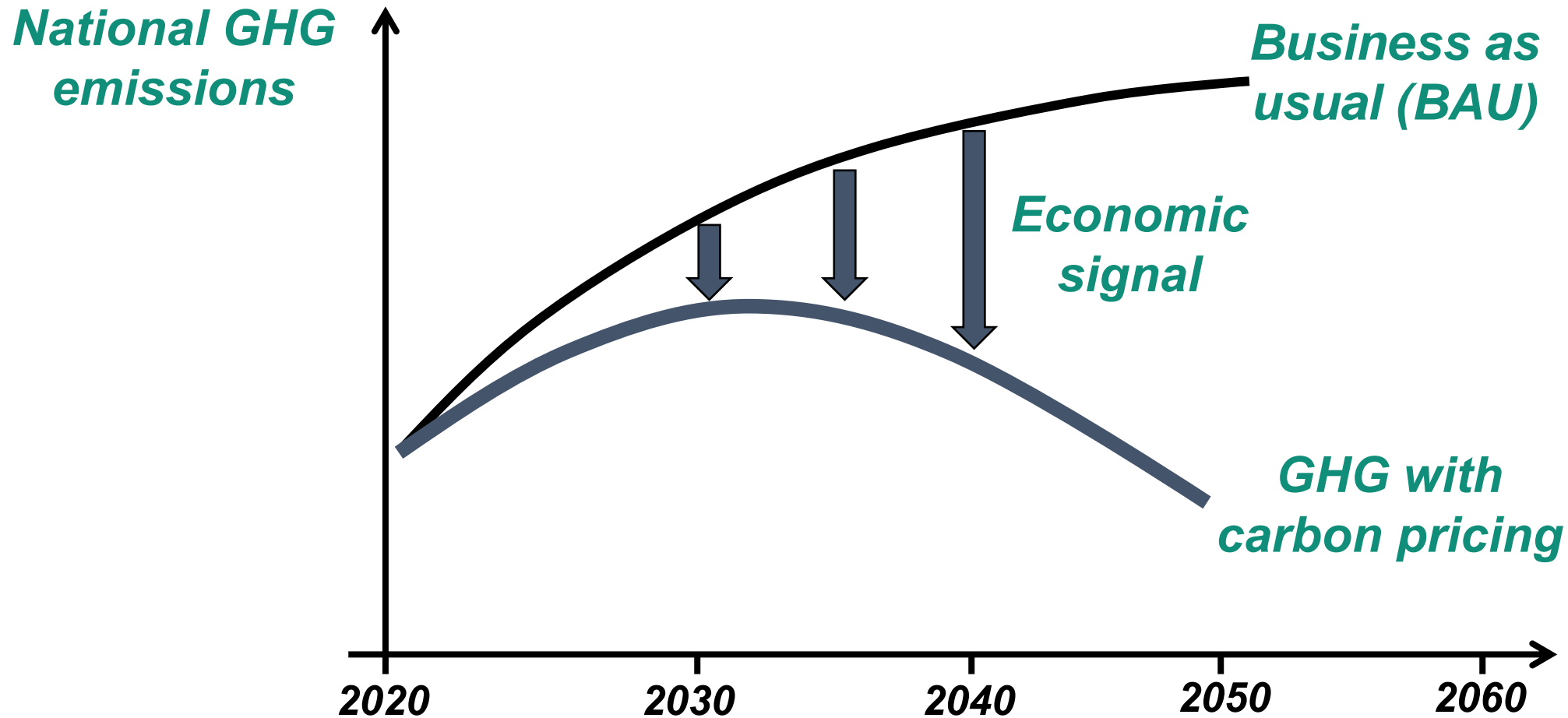
Jean Tirole (2014 Nobel Price in Economics).



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# Price signal on carbon emissions



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# How carbon pricing works?



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# How carbon pricing works



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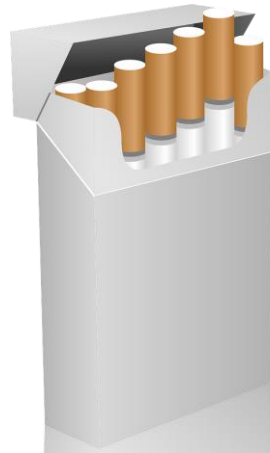
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# How carbon pricing works

A few considerations:

- Governments require tax income to be able to operate
- Carbon pricing is **not about increasing taxes.**
- Carbon pricing is about **taxing the “bads”** (pollution) instead of taxing the “goods”

(e.g., tobacco products)



## Response to signal

- ↑ Reduces the associated health costs
- ↑ Reduces associated import costs

## No response to signal

- ↑ Creates revenues



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# How carbon pricing works

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E.g.: payroll tax

- ↓ Discourages the creation of added value
- ↓ Encourages undeclared work / informal sector



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# How carbon pricing works



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# Quiz time



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# Quiz time

What does empirical evidence show about countries which have implemented carbon pricing and those which did not?

**A**

**Overall not much difference !**

**B**

**Emissions in countries without carbon pricing: ~ +3%/year**  
**Emissions in countries with carbon pricing: ~ -2%/year**



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Based on [Best, Burke, Jotzo 2020](#)

# Quiz time

Putting in place carbon pricing will increase my taxation level?

**A**

**Yes absolutely**

**B**

**It depends as I could at the same time cut other taxes**



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# Carbon pricing and the NDC achievement



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# Relation to the Paris Agreement

## Potential roles for carbon pricing

- For achieving successive NDCs
    - (adjustable policy which can be revised over time)
  - For LT-LEDS (long-term economic signal)
  - Also, potentially for cooperative mitigation action under Art. 6
- 
- Carbon pricing can play an **important role in realizing the ambitions** of the Paris Agreement and implement the Nationally Determined Contributions (NDCs).
  - Para. 136 of the first COP 21 Decision (**1/CP.21** Adoption of the Paris Agreement): recognizes the important role of providing incentives for emission reduction activities, including tools such as domestic policies and **carbon pricing**.
  - Two-thirds of all submitted Nationally Determined Contributions (NDCs) under the Paris Agreement consider the **use of carbon pricing and carbon markets to achieve** their emission reduction targets



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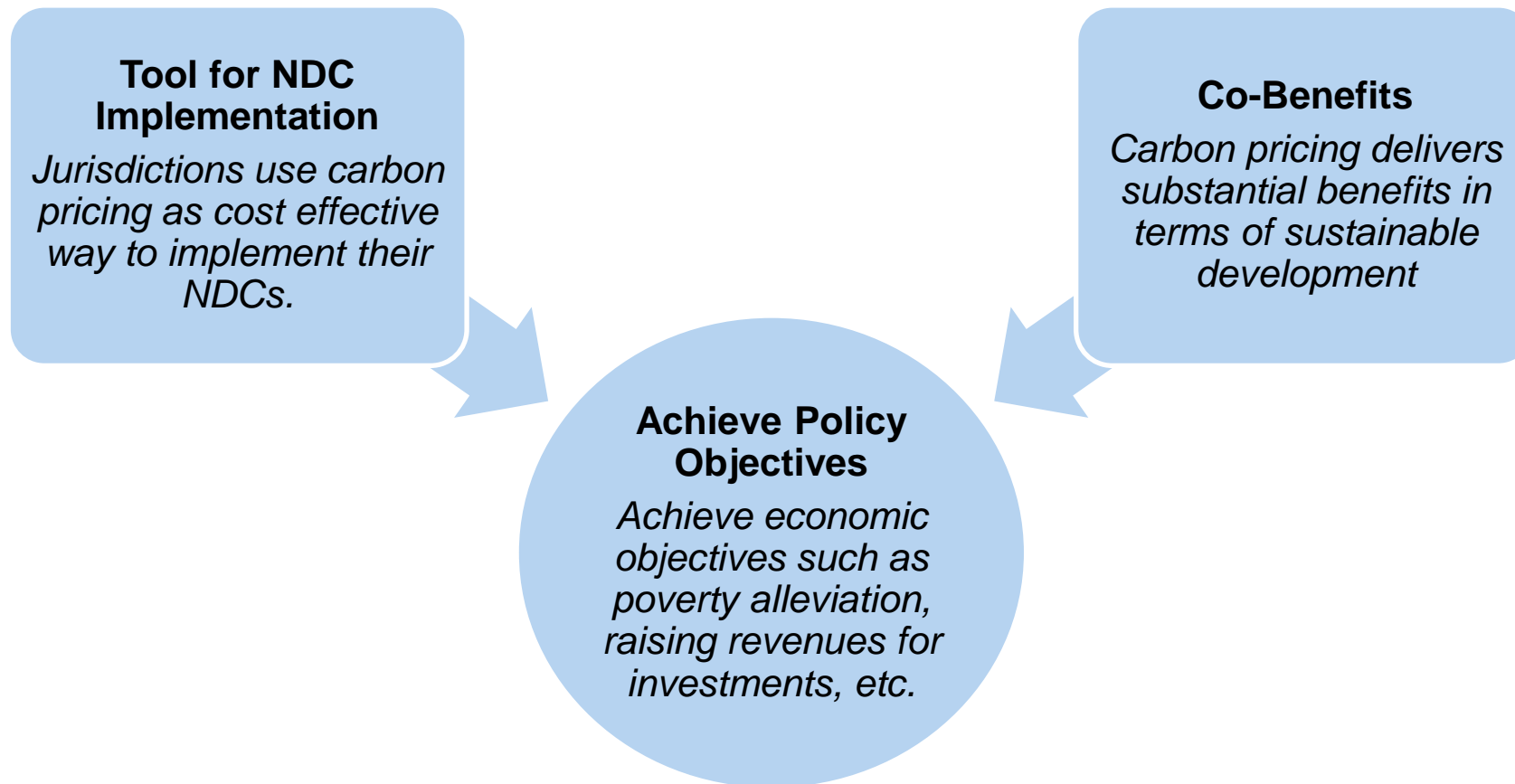
# Co-benefits of carbon pricing



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# Why Carbon Pricing?



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# Co-benefits of carbon pricing



- **Reduce emissions.**
  - **Encourage action by peers.**
- 
- Environmental and health benefits.
  - Economic diversification / job creation
    - Penetration of new technologies
    - Attracting investments
  - Raises revenue for other purposes
    - Investments / cutting inefficient taxes
  - Increased energy security.
  - Reduce the cost of fossil fuel subsidies.
  - Reduced exposure to carbon border measures.



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# Achieving national priorities

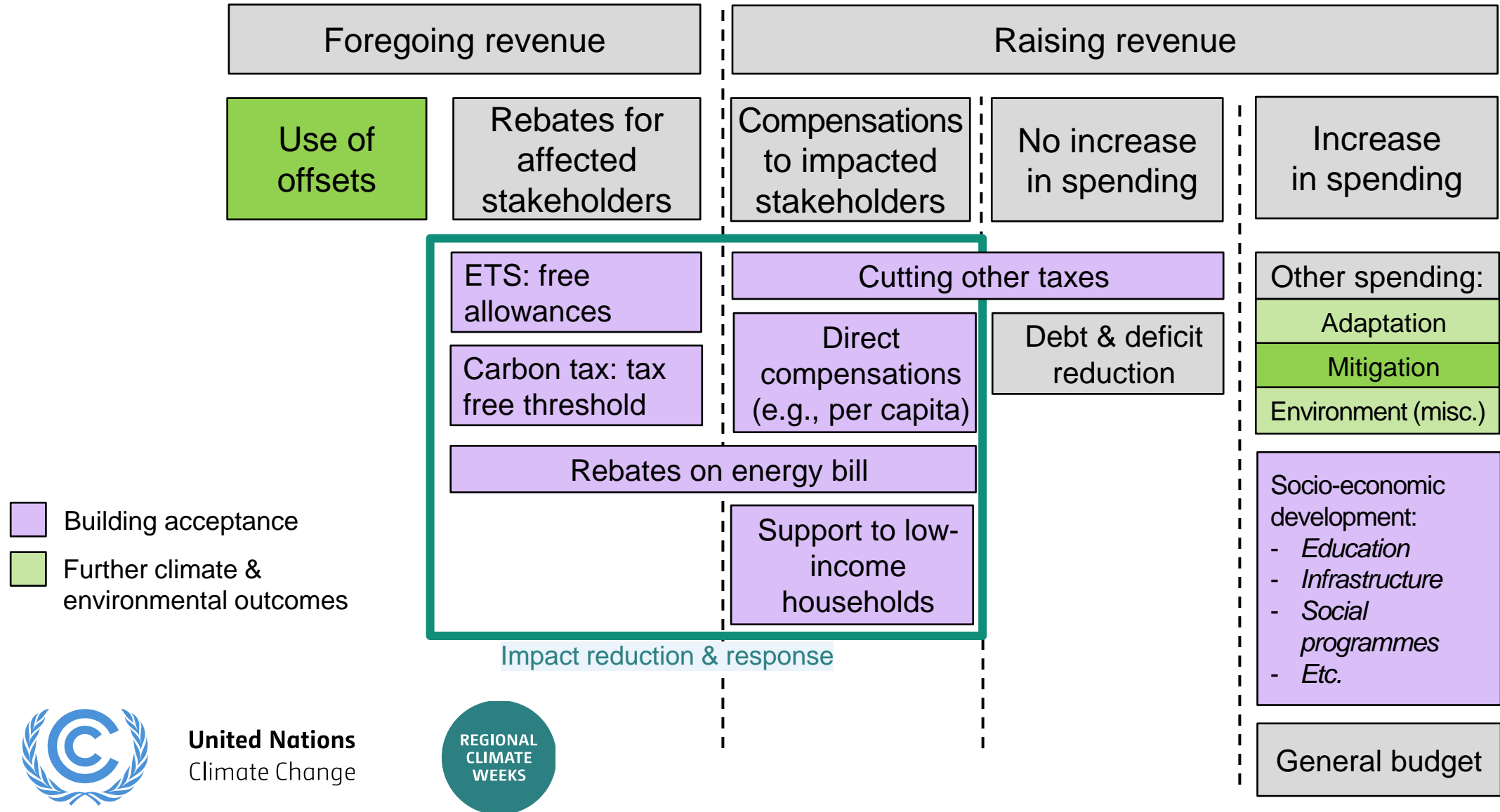
Objective / priority	Solution
Trigger investments	Revenues from carbon pricing to give loan guarantees for investors (e.g., in sustainable energy projects)
Limit trade exposure from pricing carbon	Provide large discounts and compensations to entities covered (e.g., free allowances under ETS)
Reduce poverty	Focus reinvestments on job creation
Increase energy access	Reuse income to fund/support sustainable decentralized energy access
Increase income equality	Redistribute the proceeds on a per capita basis
Improve business climate/competitiveness	Use revenues to cut taxes which hinder wealth creation (income tax / capital gain tax)
Ensure adaptation	Investments in adaptation measures
Increase energy independence	Reinvest in measures which reduce energy imports



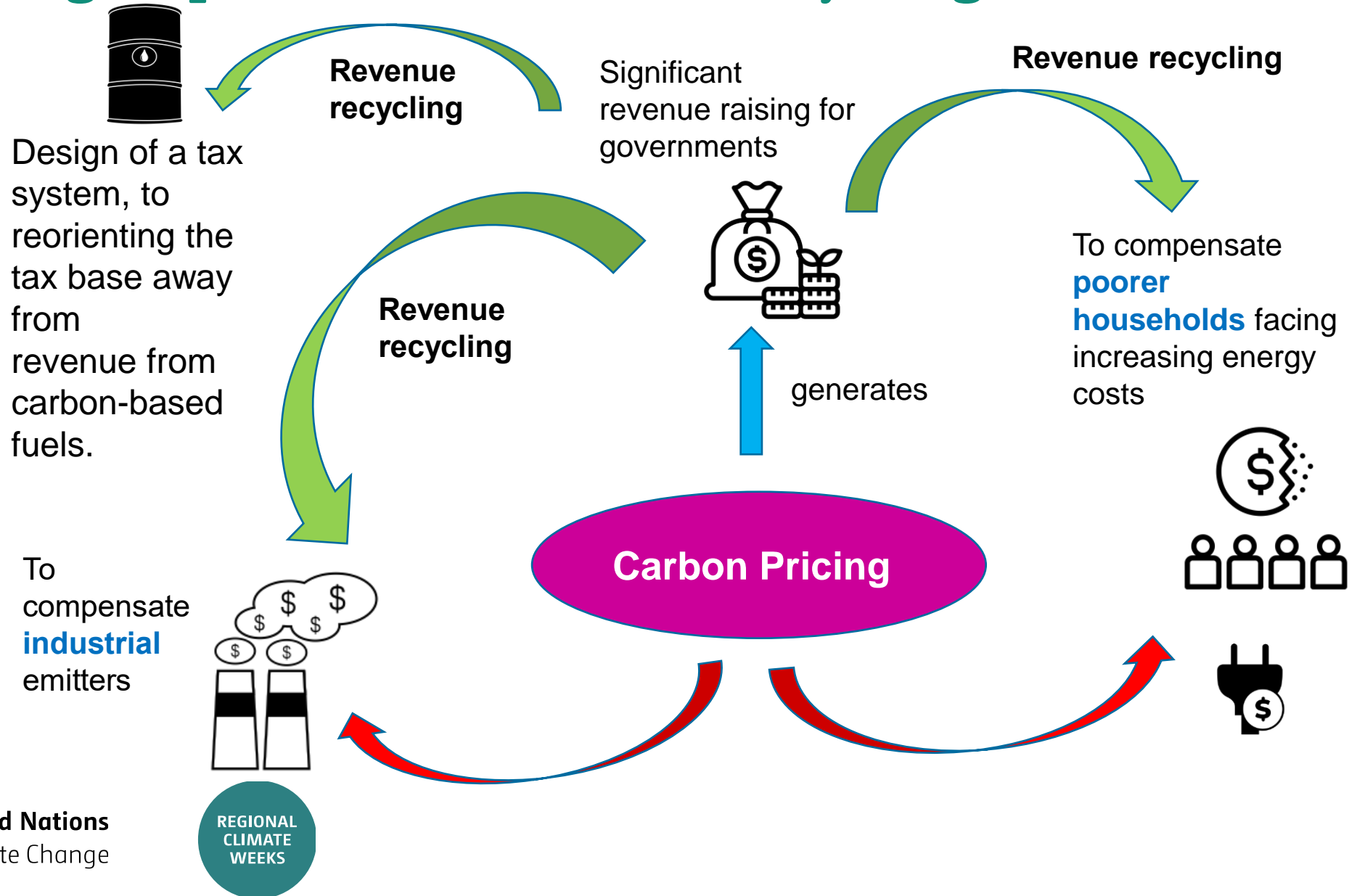
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# Carbon revenues



# Carbon Pricing Impacts and Revenue Recycling



# Benefits of Carbon Pricing

## Help

- Facilitate emission pathways compatible with keeping global temperature rise to well below 2°C above pre-industrial levels and pursuing efforts to hold the increase to 1.5°C as per Paris Agreement.

## Spur

- Investment and innovation in clean technology by increasing the relative cost of using carbon-intensive technology.
- Business and individuals seeking cost-effective ways to lower their GHG emission will be encouraged into green financing and clean tech.

## Promote

- The achievement of SDGs by channeling financing to SD projects.

## Generate

- Revenue which can be recycled into green economy through government spending for R&D.
- Revenue to help vulnerable communities adapt to the effects of climate change.

## Create

- Environmental, health, economic, and social co-benefits.

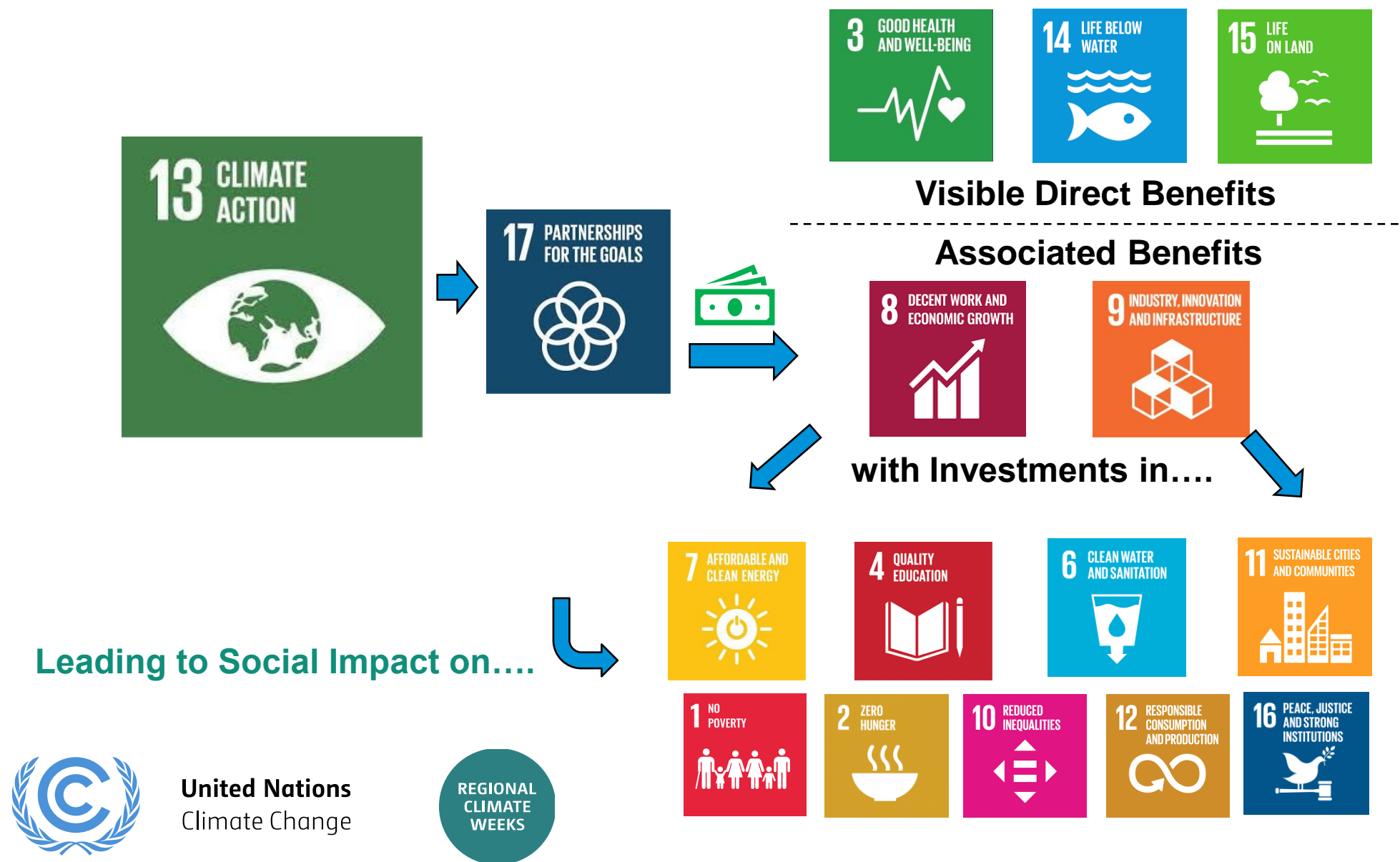


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# Carbon Pricing Co-Benefits against UN's SDGs



# Actual Co-Benefits derived from Carbon Revenues

Programs		Examples
Action	Energy Efficiency Programs	<ul style="list-style-type: none"> <li>• Home retrofitting, less CO2 over lifetime of installations, generated jobs</li> <li>• Bulgaria finances energy savings of public buildings</li> <li>• California created 60,000 energy efficiency projects for households and to coordinate energy efficiency with water efficiency</li> </ul>
	Sectoral transformation	<ul style="list-style-type: none"> <li>• Promotion of low/zero emission vehicles in road, transit, rail, maritime</li> <li>• Expand and improve public transport</li> <li>• Sustainable transport with electric vehicle incentives, sustainable mobility, consumer rebates for vehicles</li> </ul>
R&D /Innovation		<ul style="list-style-type: none"> <li>• Re-invested to advancing low-carbon technologies or building resilience</li> <li>• EU commercial scale demonstration of carbon capture and sequestration</li> <li>• Innovative mitigation technology, intelligent logistics in Quebec</li> <li>• Advanced mitigation technology for heavy duty vehicles, freight equipment</li> <li>• Healthy soils and manure management in agriculture, farm-waste-to-fuel</li> </ul>
Compensating Households or businesses		<ul style="list-style-type: none"> <li>• Direct bill assistance to lower income households</li> <li>• Re-invest in disadvantaged and low-income communities</li> <li>• Returned to consumers and businesses in the form of a dividend</li> <li>• Use revenues to reduce existing taxes on labor and capital (tax swap) to minimize economic costs, and result in net economic benefits</li> <li>• Wealth transfer to even out regional disparities</li> <li>• Support electro-intensive industries through transition phase</li> </ul>



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# THANK YOU FOR ATTENDING



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