



# Carbon Tax & combination with other policy measures

**2023 ATI GENERAL ASSEMBLY**  
**Lusaka, Zambia**  
**20-22 June 2023**

**Technical Session 4**  
**Break out Session 3**

**Prof. Dr. Stefan Weishaar**  
**s.e.weishaar@rug.nl**

Carbon Tax effectiveness does not only depend on design and implementation but also on how it interacts with other policies and instruments

# Consider Carbon Tax in context

Carbon reduction measures are implemented in a complex policy landscape:

- Multiple actors (different tax authorities, various government entities at various levels of government)
- Multiple objectives (air pollution, energy security, revenue raising, economic growth, job creation)

Carbon reduction measures give rise to effects

- Direct effects
- Indirect effects
- Unintended effects

# Assessing the interaction

## **Complementary measures**

- Different objectives, but reinforcing

## **Overlapping measures**

- Similar objectives but creating inefficiencies

## **Countervailing measures**

- Adverse effects on de-carbonization
- Other societal goals

# Assessing the interaction

**Carbon pricing is a powerful tool to reduce emissions**

**Explicit carbon pricing:**

Carbon Tax or Emission Trading System

**Implicit carbon pricing effect:**

Fuel taxation, energy efficiency standards, fossil fuel subsidy removals, etc.

# Interactions with Carbon Tax

| Complementary                            | Overlapping                       | Countervailing                              |
|------------------------------------------|-----------------------------------|---------------------------------------------|
| Phasing out coal-based energy production | Fuel and energy taxes             | Fossil fuel subsidies                       |
| Standards for energy efficient buildings | Renewable energy support measures | Private car and transport subsidies         |
| Electric energy reform                   | Taxes on high emission cars       | Public transport taxes                      |
| Encourage electricity storage            | Emissions trading systems         | Land use change (forest clearing) subsidies |

Where a Carbon Tax is insufficient to incentivize transition, targeted subsidies may be helpful

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Coordination between carbon and energy taxes is important:  
Sustainable and non-sustainable fuels can differ in calorific value (diesel/bio-diesel)  
fare differently under Carbon Taxes and energy taxes

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Fossil fuel subsidies obstruct transition to low carbon economy => counterproductive

# Addressing Carbon Tax (CT) interactions

## **Adjust the design of CT before introduction**

(e.g. scope, taxable base, tax rate: CT good for installations, not for cars)

## **Adjust design/implementation of other policies (e.g.**

Phase out fossil fuel subsidies & address regressiveness => social support)

## **Ensure complementarity of measures**

CT on coal better than just volume based Emission Trading

Multiple systems more expensive

## **Consider hybrid systems**

CT with offsets



# Rapporteur

What are the 3 most important considerations for the design of a carbon tax?

Can you think of possible design options to address and mitigate these considerations?

**Table 9. Examples of policies that may interact with a carbon tax**

| Complementary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Overlapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Countervailing                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Electric energy reform</li> <li>• Energy efficiency packages, allowing for fuel switching</li> <li>• Facilitating energy trade and daily contracts</li> <li>• Regulate and incentivize smart grids</li> <li>• Flexible demand side response</li> <li>• Encourage electricity storage</li> <li>• Policies that support the quality and availability of weather forecasting to make renewable generation more predictable</li> <li>• Regulating methane emissions in the oil and gas sector</li> <li>• Phasing out coal-based energy production</li> <li>• Incentives for electric vehicles (EVs)</li> <li>• Vehicle emission standards</li> <li>• Subsidies/investment in the charging stations and other infrastructure needed to support wide-scale adoption of transformative zero-emission options.</li> <li>• Standards for energy efficient buildings</li> </ul> | <ul style="list-style-type: none"> <li>• Emission trading systems</li> <li>• Fuel and energy taxes</li> <li>• Renewable energy support measures</li> <li>• Vehicle fuel efficiency standards</li> <li>• Feed-in tariffs or green certificates</li> <li>• Environmental emissions regulations and standards</li> <li>• Social carbon price in investment projects</li> <li>• Internal carbon price in businesses</li> <li>• Taxes on high emission cars</li> <li>• Payments for ecosystem goods and services (e.g., paying farmers to retire marginal agricultural land)</li> </ul> | <ul style="list-style-type: none"> <li>• Fossil fuel subsidies</li> <li>• Fuel taxes that create a price wedge across fuels which is not proportional to their carbon content</li> <li>• Land use change (forest clearing) subsidies</li> <li>• Private car and transport subsidies</li> <li>• Tax rebates on high emission cars (e.g. diesel)</li> <li>• Public transport taxes</li> </ul> |