

**Oil price cyclicity: a call for combining rather than adding energy and carbon policies Christophe de GOUVELLO (Energy Practice of the World Bank)**

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# Oil price cyclicity: a call for combining rather than adding energy and carbon policies

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with

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# Introduction

- Do volatile energy markets condemn the effort to price carbon and to get a price signal right?

More precisely,

- Does dramatic decrease of oil and gas prices to condemn the effort of carbon pricing and to get a price signal right?
- Low oil prices are perceived as postponing indefinitely low carbon investments, but does the decline of long term costs of renewables/low carbon sufficient to make any carbon pricing an effective signal to trigger investment whatever the energy price?

Divergent opinions about this duration, but the problem is not there:

- Beyond cyclicity of international energy prices, uncertainty and risk-aversion of investors
- Carbon pricing is not able to compensate the radical decrease of international fuel price
  - (example of inability of the EU ETS to balance to decrease of coal price, vis-à-vis CCGTs (mothballing))
- Reality of low carbon options, in particular for the renewables, despite their cost decrease
  - Very capital intensive with large upfront costs;
  - Long lead time to develop different low carbon equipment, new infrastructure at large scale, (exposure to risks)

# Content

So three points

- How the oil price U-turn **neutralized the effects of carbon pricing efforts** in emerging and developed countries?
- Could we overcome the problem by **establishing “energy+ carbon price” in the function of leading price signal**, at least in the rich countries?
- Which pragmatic approach in the emerging countries **to get around the problem of accommodating climate policies and pricing instrument**, inside existing energy policies confront to changing international energy prices?

# 1. Neutralization of carbon pricing efforts in emerging and developed countries

Equivalent of cyclical changes of oil price in terms of carbon price changes (all things being equal)

<b>Hike</b>	<b>\$35 bbl (July 2007) to \$145 bbl (December 2008)</b>	<b>+ \$ 255 /tCO<sub>2</sub></b>
<b>Fall</b>	<b>\$115 bbl (2013/2014) to \$ 45 per bbl (2015)</b>	<b>- \$ 155 /tCO<sub>2</sub></b>

Not in the order of magnitude of the carbon tax (€/tCO<sub>2</sub>)

Tax Sweden	Tax Switzerland	Tax Ireland	France (2014)	Tax Japan		Tax Mexico	South Africa (2015)	Tax Chile 2014
<b>118</b>	<b>66</b>	<b>20</b>	<b>22</b>	<b>2.5</b>		<b>5</b>	<b>10</b>	<b>5</b>

Idem for the ETS prices

EU-ETS	New Zealand	California	RGGI
<b>€ 5-20</b>	<b>\$ 1-2</b>	<b>\$ 12</b>	<b>\$ 5.5</b>

More similar to energy/carbon excise duty on motor fuels in Europe: in average for gasoline & diesel 150-250 €/tCO<sub>2</sub>

# Neutralization of effort in matter of fossil fuel subsidies

Seize the opportunity of low prices to align the price on the cost or on the international price (opportunity cost)

Suppression of fossil fuel subventions : « price gap » method for the consumer prices

But what reference price ?

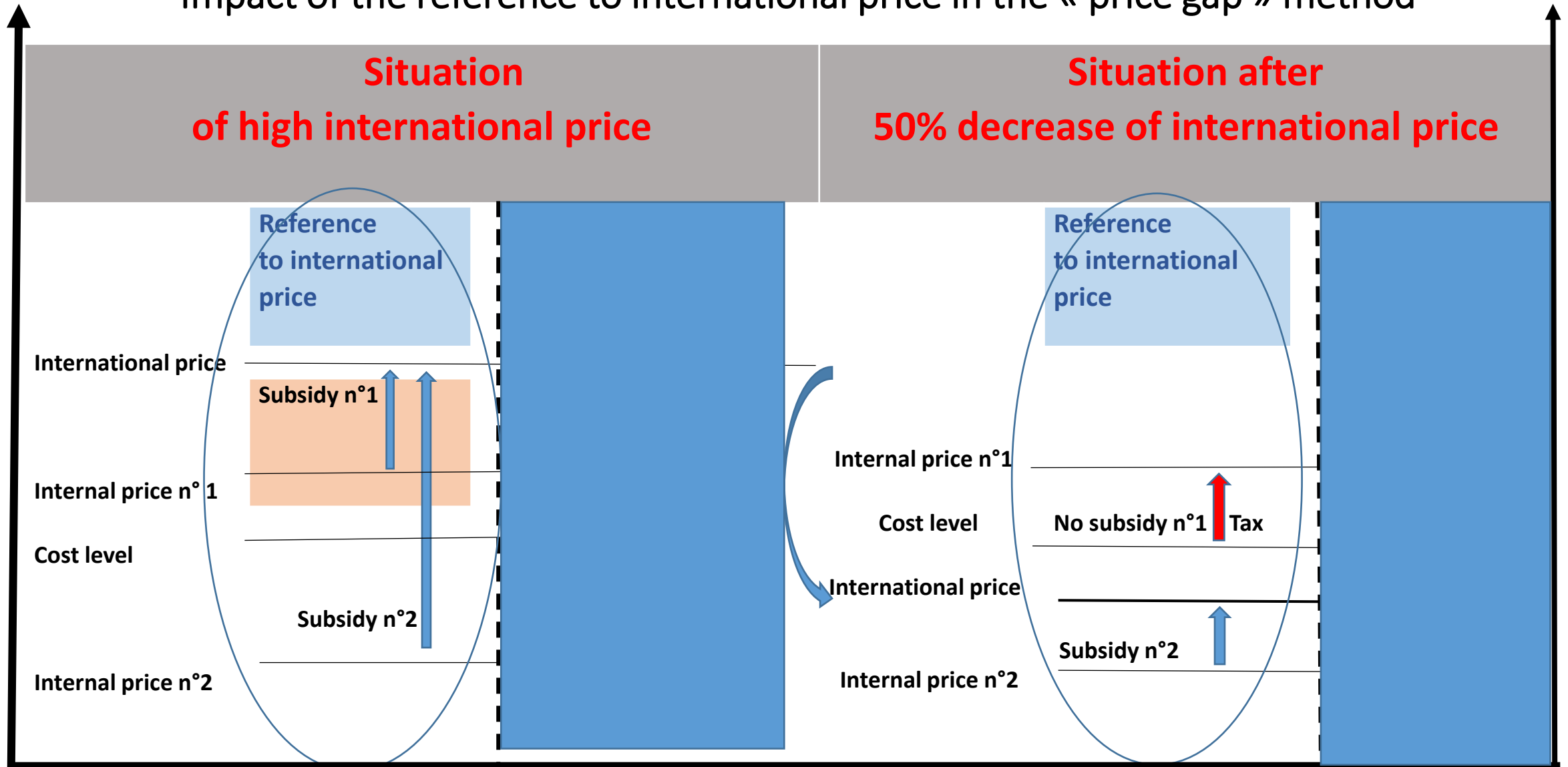
- Reference to international price ;
- Reference to the marginal cost/average cost of production+ distribution as for electricity subsidies assessemnt

If price smoothing formula (Chile, Mexico, Brazil, etc.) ,

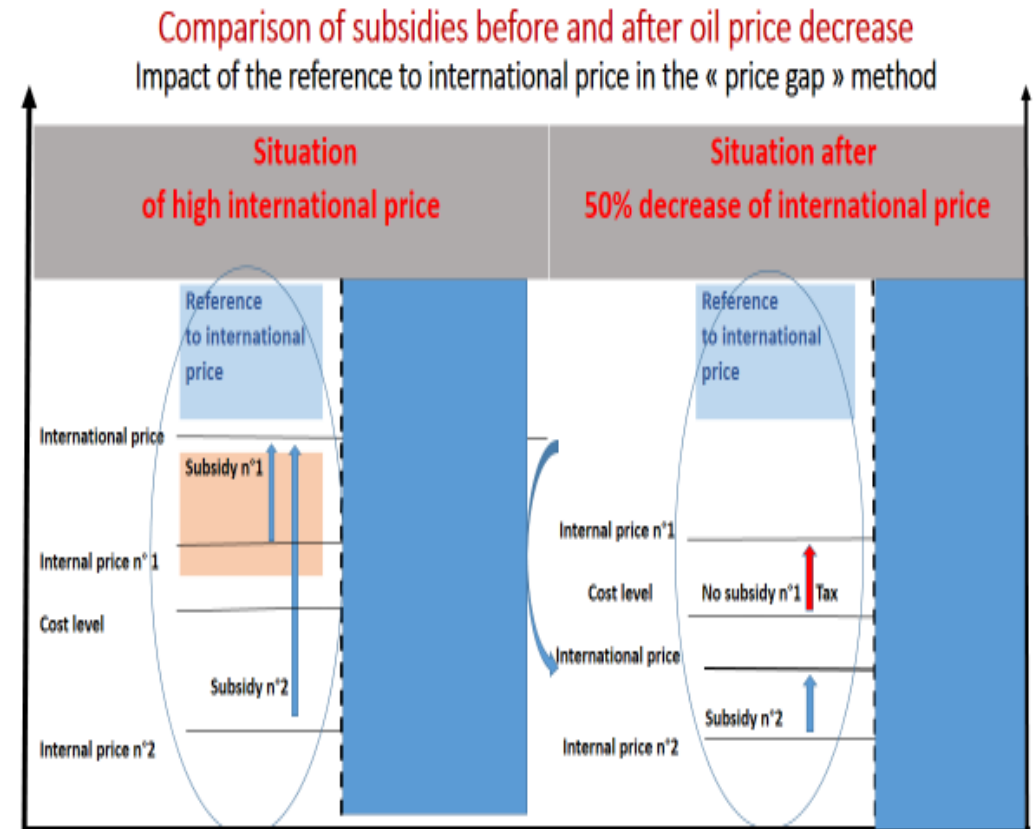
Price smoothing formula is considered as a subsidization during period of high prices

# Comparison of subsidies before and after oil price decrease

Impact of the reference to international price in the « price gap » method



- **The price-signal** of an effort to align internal prices onto international prices, and not onto the marginal cost **will be lost**
- Case of a producing country
  - marginal cost at \$ 60/bl, internal price at \$60 and international price is \$120/bl
- Suppression of subsidies by alignment on international price : a gain of \$18 billion for a consumption of
- But if price crash at \$ 50/bl after alignment on international price ,
  - NOC loses money \$3 billion
  - The former jump of internal price from \$60 to \$ 120 had unusefully hurt its population



In this respect the criticisms of price smoothing formulas subsidies do not hold



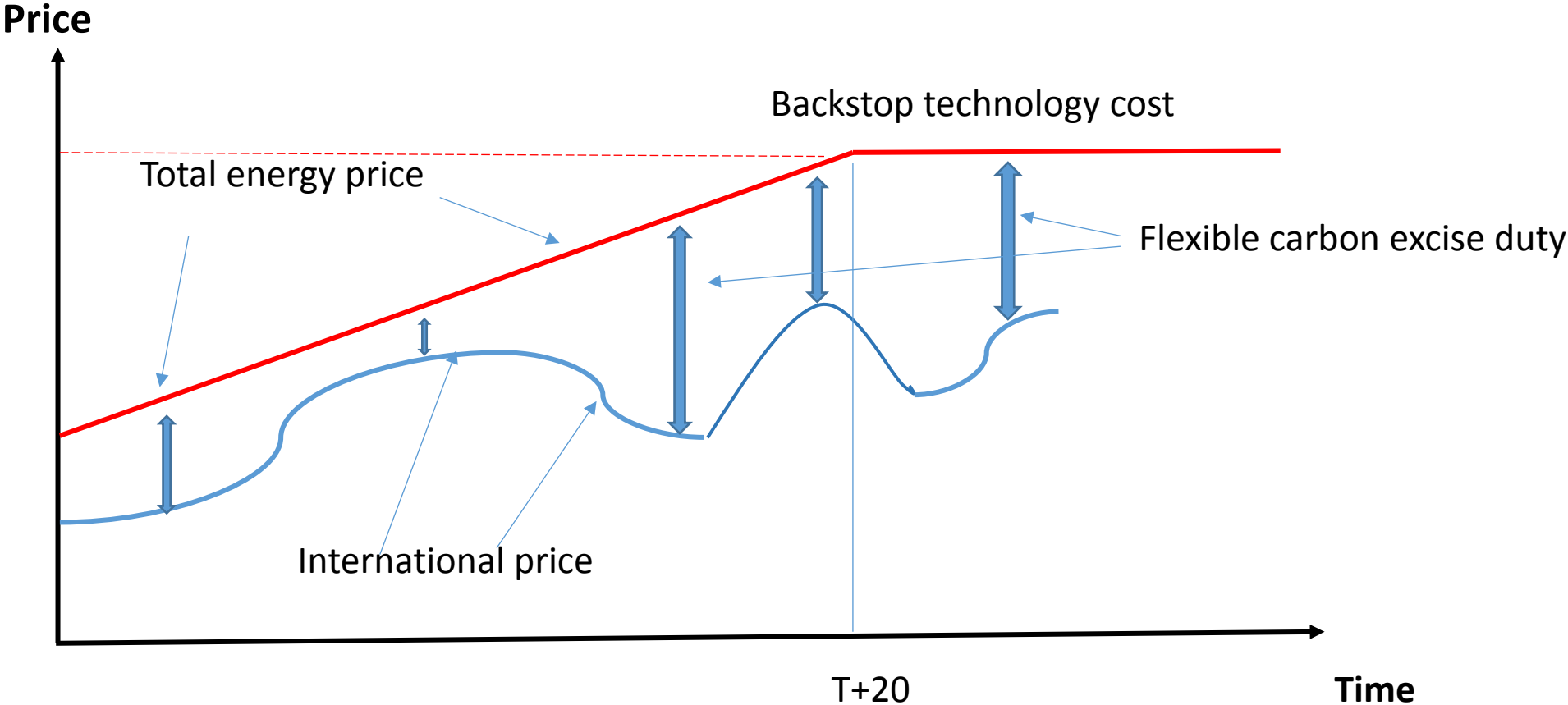
## 2. A normative approach for rich countries committed in climate mitigation objectives

What is the right signal to be sent to invest in a context of very large cycle of international fuel price?

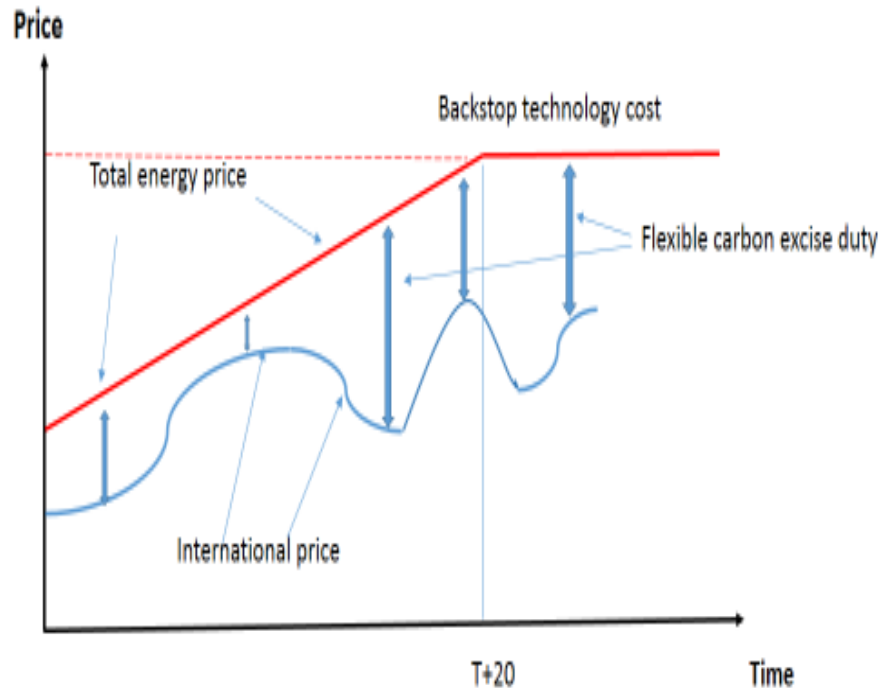
**The main problem :** a price signal combining the pricing of a collective good and a private price with monopoly rent and speculative rent

- To consider that the carbon price should be added to the energy price without taking into account its very large cyclicity
- To consider that the international market of fuels is perfect without monopoly rent and speculative rent related to its financiarisation
  - Discussion beyond the traditional cyclicity of a mineral markets and pricing of an exhaustible resource with scarcity rent
    - OPEC still has a cartel function after phases of destabilization
    - Speculation and liquidity of oil markets : x 4 in 2003-2004 !
    - \$115-145 /bl was not aligned on the marginal cost
      - (Artificial game of non-commercial speculators' anticipations)
- Right signal that should be received by private and public investors: the sum of energy price and carbon price
  - It should be :
    - effective (credible, foreseeable on long term, price risk manageable)
    - fair (to recapture exporters' and speculators' rent in phases of low price):

# Towards a stable *energy + carbon price* by flexible carbon tax



# Towards a stable *energy + carbon price* by flexible carbon tax



- To ensure an energy+carbon price predictable trajectory over 20 or 30 years, up to a targeted final energy price.
- Carbon tax to be adjusted continuously depending on oil price fluctuations
- To adapt ETS to energy price cyclicity
  - Cap is not sufficient to provoke a carbon price increase
  - To link the price floor to the level of the international oil price
- The **law establishes that it is the total price which matters**: during price drops, tax increase not to be debated

# Towards a stable *energy + carbon price* by flexible carbon tax

Flexible carbon taxation is not accepted by economists.

But if the theory on carbon pricing tells :

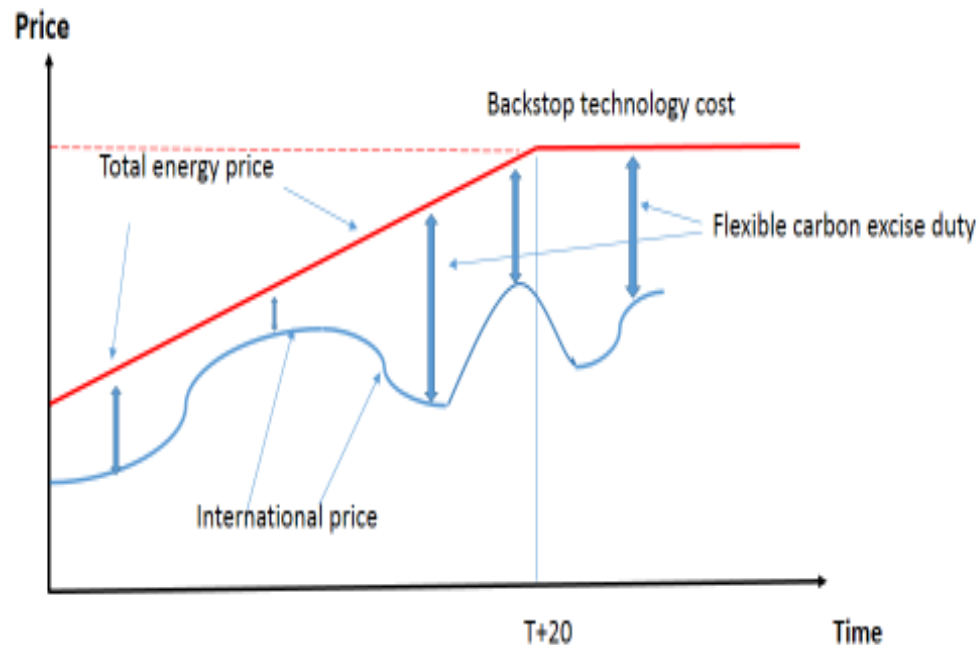
“Equalization of marginal benefits for the world and the marginal cost of abatement”

what if, if it is the consumers ?

Marginal benefits for them = mitigation + avoidance to pay the rent

Stern report p.213.

*“If referring to the mitigation of the costs of climate change for the users, and not for the world as a whole, the avoided rents to be paid to producers could be included.”*



### 3. A pragmatic approach in emerging countries

#### **To accommodate the new climate objective among existing energy policy objectives**

- Need to understand the energy policy objectives (energy security, economic development, affordability, energy access, competitiveness)
  - To acknowledge their political legitimacy: social equity, reduction of poorness

As energy policy objectives could be pursued by a variety of instruments, revision of the package of instruments

- to adapt the former energy pricing instrument (energy taxation, subsidies)
- to shift to another instrument more compatible with mitigation objective;
- to organize smart adaptation of instruments to a carbon pricing phase-in

	Before climate concern	Since climate concern
<b>Protection of consumers (redistributive equity)</b>	Subsidies by pricing under cost Universal social tariff, lifeline tariffs, etc.	Targeted social tariffs (related to prepayment meters) Universal grants
<b>Energy access</b>	Cross-subsidies for classical electrification	Electrification based on renewables and decentralized systems
<b>Protection of consumers' interest in power sector</b>	Public utility regulation very aware of households (California, US PUCs)	Recycling of the generators' carbon rent : universal grant to domestic consumers (California) Energy efficiency financing (California, RGGI)
<b>Competitiveness</b>	Reasonable price in energy intensive industries	80% rebate in exchange of energy efficiency commitments Free tax threshold of 60-80%
<b>Fiscal objective</b>	Excise duty on motor fuel (with rebate in some low productivity sectors)	Higher excise duty, and use it for price smoothing Extension of excise duty to the other fossil fuels and to every use Enlargement of exemptions, rebates, recycling in reducing energy bills

## To conclude by summing up

- Cyclicity of energy prices neutralize carbon pricing efforts
- Need of a pragmatic approach to accommodate carbon policy in energy policies face to cyclicity of oil price
- Even with efficient carbon pricing, low carbon investments are difficult
- Cyclicity of energy price adds a crucial difficulty

Ideal solution : stable and credible “energy+carbon” price

Pragmatic approaches with carbon pricing are possible

- But Mind the issues of competitiveness, affordability and equity
- Importance of complementary programs in matter of RES-E, low carbon, energy efficiency , building, infrastructures

Back up



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