

# CEPS Task Force Meeting

Incentives to Promote Low Carbon Transport

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## When to Intervene

<b>Rationale</b>	<b>Instruments</b>
<b>Un-priced external cost</b>	<ul style="list-style-type: none"><li>• Carbon tax</li><li>• Fuel Excise Duty</li><li>• Tradable Emissions Permits</li></ul>
<b>Undervaluation of fuel savings</b>	<ul style="list-style-type: none"><li>• Emissions/Fuel economy standards</li><li>• Differentiated vehicle taxes (bonus/malus, feebate)</li></ul>
<b>Innovation:</b> -scale economies -knowledge spillovers	<ul style="list-style-type: none"><li>• Public procurement</li><li>• Start-up subsidies</li><li>• Vehicle tax exemptions</li><li>• Subsidies for research</li></ul>

## External Costs: CO2 emissions €/t

ETS Market Price	Stern Estimate	Equivalent or European Auto Fuel Excise Taxes
15	60	200

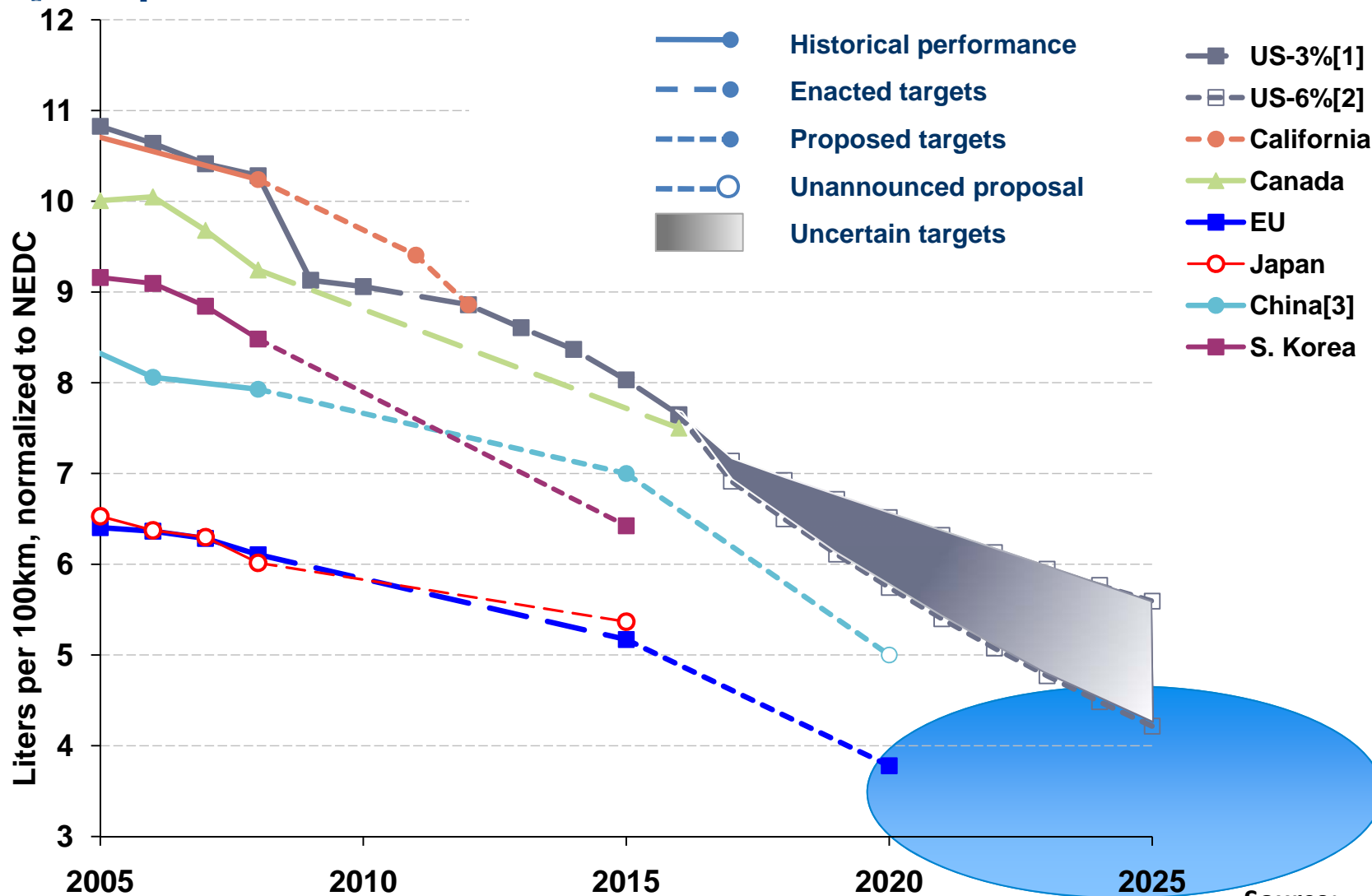
### Emissions Trading

- Replace auto fuel excise (Sweden), not add
- Aviation – in place of CO2 departure taxes
- End grandfathering – ETS will reinforce distortions in aviation from slots at hub airports
- Competition authorities must supervise

### Auto fuel tax revenues

- 20% down as a result of Euro CO2 regulations
- Circulation taxes up? More km charges?

# Passenger Car Fuel Economy/CO<sub>2</sub> Targets



[1] Based on 3% annual fleet GHG emissions reduction between 2017 and 2025 in the September 30th NOI .

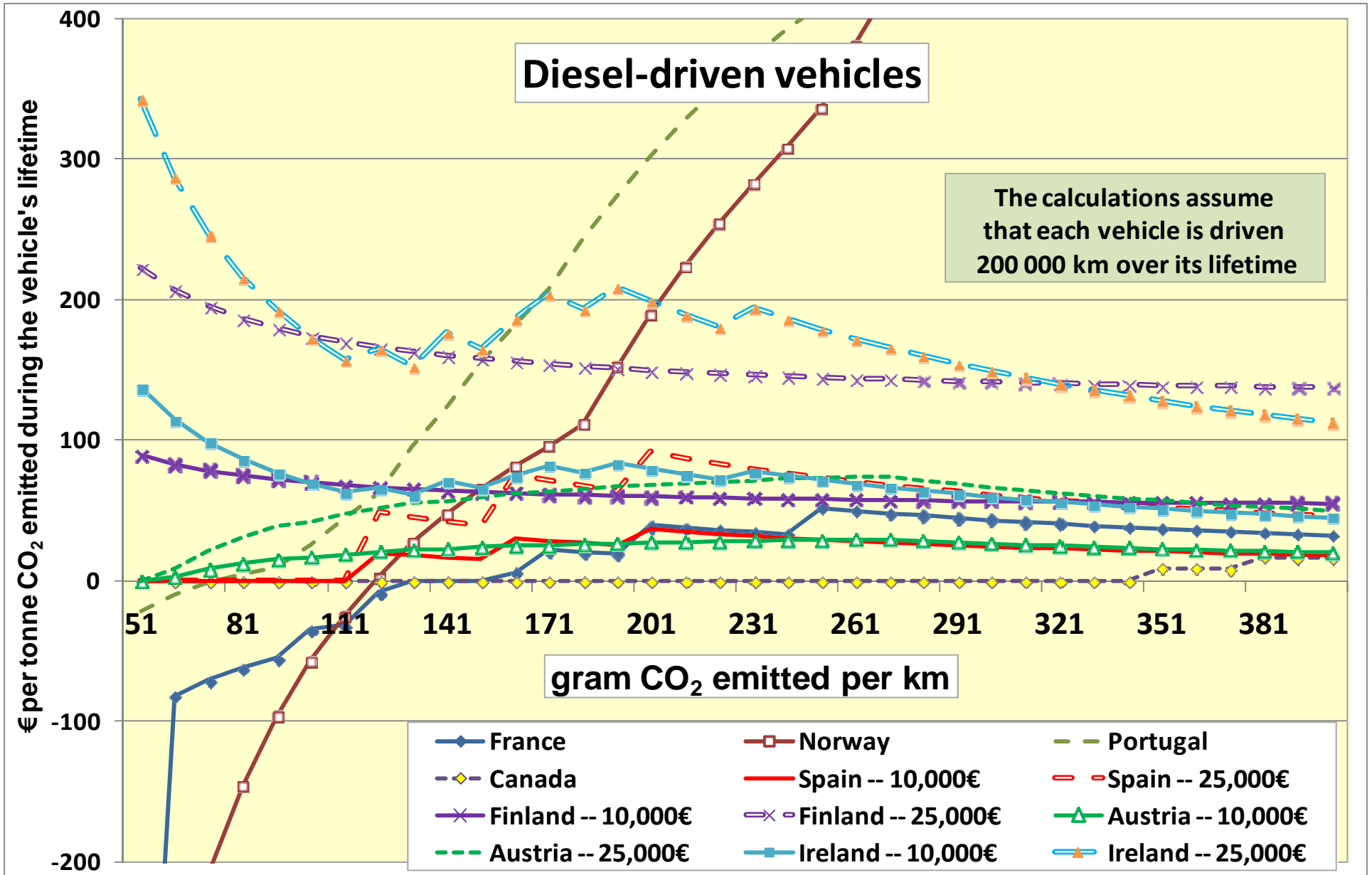
[2] Based on 6% annual fleet GHG emissions reduction between 2017 and 2025 in the September 30th NOI .

[3] China's target reflects gasoline fleet scenario. If including other fuel types, the target will be lower.

Source:



March 2011



## Supporting low-C innovation

- **Spillovers – public funding for fundamental research & innovation**
- **Subsidies for scaling up but ...**

- Picking winners

- Lock in





- Risk of money drying up

- Risks worth it if climate change risk bigger

- Niche markets for unsubsidised electric vehicles



## Electric Vehicle ICE Comparisons

		Total lifetime usage cost (€)	Additional cost to consumer (veh. life)	Additional cost to consumer (3 yrs)*	Additional cost to society (veh. life)	CO <sub>2</sub> reduction (Tonnes)	Cost per Tonne CO <sub>2</sub> reduced (€/t)
<b>5-door Compact</b>		30 km/day, 365 days/yr		10 950 km/yr (new)			
Zoe ZE (electric) 18g CO <sub>2</sub> /km		28814	4919	1859	11491	13.4	860
Clio dCi 75 eco2 (diesel) 104g CO <sub>2</sub> /km		23896					
<b>2-seat Compact Van</b>		90 km/day, 260 days/yr		23 400 km/yr			
Kangoo Maxi Z.E 24g CO <sub>2</sub> /km		33709	-4189	-718	5642	37.8	149
Kangoo Maxi dCi 85 (diesel) 138g CO <sub>2</sub> /km		37898					

## Subsidised additional CO2 emissions

	Emissions from electricity (g CO2/kWh)	Tailpipe emissions (g CO2/km)	CO2 emissions avoided [or added]	Cost per ton CO2 avoided [or added]	Subsidy per ton CO2 avoided [or added]
ICE Sedan	-	117	-	-	-
BEV Sedan	300	68	10 t	€1221	€500
	850	191	[11 t]	[€ 1065]	[€ 455]



## Conclusions: instrument mix

- **Fuel excise / carbon tax**
  - Gasoline – diesel carbon equivalence
- **Emissions trading**
  - Upstream refining as now
  - Aviation – instead of departure carbon tax
  - Avoids excess emissions from EV subsidies (lost efficiency)
- **Carbon differentiated vehicle taxes**
  - Harmonise
  - Linear function for differentiation
- **Subsidies**
  - EV s – care with risks
  - Fundamental research and innovation

**Thank you**

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