

Carbon pricing. Experiences, observations and the way forward

Deutsche Energie-Agentur (dena)

Dialogue Forum

» Integrated Energy Transition «

Panel

» International Framework & Perspectives «

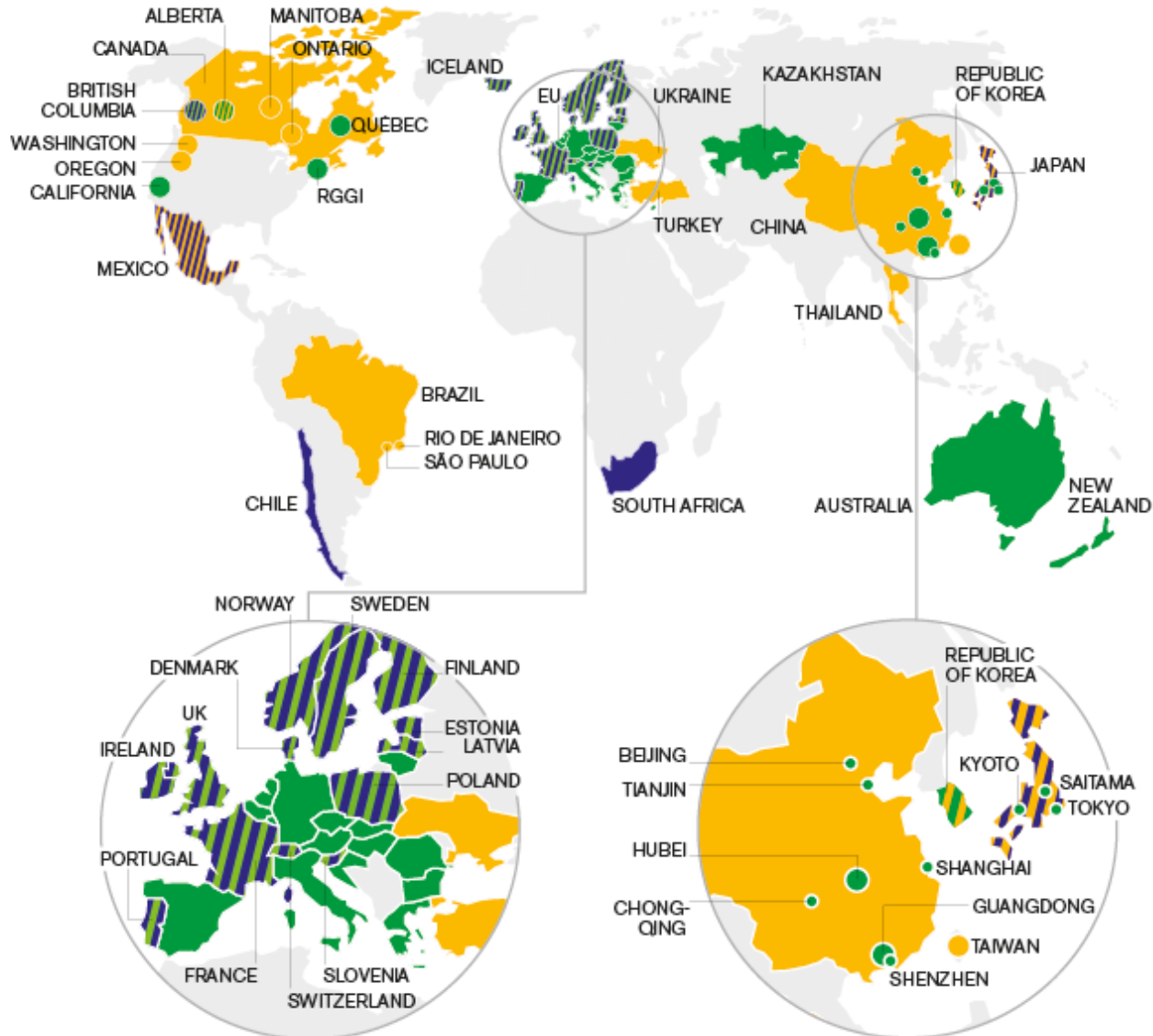
Dr. Felix Chr. Matthes

Berlin, 26th June 2017

- **A carbon pricing system shall/could address emission abatement from four levers**
 - Clean dispatch
 - short-, medium- and long-term
 - rare alternatives
 - Strengthen low/zero carbon investments
 - medium and long-term
 - variety of alternative mechanisms (all remuneration schemes)
 - Accelerate decommissioning of high-carbon assets
 - short-, medium- and long-term
 - only few alternative mechanisms
 - Trigger downstream effects (changing consumption patterns)
 - medium- and long-term
 - many alternative mechanisms but widely unknown territory if it comes to carbon pricing

- **Sectors and emission levers that are price sensitive**
 - share in total emissions
 - how to deal with carbon leakage (NOT: competitiveness)
- **Market configurations and arrangements where carbon pricing can/will make a significant difference**
 - depending on the regulatory environment
 - depending on the role of zero marginal cost options (in a competitive market)
- **Role and levels of other pricing and taxation approaches**
 - implicit (and mostly asymmetric) carbon pricing
 - CO₂-oriented streamlining as a pragmatic option
- **Revenue raising and revenue recycling as important feature**
 - recycling of revenues to reduce labor costs
 - recycling of revenues for compensation (low income, industries etc.)
 - recycling of revenues to foster innovation and transformation

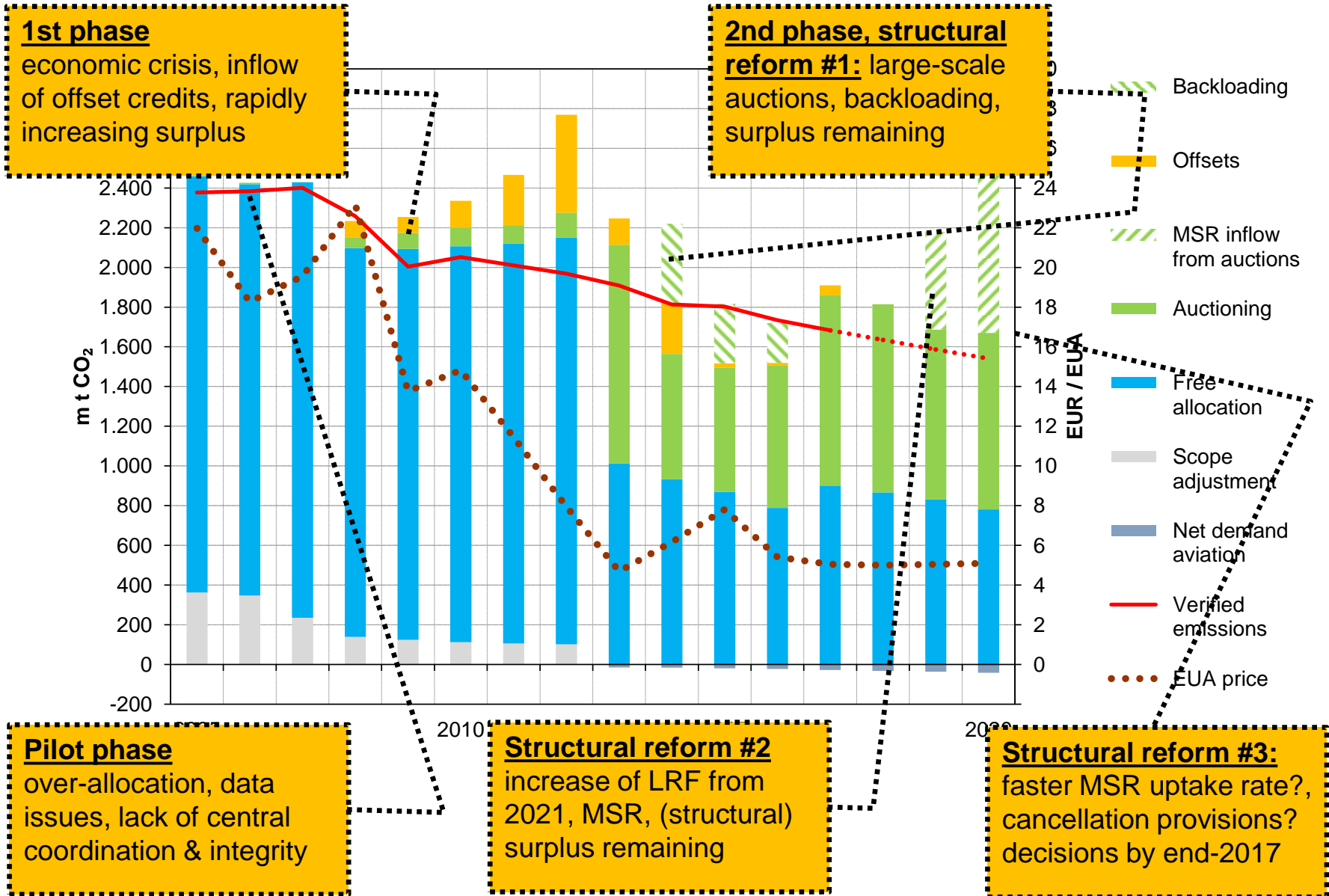
Existing and emerging carbon pricing approaches/ projects



- **Increasing interest in carbon pricing policies**
- **Trend towards hybrid approaches (ETS with price floor/collars, tax with options for use of quantity instruments)**
- **Trend towards large point sources as key target for carbon pricing policies, for other sources/sectors rather as complementary policy**
 - for both, partial and economy-wide systems
 - however, significant carbon price distortions (exemptions, output based allocation approaches) for large industrial sources remain
 - challenge: carbon pricing in heavily regulated sectors (electricity sector) without cost pass-through
 - interesting: role of carbon pricing for small and medium-sized emitters beyond the transportation sector
- **Increasing interest in revenue raising mechanisms and a broad range of redistribution mechanisms**
 - direct & consignment auctions, taxes
 - revenue recycling: from revenue-neutral to targeted approaches

The European Union Emissions Trading System

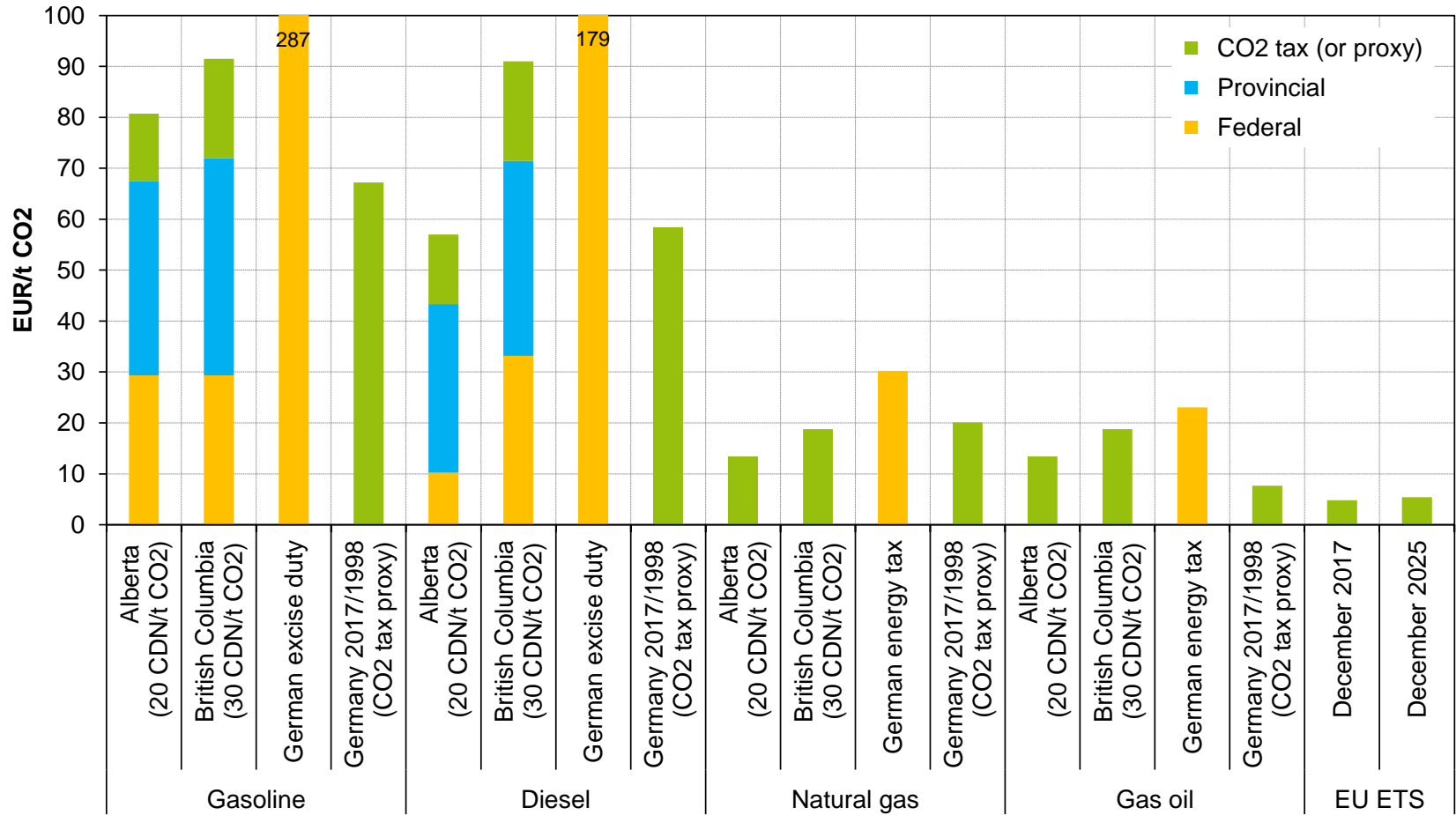
The first 12+3 years at a glance



- **Carbon pricing approaches**
 - carbon emissions trading systems in Europe, Asia, Oceania, North America
 - carbon taxes in North America, South America, Africa, North America
 - general trend towards hybrid systems (quantity control with price element, price control with quantity elements)
- **Relatively low carbon price levels**
 - main share of existing systems create price levels of 3-10 €/t CO₂: limited effects
 - only significant exemption is the UK price floor of ~30 €/t CO₂: significant effects
- **Effective carbon price signals differ from nominal carbon prices**
 - major distortions from allocation provisions (large-scale output-based allocation, free allocation for industries that can (partly) pass-through carbon costs)
 - other direct or indirect compensation measures

Broad range of (implicit) carbon prices

Case study: Alberta, British Columbia & Germany













- **Broad and very strong integration (CA/QC linking)**
 - key challenge: capability for innovation in carbon pricing
- **Partial and strong integration with only few regional specifics and partially lose integration (EU ETS post 2013 and non ETS-sectors)**
 - key challenges: capability for innovation in carbon pricing and potentially asymmetric action in ETS/non-ETS
- **Partial and strong integration with many regional specifics and partially lose integration (China national ETS and non-ETS sectors)**
 - key challenges: dealing with competitiveness of firms and jurisdictions and related gaming of the system, potentially asymmetric action in ETS/non-ETS
- **Strong coordination framework and highly diverse regional implementation (Pan-Canadian Framework)**
 - key challenges: safeguarding (effectively) symmetric carbon pricing, dealing with competitiveness of firms and jurisdictions and related gaming of the system

- **Linking is a (very) long-term perspective**
 - trigger #1: the systems need to prove that they are robustly running
 - trigger #2: a ton is a ton, comparable MRV and enforcement mechanisms
 - trigger #3: comparable levels of ambitions
 - trigger #4: comparable effectiveness and accountability of (financial) market oversight to prevent market integrity, money laundry etc.
- **There will be no global price on carbon but (hopefully) converging levels of carbon price signals that are created by (very) different mechanisms**
- **Will linking of carbon pricing mechanisms avoid (political) troubles with competition distortions (which are largely overstated today)?**
 - if price/cost distortions from allocation, tax deductions can be removed or
 - border adjustments are (politically) perceived as an option and can be effectively implemented

Domestic & global lessons for the EU ETS

The 10 essential elements for an advanced ETS

	1. A reliable data framework	... to make quantity-based emission control effective
	2. A consistent and robust governance framework	... to build trust, integrity and an accountable system
	3. An ambitious & effective cap	... to address a broad range of emission abatement levers and make ETS an integral part of the policy mix
	3a. ... with a longer time horizon	... to provide a clear trajectory and to enhance investors' confidence (in the long-term)
	3b. ... with a market integrity reserve	... to maintain responsive and scarcity-based price formation (in the medium & long term)
		... to ensure the (short & medium term) integrity of the (necessary) policy mix
	3c. ... with a price floor	... to enhance investors' confidence in the price signal (in the short- & medium-term)
	3d. ... with allowance cancellation provisions	... to ensure the (long term) integrity of the (necessary) policy mix
	4. A carefully designed and non-distorting allocation approach	... to go beyond distributional issues and ensure a cost-efficient quantity-based emission control
	4a. ... with (direct/consignment) auctioning	... to maintain a non-distorted price signal and raise revenues for compensation & innovation
	4b. ... with product-based benchmarking for free allocation (if any)	... to address the broadest range of mitigation options possible
	4c. ... avoiding updating/output-basing of free allocation	... to maintain the incentives for optimal production levels as far as possible
	5. A liquid market with broad eligibility for trading	... to maintain effective price discovery and making hedging possible

**Thank you
very much**

**Dr. Felix Chr. Matthes
Energy & Climate Division
Berlin Office
Schicklerstraße 5-7
D-10179 Berlin
f.matthes@oeko.de
www.oeko.de
twitter.com/FelixMatthes**

