ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The climate change challenge and fossil fuel subsidies reform

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Presentation Outline

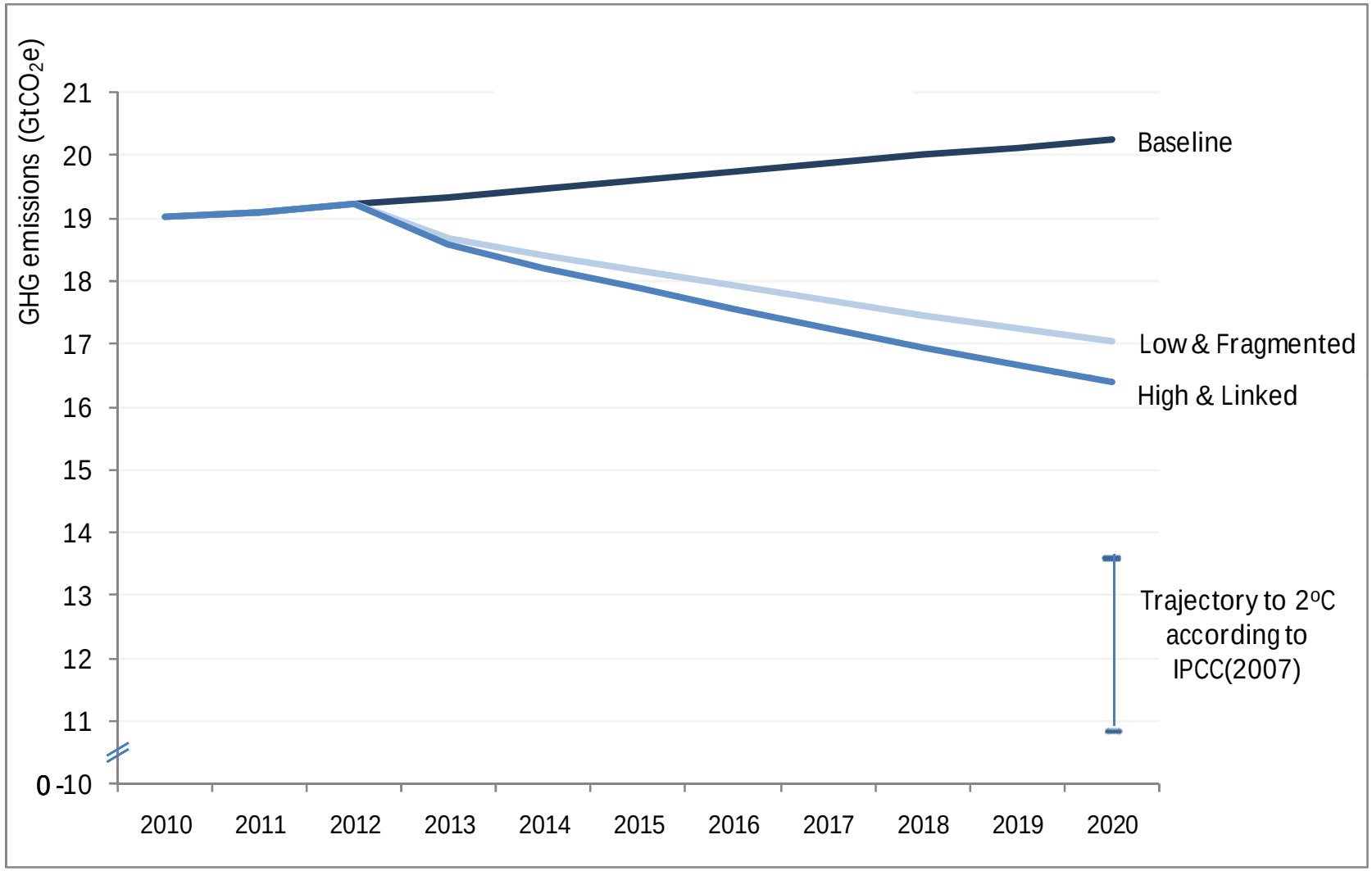
- The Copenhagen Accord pledges: what do they add up to? How much will they cost? What are the potential revenues?
- The G20 fossil fuel subsidies initiative
- IEA, OPEC, OECD & World Bank Joint Report on fossil fuel subsidies
- Measuring fossil fuel subsidies: OECD & IEA analysis & the challenges
- The effects of fossil fuel subsidy removal
- Lessons learned from subsidy reform efforts
- IEA & OECD further work

CPH Accord targets & actions

	Declared targets and actions	Model assumptions [1]
Australia & NZ	AUS -5% to -25% from 2000; NZ -10% to - 20% from 1990	20% offsets.
Canada	-17% from 2005	10% offsets.
EU27 & EFTA	EU27, Lichtenstein, Switzerland -20% to -30%; Norway -30% to -40%; Iceland -30%; Monaco -30%; all from 1990	20% offsets.
Japan	-25% from 1990	20% offsets.
Non-EU E Europe	Ukraine -20%; Belarus -5% to -10%; Croatia -5%; all from 1990	20% offsets.
Russia	-15% to -25% from 1990	lower bound = no offsets; upper bound = 20%.
US	-17% from 2005	20% offsets.
Brazil	-36% to -39% from BAU	
China	Carbon intensity of -40% to -45% from 2005	
India	Carbon intensity of -20% to -25% from 2005	
Oil Exporters & Middle East	Indonesia -26% from BAU; Israel -20% from BAU	
ROW	Korea -30% from BAU; Mexico -30% from BAU; many other pledges (incl. Costa Rica, Maldives, South Africa)…	

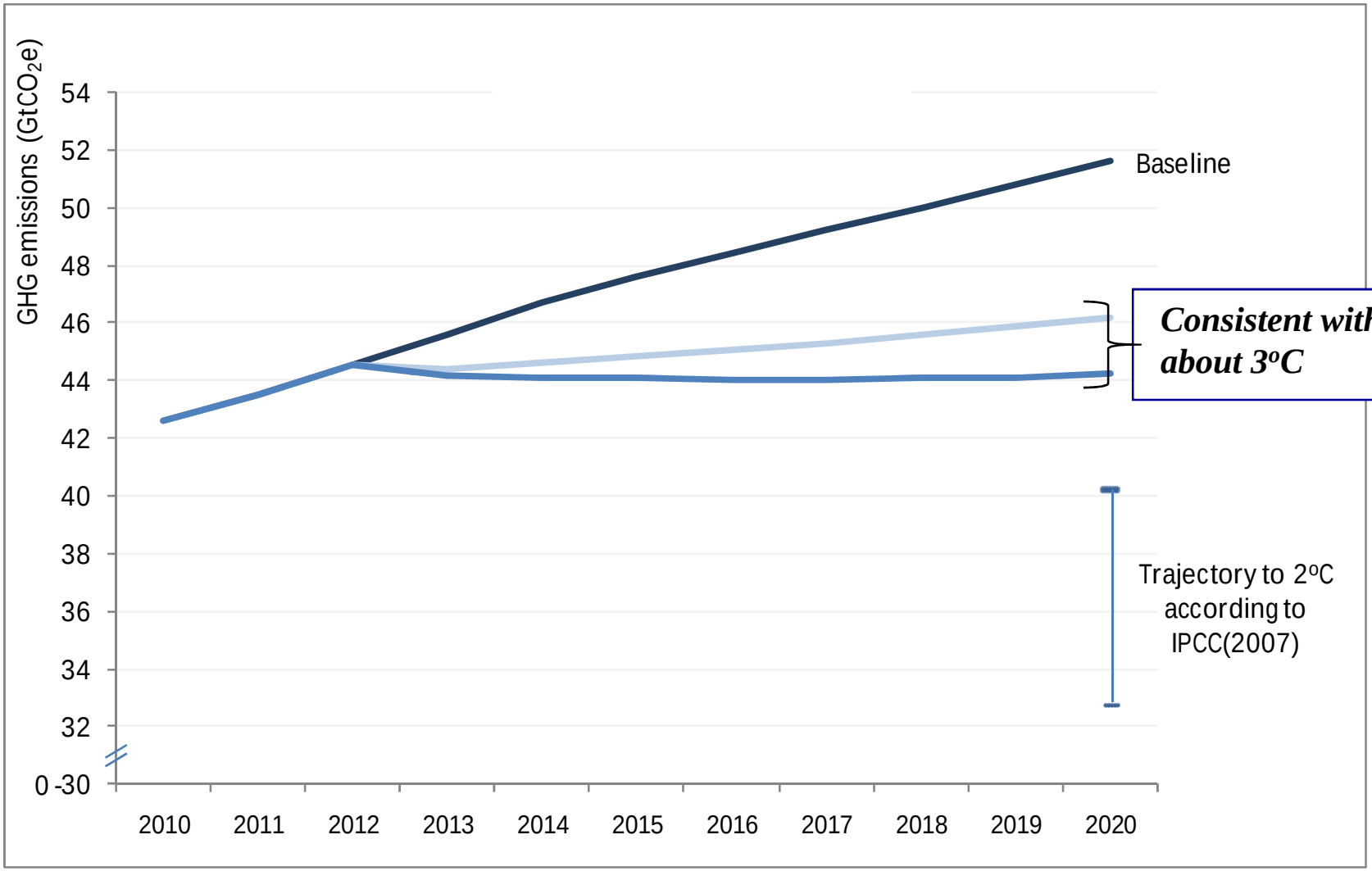
1. Emissions from IEA and US-EPA; reductions are excluding LULUCF; offset assumptions in line with OECD (2009); many countries have specified pre-conditions for their targets.

How do Annex I emission targets in the Copenhagen Accord add up?



Low & Fragmented scenario : lower end of pledges; no linking; 20% offsets;
High & Linked scenario: higher end of pledges; Annex I linking; 20% offsets

How do all targets and actions in the Copenhagen Accord add up globally?



Low & Fragmented scenario : lower end of pledges; no linking; 20% offsets;
High & Linked scenario: higher end of pledges; Annex I linking; 20% offsets

Ambitious scenario (High & Linked): what costs & revenues?

	Emissions target (change in 2020 from 1990)	GDP in 2020 (change from baseline)	2020 revenues (if taxes/auctioned permits)
Australia & NZ	-11.5%	-0.6%	1.9% of GDP
Canada	3%	-0.3%	1.3% of GDP
EU27 & EFTA	-30%	-0.3%	0.9% of GDP
Japan	-25%	-0.1%	0.6% of GDP
Non-EU E Europe	-16.5%	-1.5%	6.0% of GDP
Russia	-25%	-1.9%	7.4% of GDP
US	-3.5%	-0.2%	1.0% of GDP
Brazil	-39% from BAU	-1.9%	9.9% of GDP
China	-8.5% from BAU	-0.3%	0.3% of GDP
India	+36% from BAU	0.0%	0% of GDP
Oil Exporting	-8.5% from BAU	-0.9%	1.8% of GDP
ROW	-6% from BAU	-0.1%	0.3% of GDP
Annex I	-17%	-0.3%	1.1% of GDP
non Annex I	+42% from 2005 *(-7% from baseline)*	-0.3%	0.9% of GDP
World	+13% from 2005 (-14% from baseline)	-0.3%	1.0% of GDP

***Source**:* OECD, 2010; Dellink et al., *OECD ENV Working Paper 22*.

G20 Fossil Fuel Subsidy Initiative

G20 Leaders' Summit – September 2009, Pittsburgh

- Agreed to "**rationalize and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption**".
- Asked their **Energy and Finance Ministers** to "develop implementation strategies and timeframes, and report back to Leaders at the next Summit" .
- Requested that "relevant institutions, such as the **IEA, OPEC, OECD, and World Bank,** provide an analysis of the scope of energy subsidies and suggestions for the implementation of this initiative and report back at the next summit."

G20 Finance Ministers – November, St Andrews; April, DC; June, Busan

- G20 Energy Expert Group to work on implementation strategies & timeframes.
- Asked that the 4 tasked IOs produce a **joint report.**

G20 Leaders' Summit – 26-27 June 2010, Toronto

- Received reports from G20 Energy Experts Group & Joint Report from the 4 IOs
- Para 42. Welcomed reports and "**We also encourage continued and full implementation of country-specific strategies and will continue to review**[7] **progress towards this commitment at upcoming summits**."

Joint report by OECD, IEA, World Bank, OPEC

I. Introduction

II. Identifying and quantifying subsidies

- **a. Taxonomy of energy subsidies**
- ***b. Summary of measurement approaches and challenges***
- ***c. Review of subsidy estimates***

III. Reforming and phasing-out energy subsidies

- *a. Impact of subsidies and reform on sustainable development*
- ***b. Modelling the reform of energy subsidies***

IV. Suggestions for implementation

- **a. Political economy of energy subsidies reform**
- b. Policy tools to address distributional issues
- c. Operational initiatives to reach the poor
- **d. Lessons learned from country experiences**

OECD input = **bold text**

IEA input = *italics text*

		Statutory or Formal Incidence (to whom and what a transfer is first given)					
		Direct consumption		Output returns	Enterprise income	Cost of intermediate inputs	Costs of Production Factors[1]
		Unit cost of consumption	Household or enterprise income				
Transfer Mechanism (how a transfer is created)	**Direct transfer of funds**	Unit subsidy	Government-subsidized life-line electricity rate	Per-tonne subsidy for metallurgical coal	Operating grant to coal-mining company	Input subsidy for electricity used in mining	Capital grant linked to acquisition of mining-related capital
	Transfer of risk to government	Price-triggered subsidy	Means-tested cold-weather grant	Government expenditure on coal buffer stock	Government limit on producer liability for mining accidents	Security guarantee for coal trains	Credit guarantee linked to acquisition of mining-related capital
	Tax revenue foregone	Excise-tax concession on fuel	Tax deduction related to energy purchases that exceed given share of income	Production tax credit for making liquid fuels from coal	Reduced rate of income tax on coal-mining companies	Reduction in excise tax on fuel used by mining machines	Tax credit for investment in mining equipment
	Other government revenue foregone	Under-pricing of access to a natural resource harvested by final consumer		Reduced royalty payments on access to coal deposits		Under-pricing of a good, government service or access to a natural resource	Under-pricing of access to government land used for storage of coal
	Induced transfers	Regulated price; cross subsidy	Mandated life-line electricity rate	Import tariff or export subsidy on coal	Monopoly concession to coal company	Export restriction on domestically produced coal	Wage controls on mining labour

1. Labour, land, capital, knowledge.

Examples of OECD tax expenditures: consumption

- **Low tax rates or exemptions on diesel for agriculture & fisheries:**
  - US$ 8 billion for agriculture sector in OECD countries
  - US$ 1.1 billion for fisheries sector in OECD countries
- **Reduced VAT rates and VAT exemptions, eg for heating fuels:**
  - e.g. Italy, Korea, UK
- **Automatic tax cuts and subsidies when fuel prices rise:**
  - in Mexico – with low oil prices, leads to net revenues, but with high oil prices in 2008 led to subsidies amounting to 1.8% of GDP.
- **Tax exemptions to fuel used by public sector:**
  - e.g. France had excise duty exemptions for natural gas used for heating by public agencies and fuel used by military, but recently been stopped.

Examples of OECD tax expenditures: production

- **Tax deductions for depletion of oil and gas fields and coal deposits:**
  - e.g. producers in US can deduct a fixed percentage of gross revenue; amounted to US$ 0.6 billion. Termination proposed in 2011 budget.
- **Accelerated tax depreciation allowances for capital equipment:**
  - depending on the royalty and tax regime for fossil fuel production, tax deduction of depreciation at a faster rate than that at which equipment becomes economically obsolete can represent an indirect subsidy.
  - e.g. for oil sands in Canada annual cost of tax advantage is 0.02% of GDP. Phased-out by 2015.
- **Tax exemption for fossil fuel producers' own energy use:**
  - common in most OECD countries for coal mining, oil extraction, refineries, etc.
  - e.g. in Germany estimated to be worth 0.01% of GDP.

Some challenges with measuring fossil fuel subsidies…

Subsidies provided through market transfers:

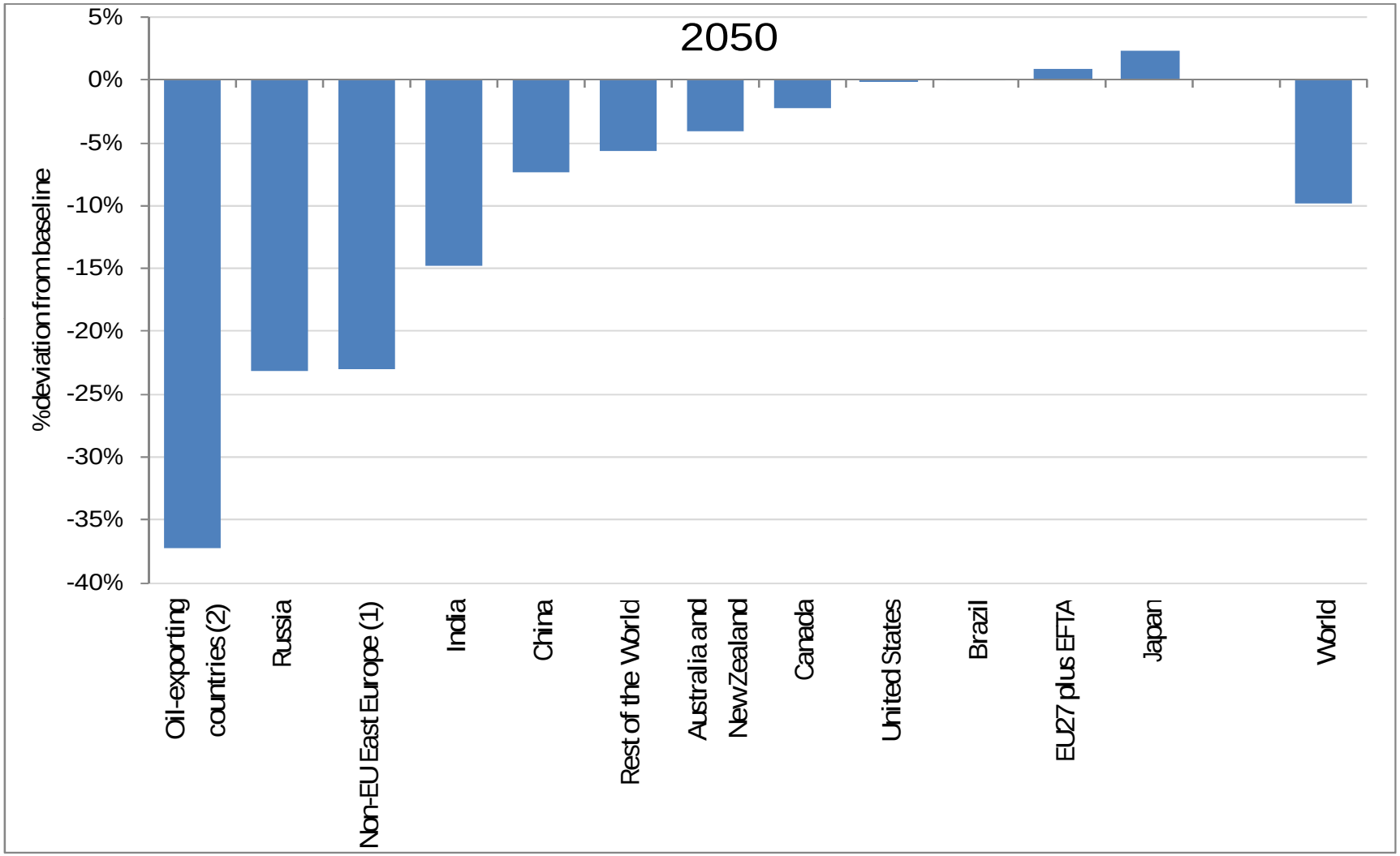
- Identifying domestic prices
- Identifying (and agreeing on) appropriate reference prices
  - Adjusting for quality differences
  - Adjusting for transport margins
  - Adjusting for taxes
- Accounting for theft and under-payments
- Obtaining information on affected volumes

Direct financial transfers and risk transfers:

- Identifying programmes and actual expenditure
- Estimating risk-related transfers
- Establishing market value of transfers for use of government assets
- Allocating transfers made to upstream activities to downstream products (e.g., oil products and natural gas)

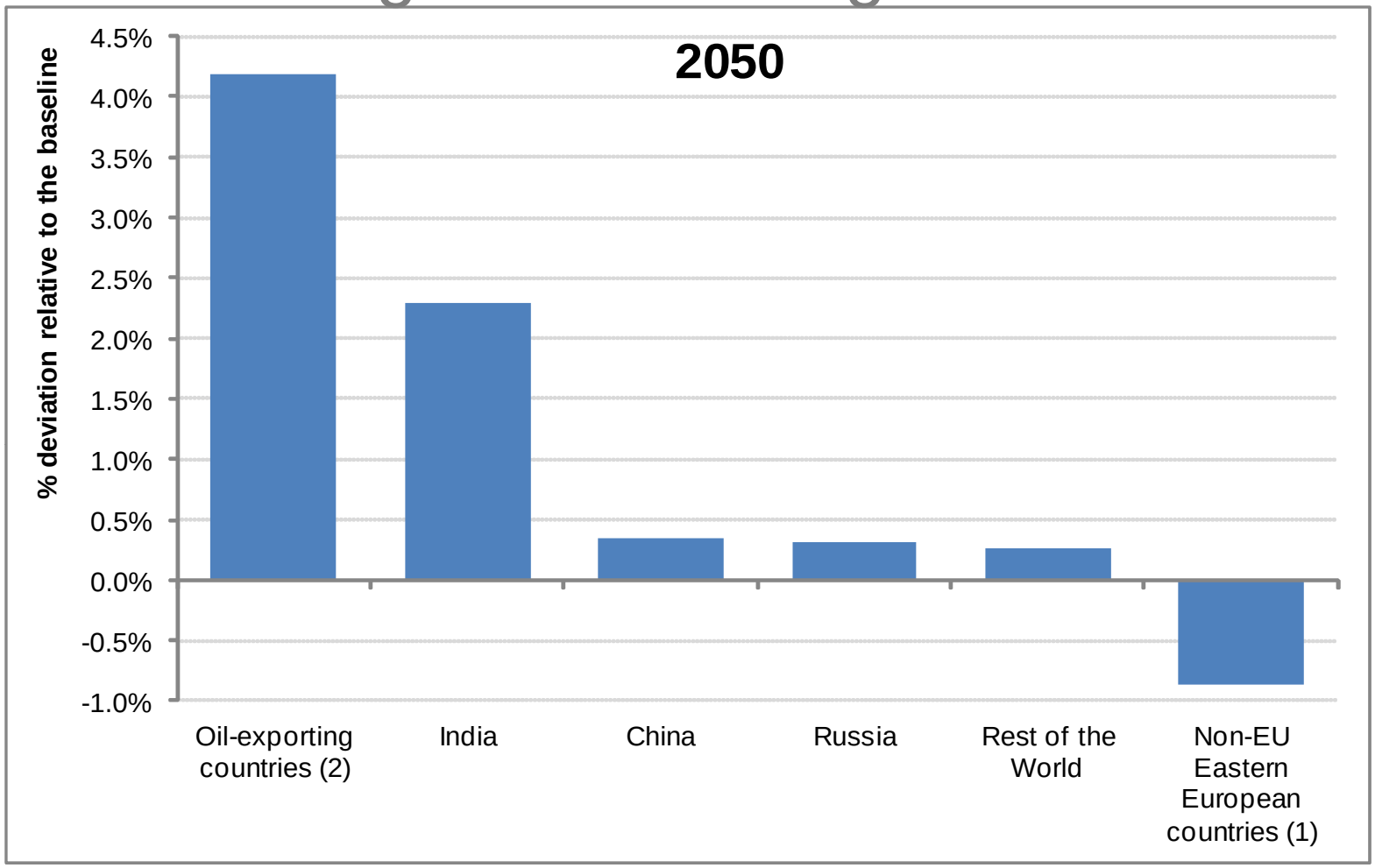
Environmental impact of fossil fuel subsidies removal

% change in GHG emissions w.r.t BAU: *Gradual (to 2020) phasing-out of ff subsidies in 37 countries combined with caps on emissions in developed countries & Brazil*



Source: OECD ENV-Linkages, based on IEA subsidies data.

Unilateral removals of energy subsidies bring real income gains …

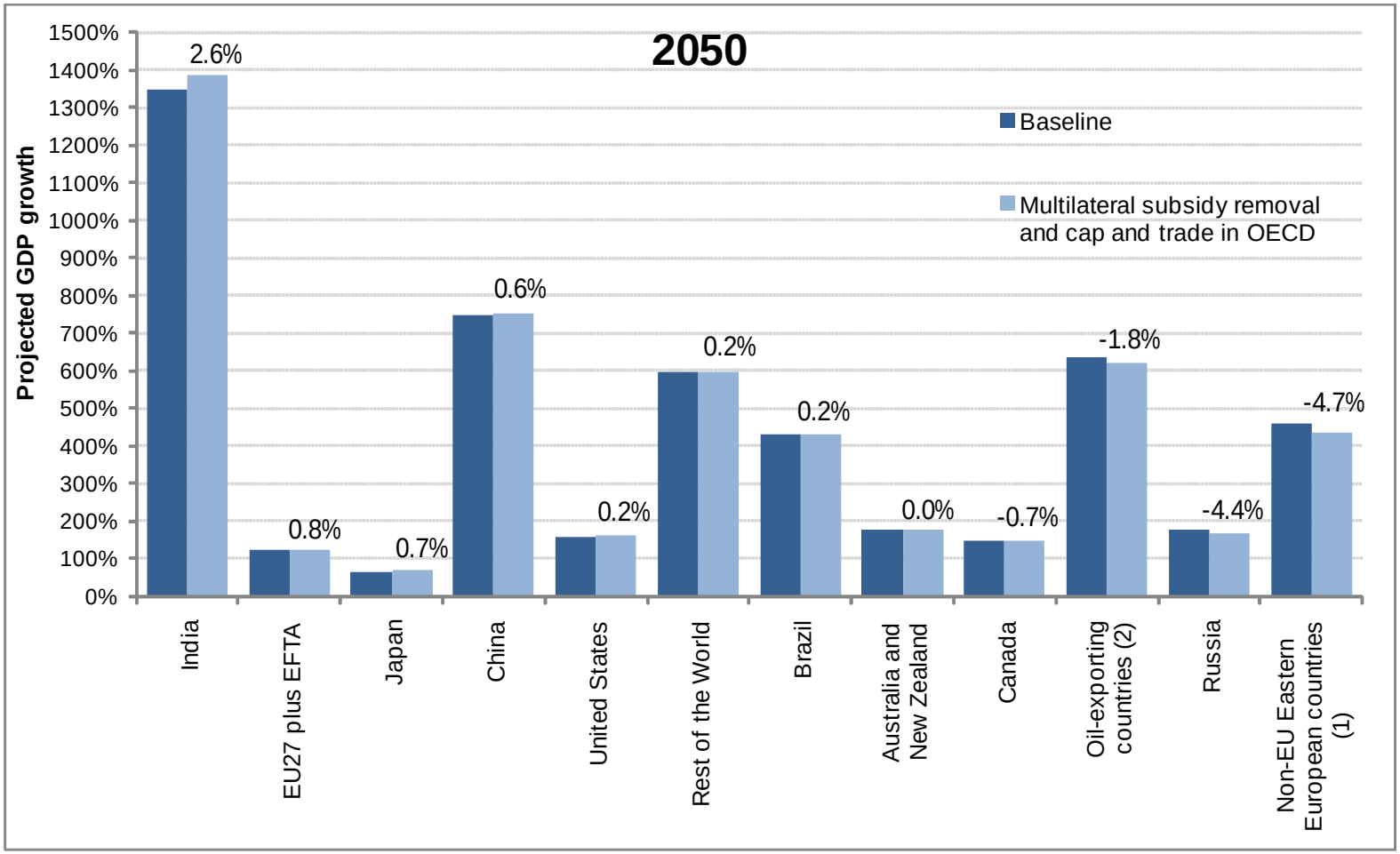


1.This region includes Croatia and the Rest of Soviet Union (integrated by the following countries: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Ukraine, Uzbekistan) according to the data aggregation in the GTAP database.

2. The region includes the Middle East, Algeria-Lybia-Egypt, Indonesia, and Venezuela.

Source: OECD ENV-Linkages model based on IEA data.

…with multilateral reform (central scenario) there may be losses, but small compared with projected GDP growth



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Energy subsidy reforms have not been extensive

- **There is a limited pool of successful energy subsidy reforms from which to draw insights for future reform efforts:**
  - Primarily focused on hard coal mining sector
- **Case studies have examined lessons from the reform of:**
  - Poland's reduced VAT for energy products
  - Direct subsidies for petroleum products and for electricity prices in Indonesia
  - Caps on prices for electricity and petroleum products in Malaysia
  - Consumer price subsidy for natural gas in the US
  - Partial exemptions from ecotaxes in Germany
  - Subsidies to coal mining in Germany, Poland, UK, Spain and France

Some key insights from subsidy reform experience

- **Need good quality information on subsidies, their economic and environmental impacts, and distributional outcomes:**
  - Transparency is essential to build support for reform
- **Build the arguments for reform, and challenge those against it:**
  - Competitiveness, employment, social equity, energy security impacts
- **Build the case for reform:**
  - Strong leadership is needed, broad support across government (finance, industry, energy, environment), engage the opposition
- **Well-targeted, time-limited compensation is a key ingredient:**
  - To help address distributional concerns
  - "Buy" support for reform and reduce opposition
- **Package subsidy reform within broader structural reforms:**
  - Flanking policies can address underlying distortions in competition, pricing, property rights, externalities, etc.

Further OECD work:

- **Framework for identifying subsidies according to their incidence & transfer mechanism (based on PSE-CSE approach in AGR).**
  - As described in OECD Background Paper to the Joint Report.
  - Expert meeting planned for Nov 2010 to make further progress.
- **Regularly collecting data on subsidies and tax expenditures to fossil fuel use and production in OECD countries.**
  - To ensure transparency and work towards more harmonised subsidies data.
  - Expert meeting planned for Nov 2010 to make further progress.
- **Country-tailored advice on subsidy reform via country reviews.**
  - 2010 OECD Economic Surveys of Indonesia & South Africa include sections on fossil fuel subsidy reform.
  - Some OECD Environmental Performance Reviews also discuss.
- **Other work proposed in 2011-2012 PWB:**
  - Further modelling-based analysis of the impacts of subsidy reform on GDP, trade, GHG impacts, working together with IEA.
  - Continued analysis of the political economy of making subsidy reform happen.

www.oecd.org/g20/fossilfuelsubsidies