

# The Economics of Climate Change Mitigation.

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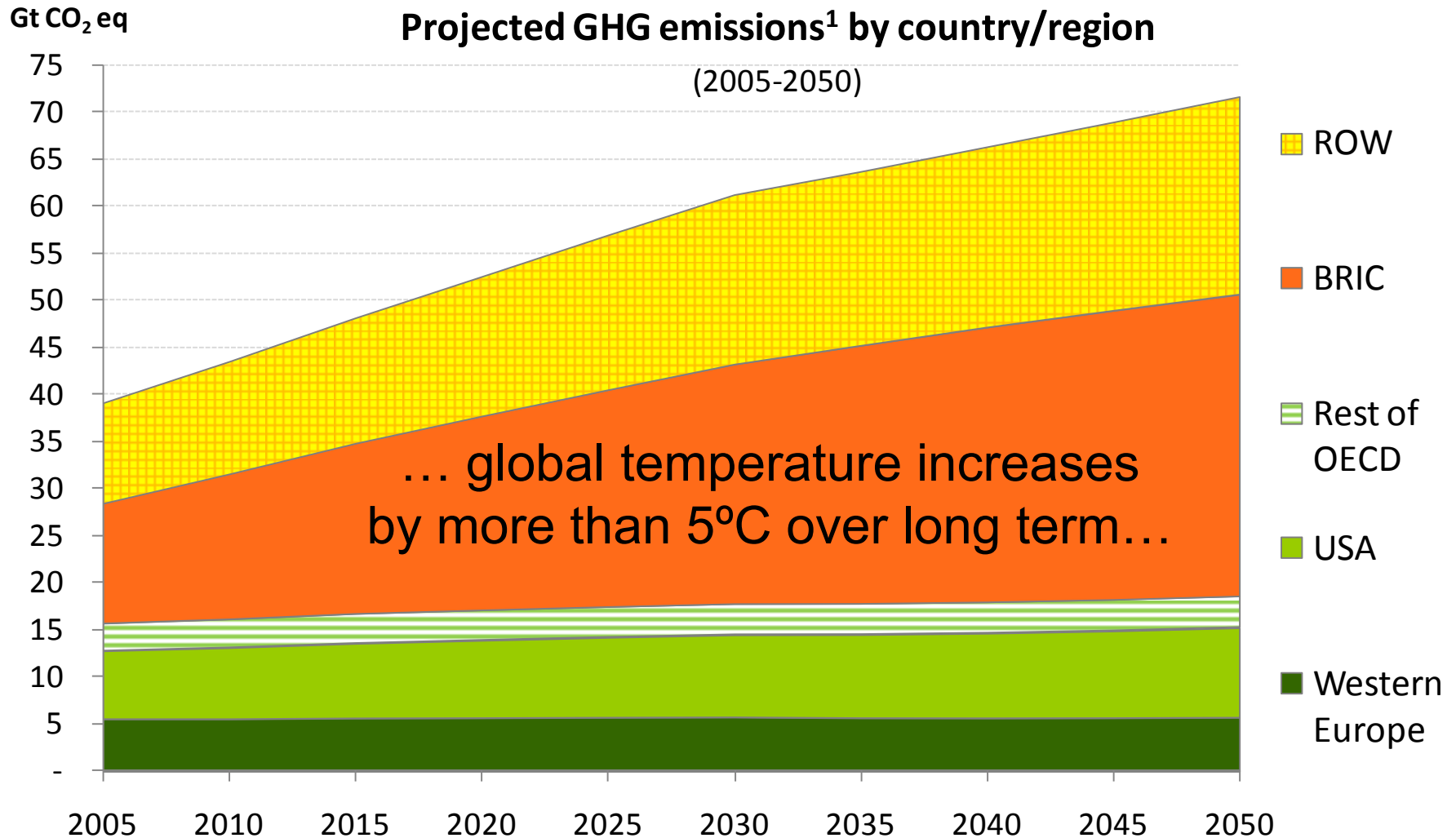
# Main message

- Ambitious action to reduce emissions is economically rational...
- ... under some conditions:
  - participation by all major emitters (countries, sectors, gases)
  - to start now
  - to use an efficient policy mix (carbon pricing R&D policies + specific complementary policies)
  - to support action in developing countries (finance, technology, capacity building)

# Structure of presentation

- What if we do nothing ?
- What needs to be done ?
- What could be the cost of doing what needs to be done ?
- How can we reduce this cost ?
- How to move from now to global action ?
  - the “carbon leakage” issue
  - building political support for a global action

# What if we don't introduce more ambitious policies?

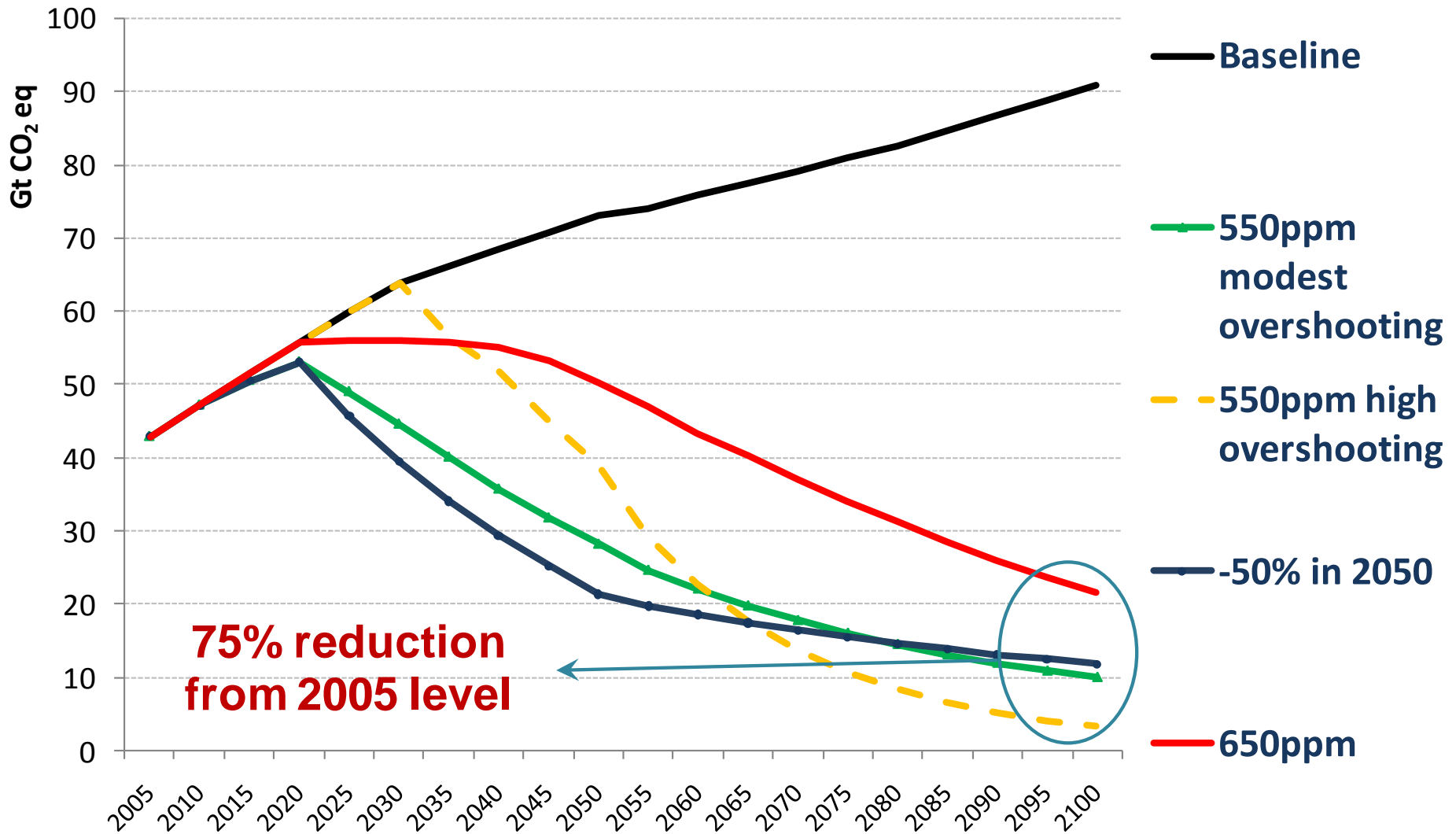


1. Excluding emissions from Land Use, Land-Use Change and Forestry.

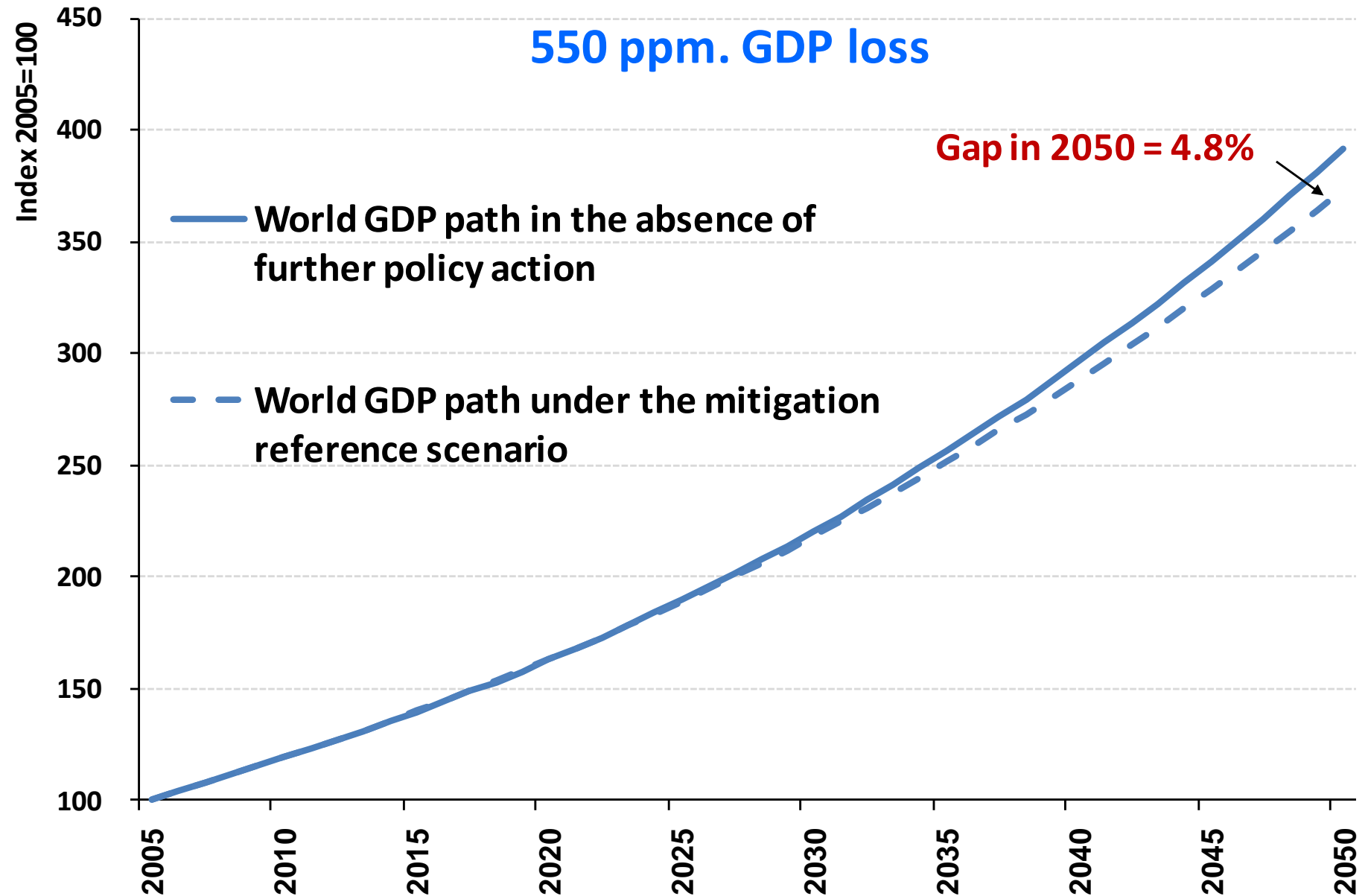
Source: OECD, ENV-Linkages model.

# Some policy simulations

GHG emission paths under alternative world carbon price scenarios



# The cost of mitigation action



# Technology improvements are essential to reduce future costs

- Getting prices right will reduce emissions and give incentives for technology development & deployment
  - R&D policy alone may give new breakthrough technologies, but would not in itself lead to deployment of existing and new technologies or efficient practices
  - But uncertainty and market failures may discourage investors, so need specific R&D policies
- ***Carbon pricing and R&D support are both needed***

**Source: WITCH model**

# Carbon leakage and competitiveness — an obstacle?

- Two elements: market shares/relocation and spill-over effects in energy markets
- As the coalition of acting countries increases, the leakage rate falls rapidly
  - *e.g. leakage rates for EU-only acting to reduce emissions by 50% to 2050 = 20%; if all Annex I participate = 9%*
- Policy responses to carbon leakage:
  - Border Tax Adjustments
  - International sectoral agreements

## Effects of countervailing import tariffs on carbon leakage and mitigation costs

	Reduction of 50% in EU countries in 2050		Reduction of 50% in Annex I countries in 2050	
	without a countervailing tariff	with a countervailing tariff	without a countervailing tariff	with a countervailing tariff
<b>Leakage rates in 2050</b>	19.9%	6.5%	9.1%	5.2%
<b>GDP effect in 2050</b>				
In participating countries	-3.0%	-3.4%	-2.7%	-2.9%
In non-participating countries	0.0%	-0.2%	-0.1%	-0.5%
World	-0.5%	-0.7%	-0.8%	-1.7%

Source: OECD, ENV-Linkages model.

# International sectoral approach

	- 50% in EU only in 2050	-50% in EU + -50% in EEIs (no permit fungibility)	-50% in EU + -50% in EEIs (permit fungibility)
GHG emissions	-3%	-15%	-14%
MAC - EU countries	US\$ 293	US\$ 328	US\$ 454
MAC – energy intensive industries (worldwide)	US\$ 0	US\$ 682	US\$ 454
GDP loss in 2050 - EU	-3.0%	-3.5%	-3.9%
GDP loss in 2050 - non-EU	0.0%	-1.8%	-1.4%
GDP loss in 2050 - World	-0.5%	- 2.1%	-1.8%

# Next developments

- Stage 2 paper (end of April 2009)
  - From now towards a wider carbon pricing EVN-Linkages):
    - Through removing existing energy subsidies
    - Through scaling up the CDM
    - By linking existing ETS
    - By combining regional ETS and worldwide sectoral agreements (EIIs)
    - By incorporating emissions from deforestation
  - What financial incentives to build a stable coalition (WITCH)

# Thank You !

For further information : see [www.oecd.org/env/cc](http://www.oecd.org/env/cc)