

# Post-2012 Emission Reduction Targets

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Assessing what constitutes a *fair* scale of emission reductions to be achieved by individual Annex I Parties

New Zealand Presentation to AWG-KP workshop: 27 May 2009, Bonn.  
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# Overview

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A framework to 'Assess Comparable Effort': ACE

Results from relevant international studies

Assessing Comparable Effort Interactive Support Tool: ACE-IS

Conclusions

Next Steps



# Assessing Comparable Effort (ACE) Framework

Within the negotiations there is a need for a framework within which effort can be measured

The concept of effort being measured in terms of the costs faced by a country in meeting a specific target is widely accepted

However, other criteria also need to be integrated, to ensure compatibility with Article 3 of the Convention.

Initial presentation on this framework in Poznan (see UNFCCC)



# Assessing Comparable Effort (ACE) Framework

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The ACE framework uses a simple three step process to assess the fairness of individual countries' targets:

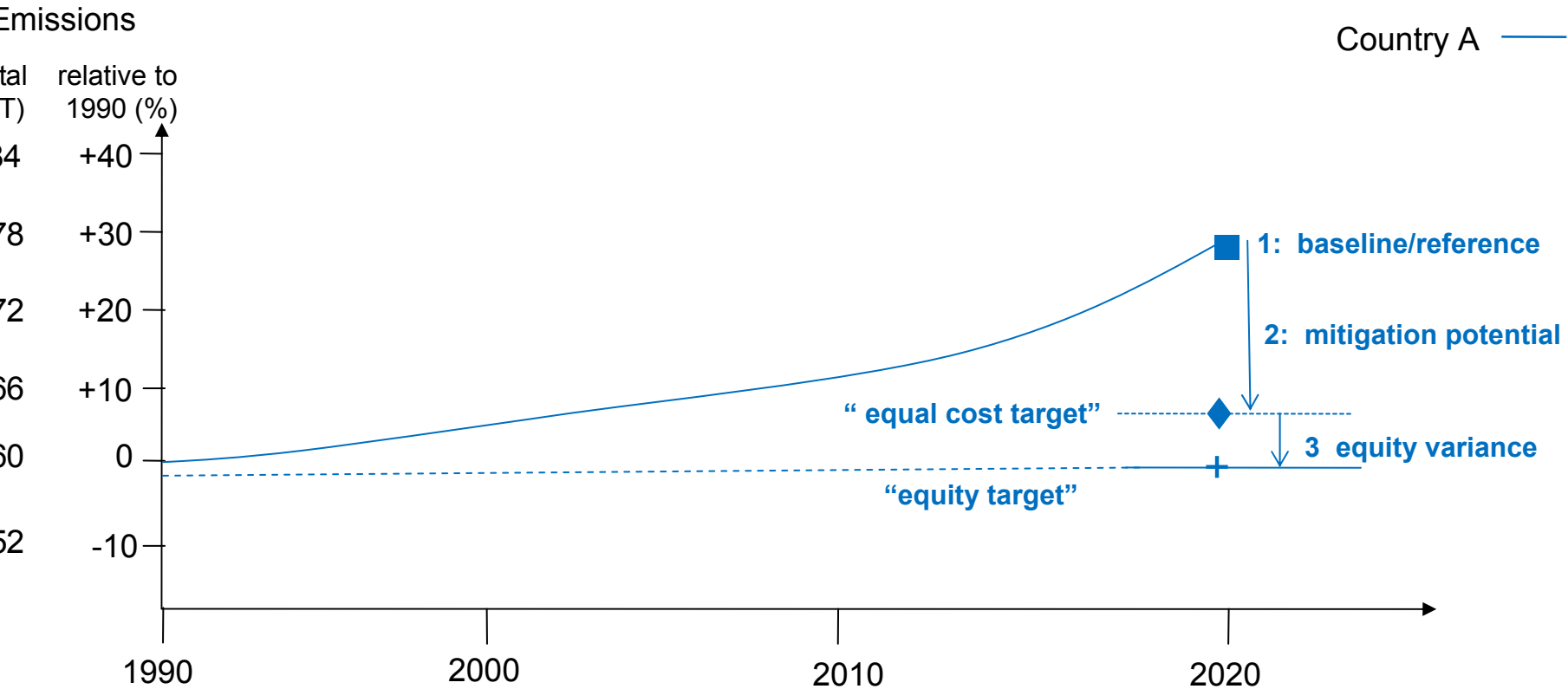
Develops a 2020 baseline/reference scenario for emissions

Estimates the costs of reducing emissions below this baseline

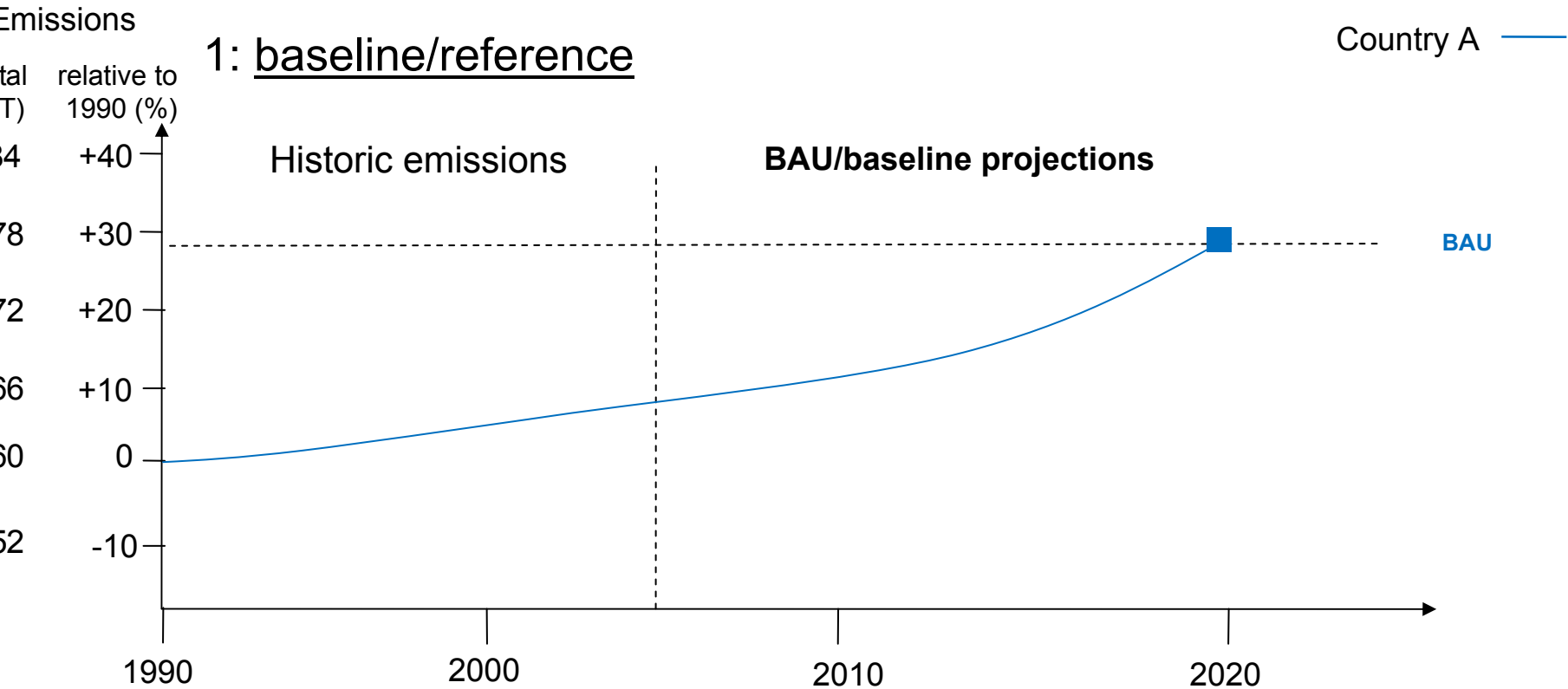
Integrates relative wealth/responsibility indicators



# Assessing Comparable Effort (ACE) Framework



# Assessing Comparable Effort (ACE) Framework

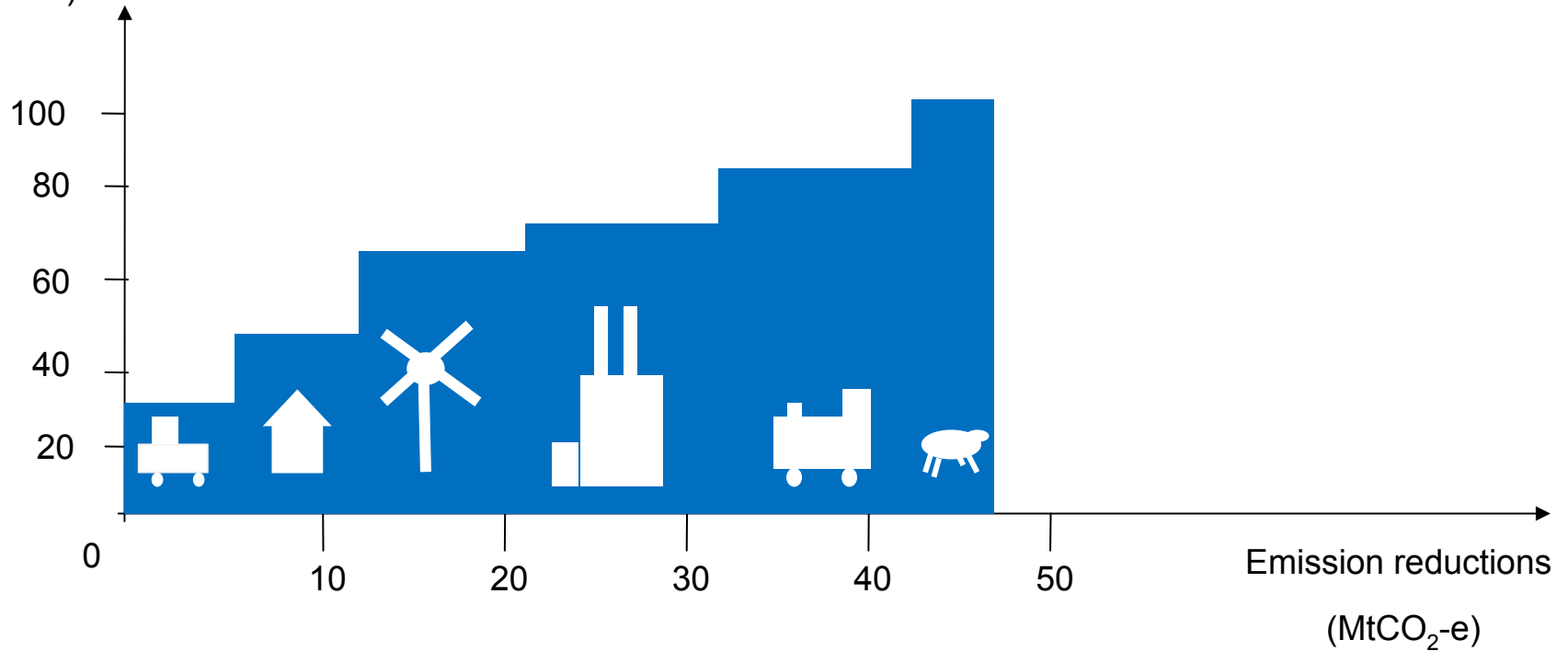


# Assessing Comparable Effort (ACE) Framework

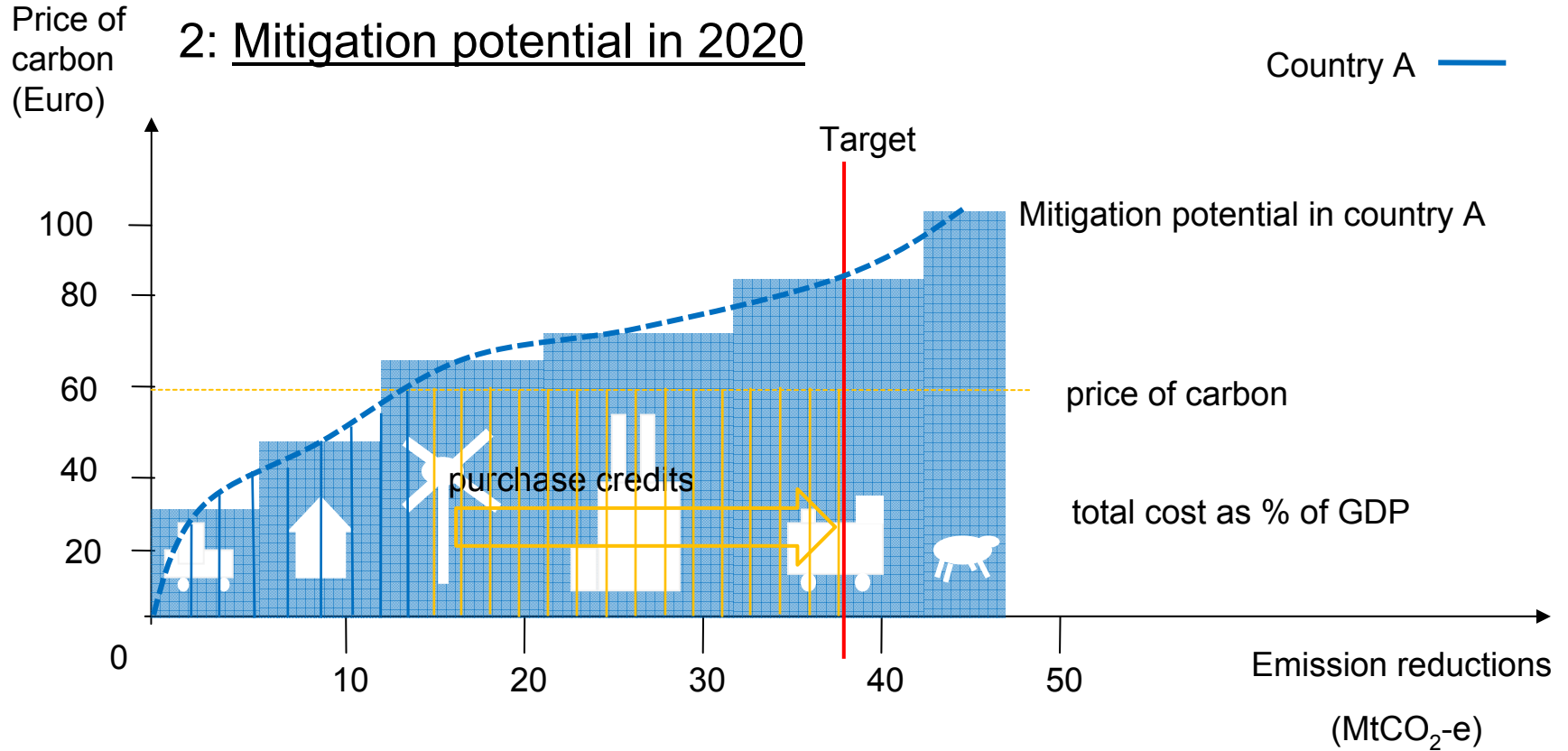
Price of carbon (Euro)

## 2: Mitigation potential in 2020

Country A 



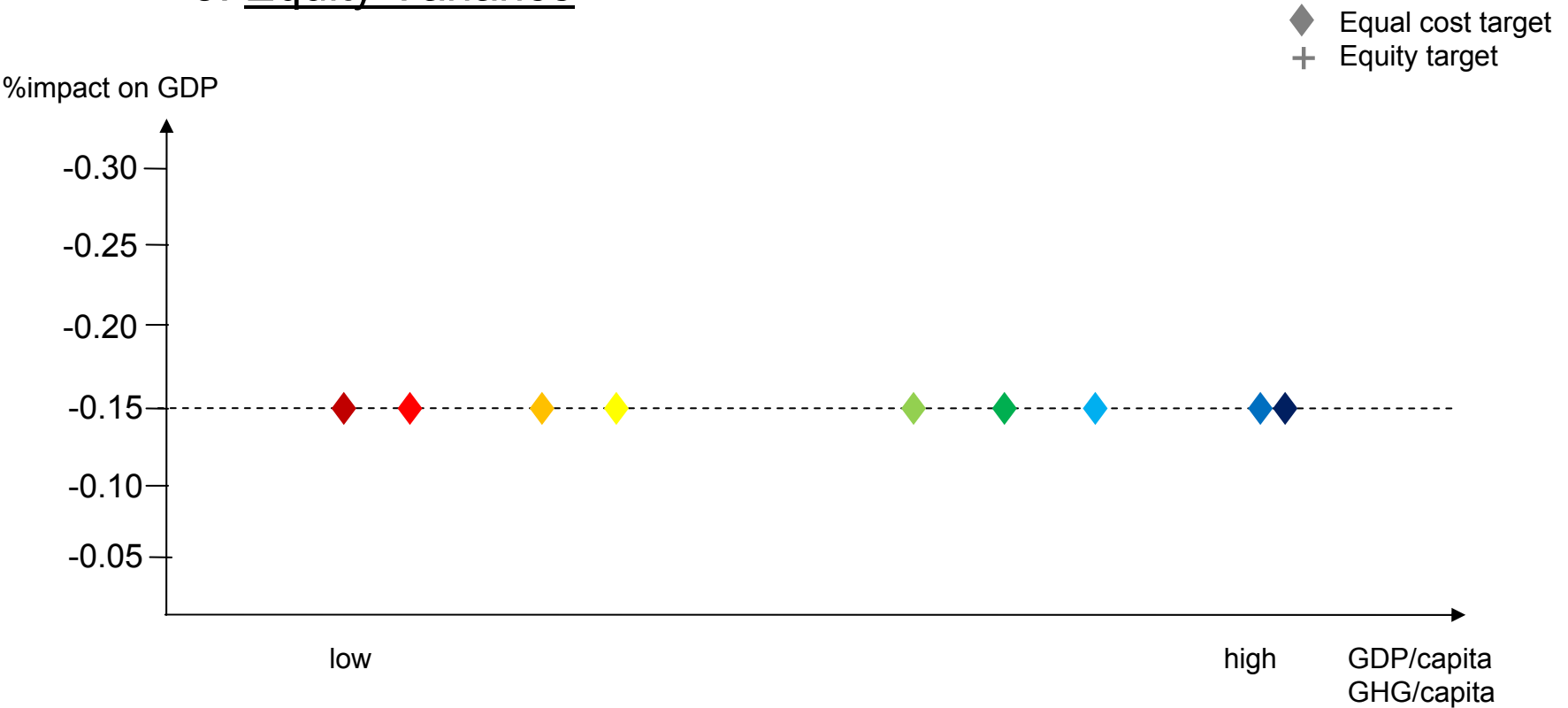
# Assessing Comparable Effort (ACE) Framework





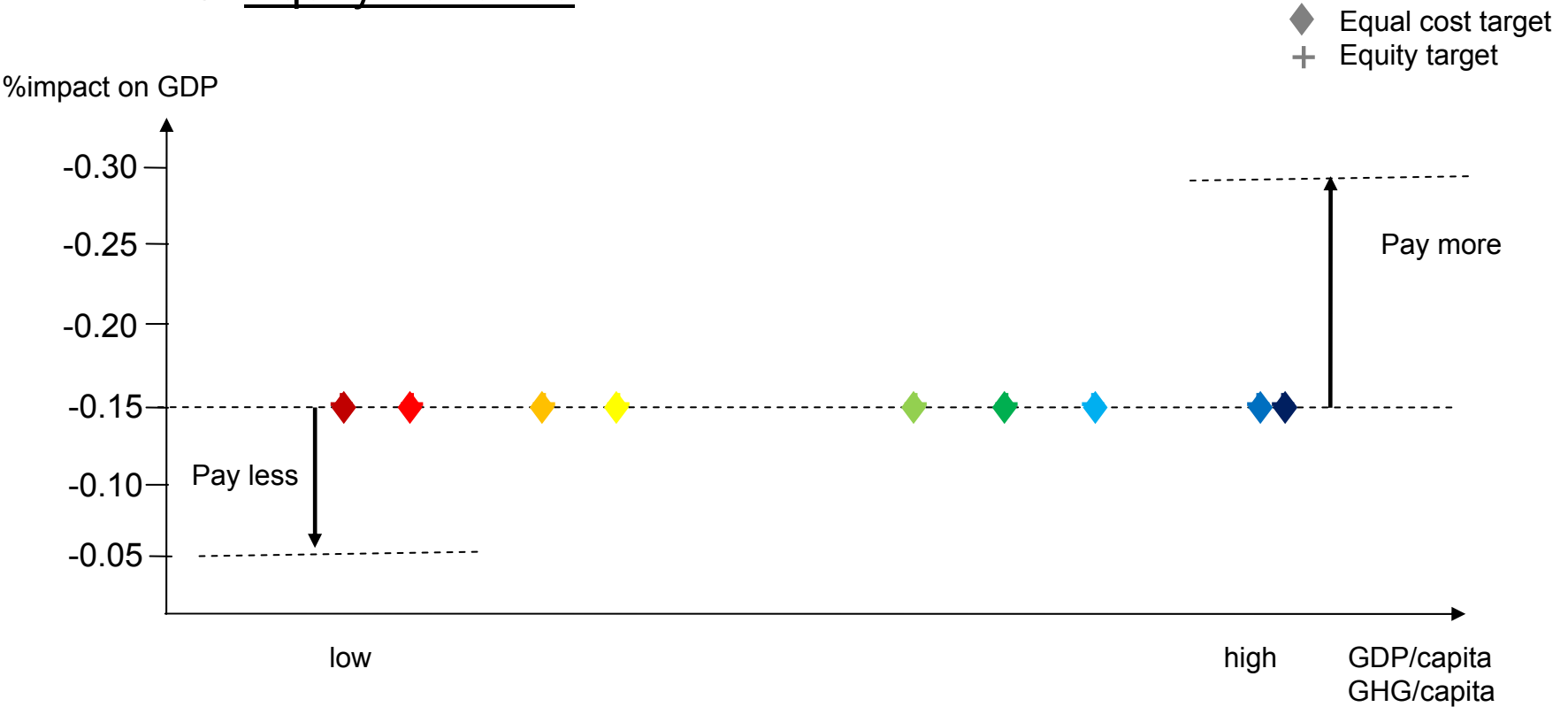
# Assessing Comparable Effort (ACE) Framework

## 3: Equity Variance



# Assessing Comparable Effort (ACE) Framework

## 3: Equity Variance



# Netherlands Environmental Assessment Agency

Exploring comparable  
post-2012 reduction  
efforts for  
Annex I countries

Background Studies

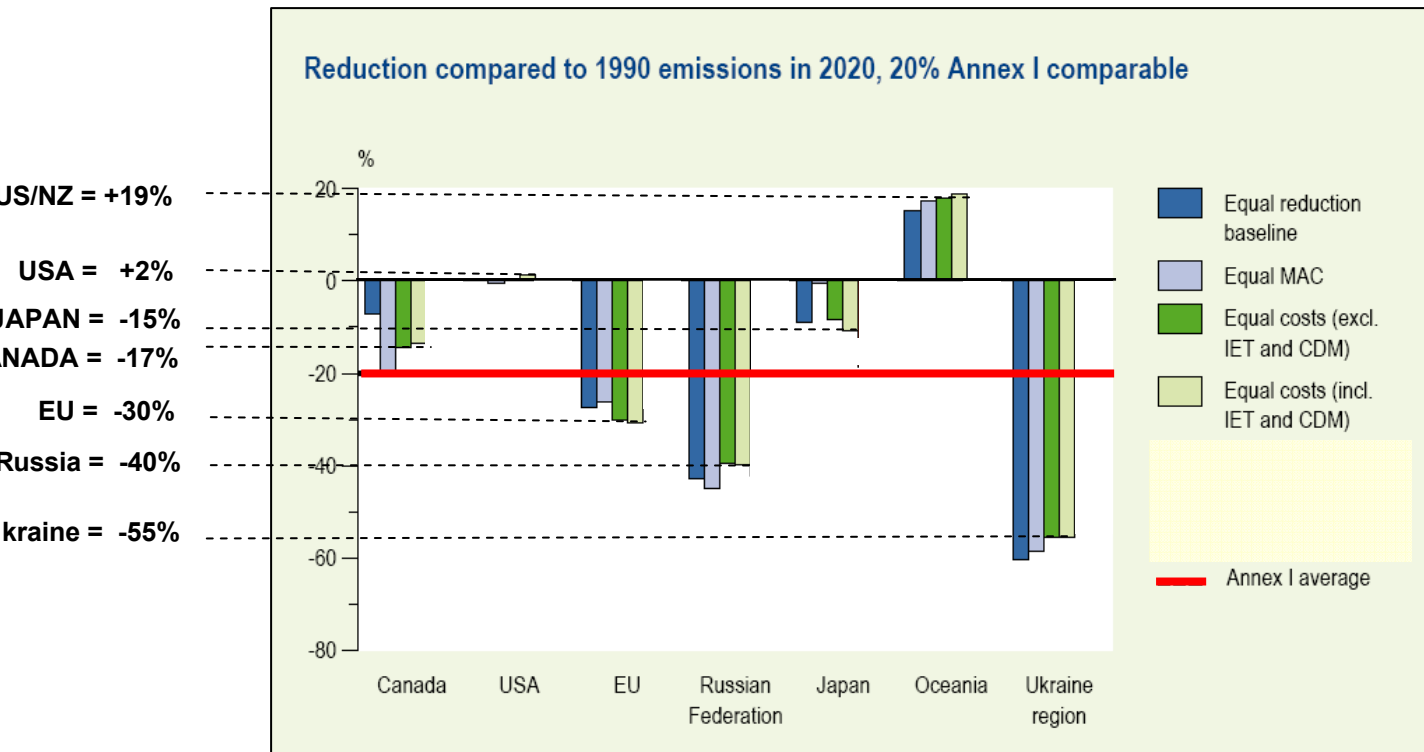
Netherlands Environmental Assessment Agency

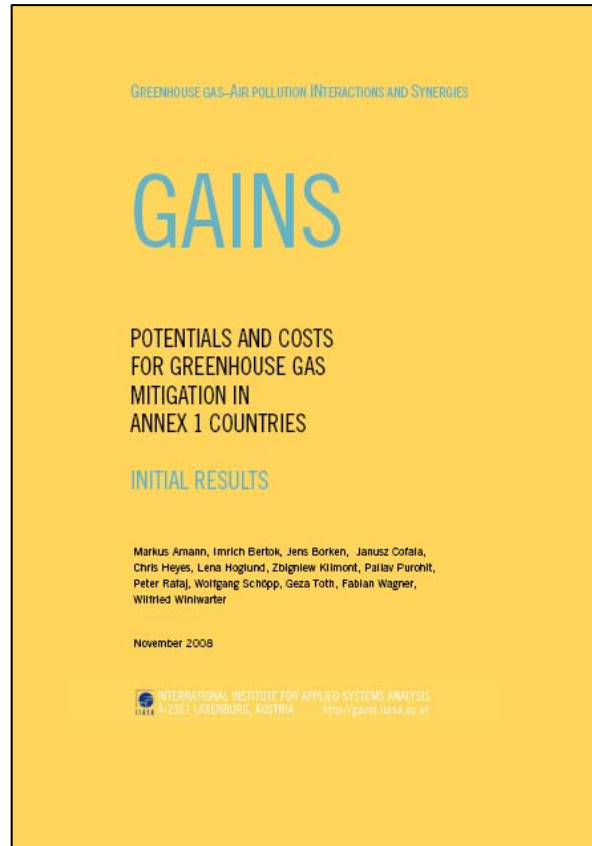
<http://www.pbl.nl/en/publications/2009/Exploring-comparable-post-2012-reduction-efforts-for-Annex-I-countries.h>



# Netherlands Environmental Assessment Agency

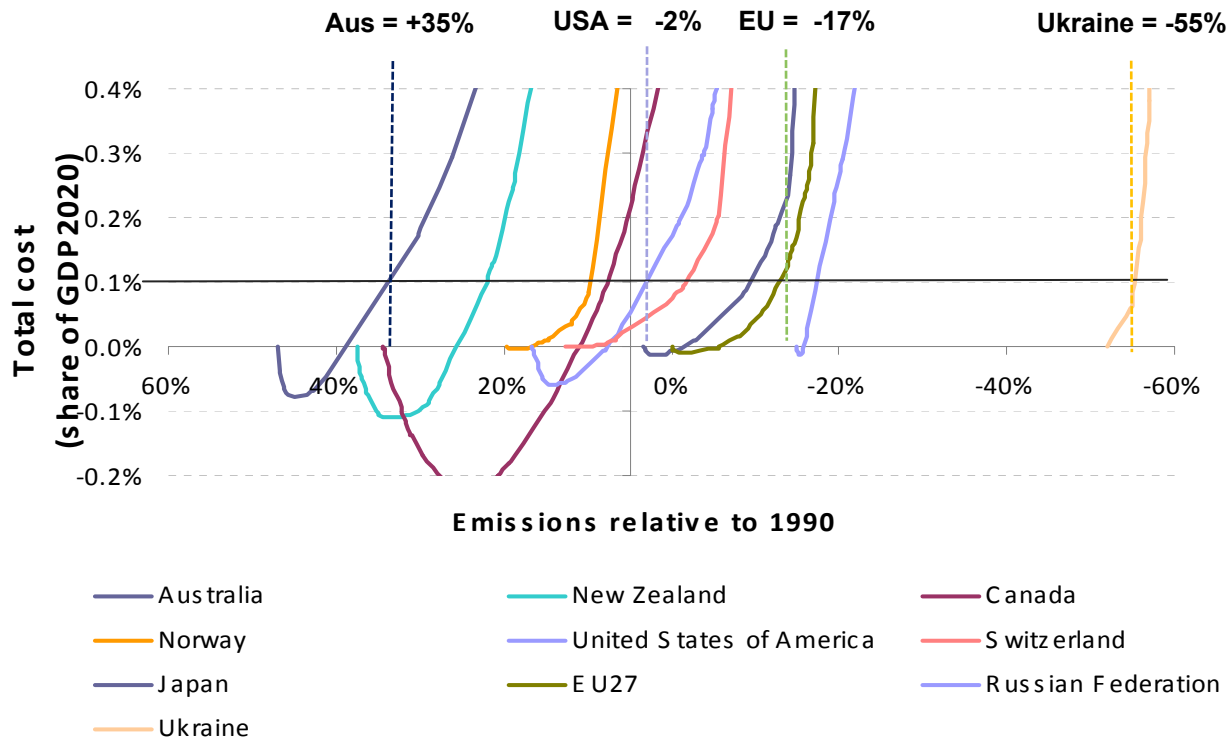
Results show a large spread of targets relative to 1990 emissions





# International Institute for Applied Systems Analysis

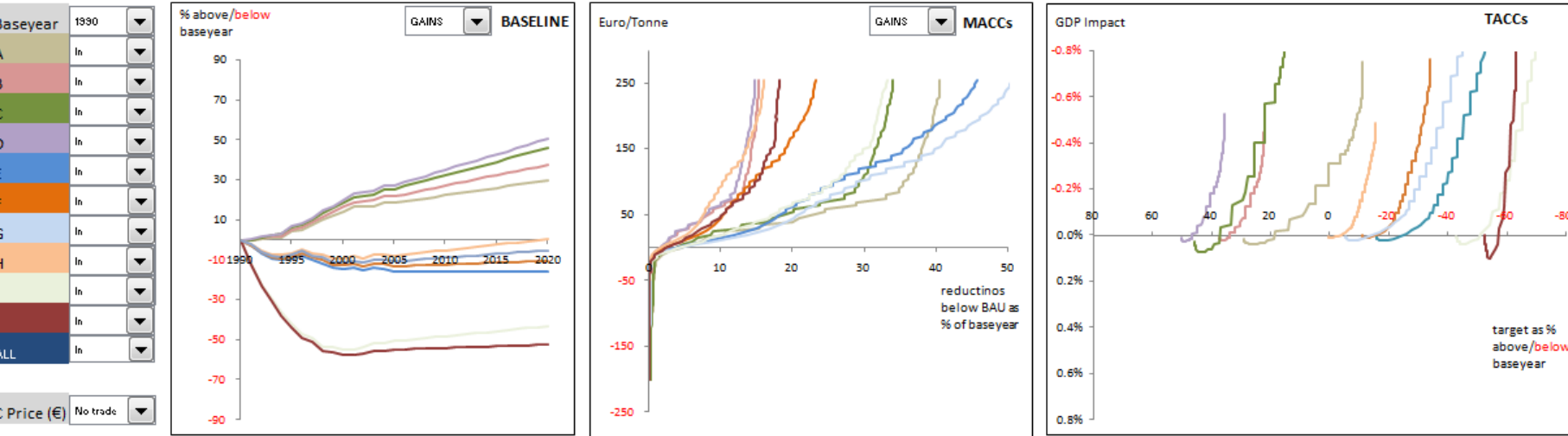
Again, results show a large spread of targets relative to 1990 emissions



# Assessing Comparable Effort Interactive Support Tool (ACE – IST)



# Assessing Comparable Effort - Interactive Support Tool (ACE-IST)



**Calculate targets**

Cost as %GDP: 0.20%

Annex 1

Equity

GDP/Cap 2020

2015 2006

**GDP Impact** **Equity variance**

**% above/below baseyear** **2020 Targets**

□ baseline  
◇ = cost target  
+ equity target

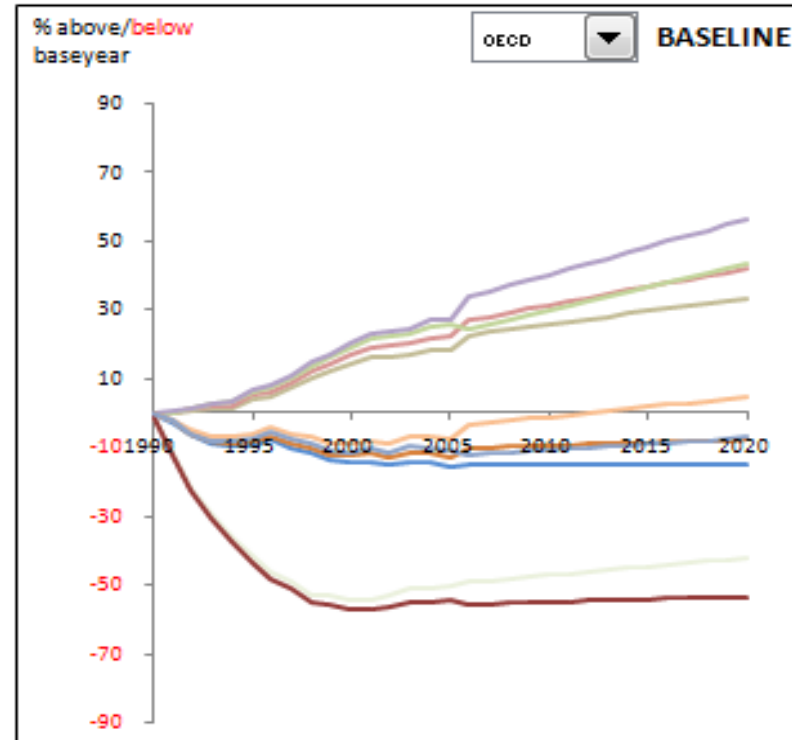
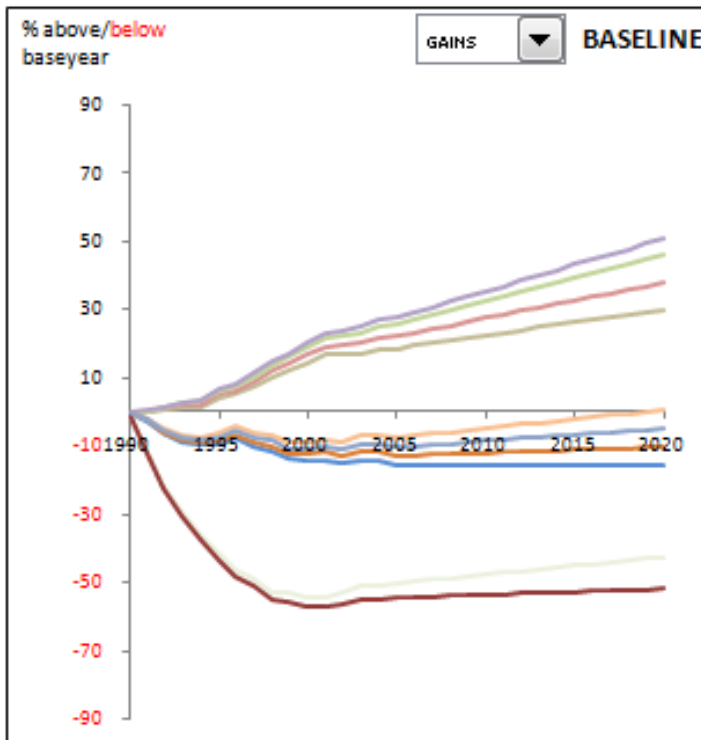
| PARTY | 2020 Target | percapita | % GDP  | 2015 Target |
|-------|-------------|-----------|--------|-------------|
| A     | -10%        | -30%      | -0.54% | -0%         |
| B     | 22%         | -11%      | -0.51% | 22%         |
| C     | 33%         | -9%       | -0.07% | 31%         |
| D     | 45%         | -4%       | -0.03% | 39%         |
| E     | -48%        | -38%      | -0.55% | -37%        |
| F     | -32%        | -24%      | -0.52% | -26%        |
| G     | -27%        | -23%      | -0.14% | -21%        |
| H     | -9%         | -10%      | -0.10% | -9%         |
| I     | -61%        | -32%      | -0.04% | -57%        |
| J     | -57%        | -10%      | -0.01% | -56%        |
| TOTAL | -25%        |           |        | -20%        |



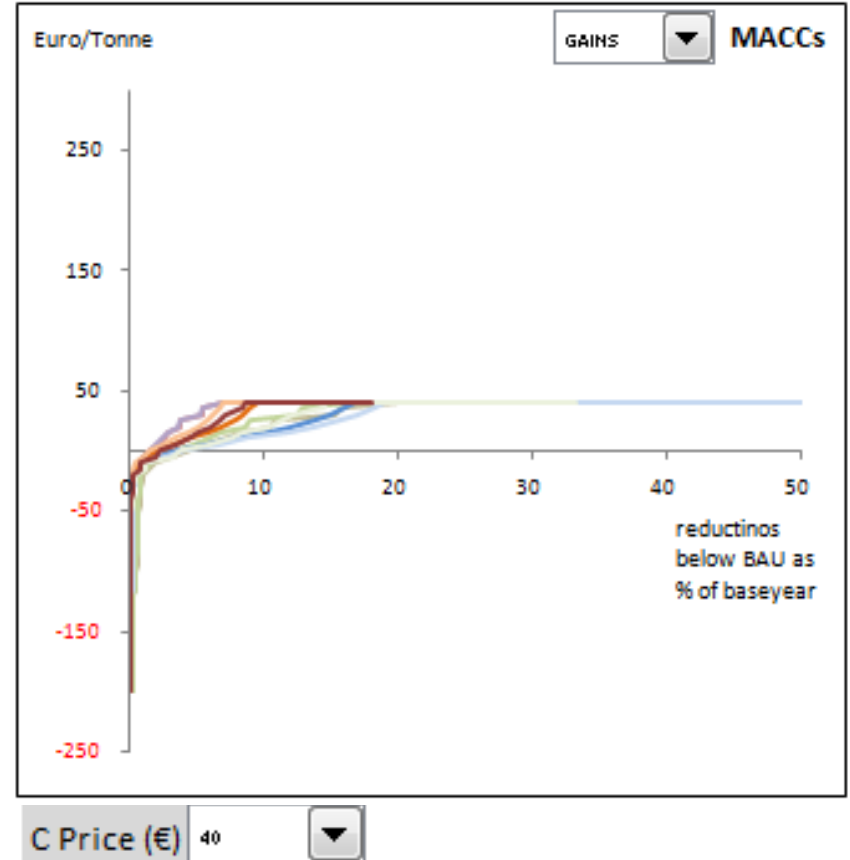
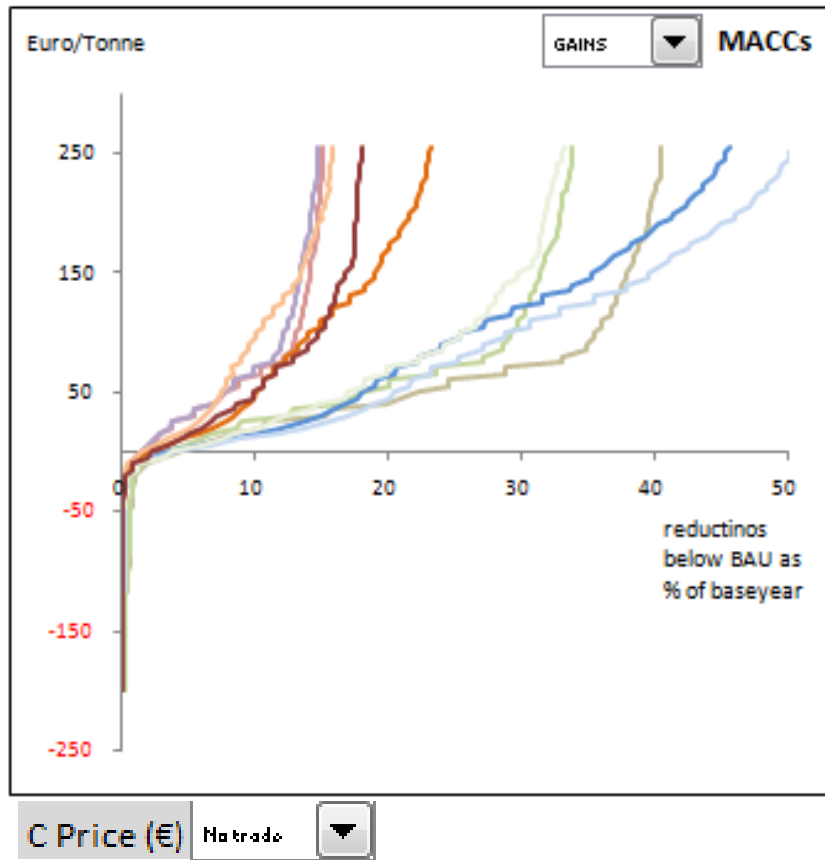


# ACE-IST: Baseline

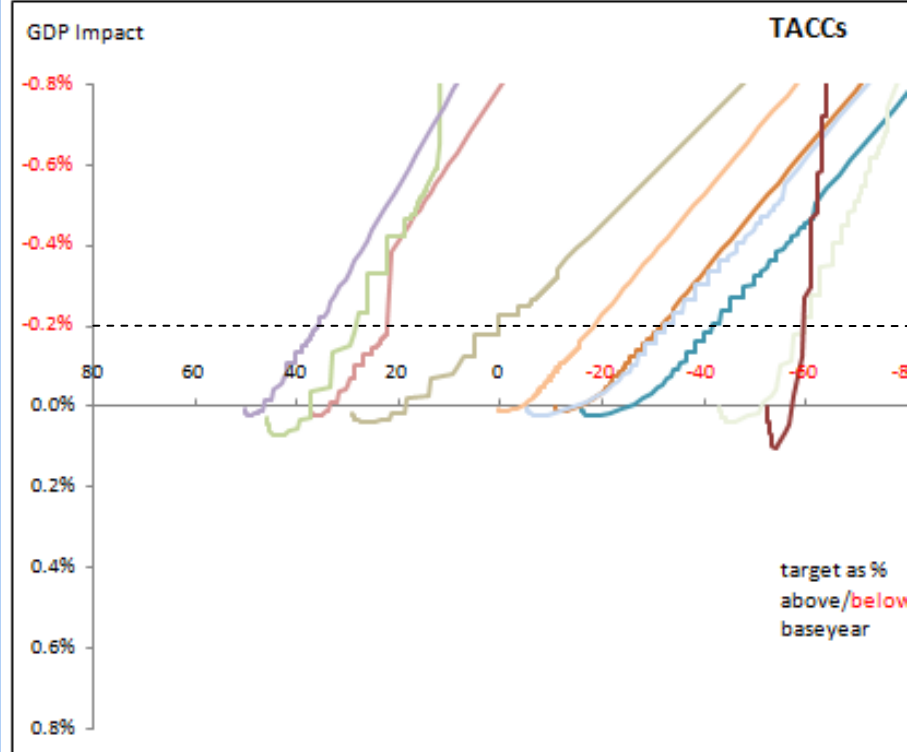
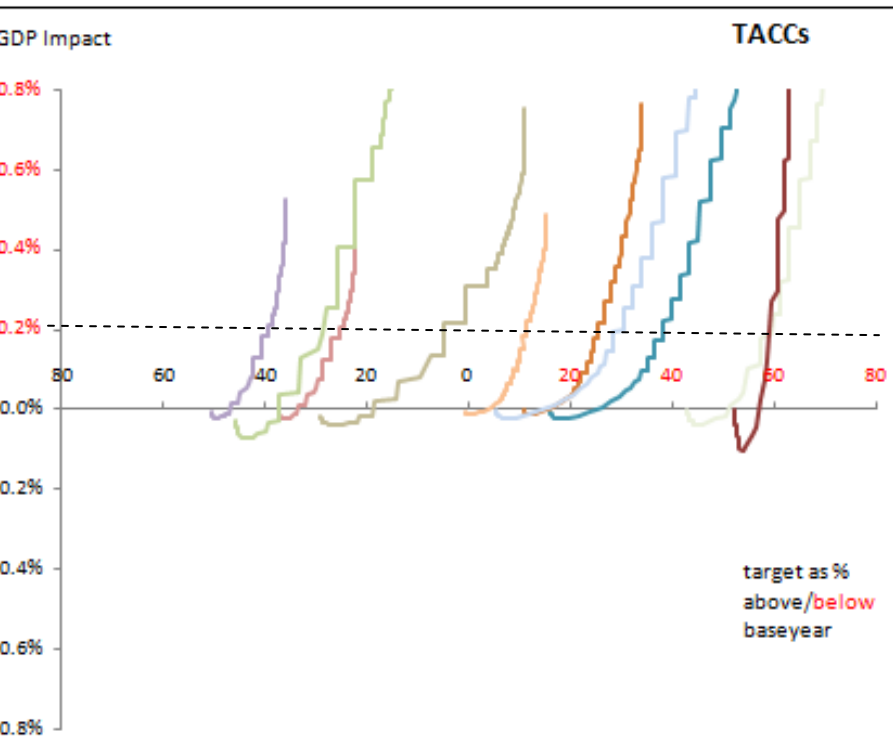
|      |      |   |
|------|------|---|
| Year | 1990 | ▼ |
|      | In   | ▼ |
|      | In   | ▼ |
|      | In   | ▼ |
|      | In   | ▼ |
|      | In   | ▼ |
|      | In   | ▼ |
|      | In   | ▼ |
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|      | In   | ▼ |
|      | In   | ▼ |
|      | In   | ▼ |
|      | In   | ▼ |



# ACE-IST: Marginal Abatement Cost Curves



# ACE-IST: Total Abatement Cost relative to GDP



C Price (€) No trade ▼

C Price (€) 40 ▼



# ACE-IST: Results

| PARTY |                              | 2020 Target | percapita | % GDP  | 2015 Target |
|-------|------------------------------|-------------|-----------|--------|-------------|
| A     | <input type="checkbox"/> Fix | -10%        | -30%      | -0.54% | -0%         |
| B     | <input type="checkbox"/> Fix | 22%         | -11%      | -0.51% | 22%         |
| C     | <input type="checkbox"/> Fix | 33%         | -9%       | -0.07% | 31%         |
| D     | <input type="checkbox"/> Fix | 45%         | -4%       | -0.03% | 39%         |
| E     | <input type="checkbox"/> Fix | -48%        | -38%      | -0.55% | -37%        |
| F     | <input type="checkbox"/> Fix | -32%        | -24%      | -0.52% | -26%        |
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| H     | <input type="checkbox"/> Fix | -9%         | -10%      | -0.10% | -9%         |
| I     | <input type="checkbox"/> Fix | -61%        | -32%      | -0.04% | -57%        |
| J     | <input type="checkbox"/> Fix | -57%        | -10%      | -0.01% | -56%        |
| TOTAL |                              | -25%        |           |        | -20%        |



# ACE-IST: Results

**Calculate targets**

Cost as %GDP

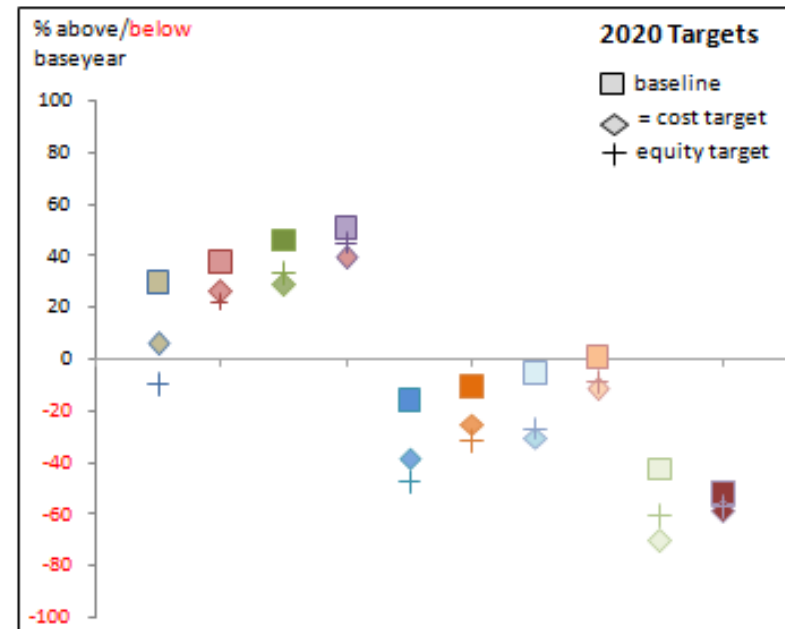
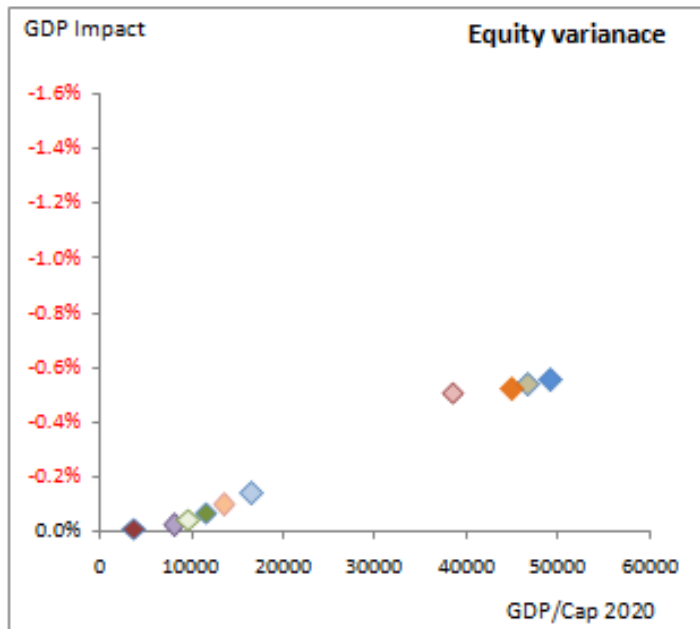
A

Annex 1

Equity

GDP/Cap 2020

2015



# Assessing Comparable Effort (ACE) Framework

## Conclusions

- 1) Baseline emissions, relative to the base year, are a key input into determining a fair target: *higher population and economic growth = less reductions relative to historic base year*
- 2) The structure of an economy and domestic emissions profile are also important: *more efficient = less reductions*
- 3) Capability and responsibility need to also be taken into account: *higher GHG or GDP/capita = more reductions*



# ACE-IST: Next Steps

Hope to present results from ACE-IST in June

Welcome any data on:

- i) 2020 baseline emission projections
- ii) 2020 MACCs
- iii) 2020 GDP projections

*Please send this data to:*

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[amelie.goldberg@mfe.govt.nz](mailto:amelie.goldberg@mfe.govt.nz)  
[daniel.twaddle@mfe.govt.nz](mailto:daniel.twaddle@mfe.govt.nz)



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