Questions for WGSR

1. Ambition level (reduction of risks to health and ecosystems)?
2. Baseline scenario & sensitivity runs?
3. Type of abatement options?
1. Ambition level

1. Follow 2020 targets of the Thematic Strategy of the EC?
2. Follow “BAT” approach for EECCA?

Ambitions for 2050? Backcasting
## EU ambition levels: different options

<table>
<thead>
<tr>
<th>Ambition level</th>
<th>Cost of reduction (€bn)</th>
<th>Life Years Lost (million) or Premature deaths (thousands)</th>
<th>Range in monetised health benefits (€bn)</th>
<th>Ecosystem area exceeded acidification (000 km²)</th>
<th>Ecosystem area exceeded eutrophication (000 km²)</th>
<th>Forest area exceeded ozone (000 km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>-</td>
<td>3.62 (348)</td>
<td>-</td>
<td>243</td>
<td>733</td>
<td>827</td>
</tr>
<tr>
<td>Baseline 2020</td>
<td>-</td>
<td>2.47 (272)</td>
<td>-</td>
<td>119</td>
<td>590</td>
<td>764</td>
</tr>
<tr>
<td>Scenario A</td>
<td>5.9</td>
<td>1.97 (218)</td>
<td>37 - 120</td>
<td>67</td>
<td>426</td>
<td>699</td>
</tr>
<tr>
<td>Scenario B</td>
<td>10.7</td>
<td>1.87 (260)</td>
<td>45 - 146</td>
<td>59</td>
<td>375</td>
<td>671</td>
</tr>
<tr>
<td>Scenario C</td>
<td>14.9</td>
<td>1.81 (200)</td>
<td>49 - 160</td>
<td>55</td>
<td>347</td>
<td>652</td>
</tr>
<tr>
<td>MTFR</td>
<td>39.7</td>
<td>1.72 (190)</td>
<td>56 - 181</td>
<td>36</td>
<td>193</td>
<td>381</td>
</tr>
</tbody>
</table>
Ambition level: € 5-15 pp/yr
EC-strategy: % improvement between 2000 and 2020

Cost estimate (2006): € 7 bn
EU parliament: higher ambitions!
Additional costs EU air pollution strategy ~ € 1 bn

- National energy and agricultural projections (+2% CO2)
- With 20€ carbon price (-8% CO2)
- With 90€ carbon price (-20% CO2)

Costs for current legislation on air pollution
Additional costs for TSAP
Additional costs for the CO2 reduction
2. Baseline scenario options

1. Baseline as used for GP-review (mid 2007)
2. Include reduction plans EECCA
3. Include reduction plans IMO
4. Include planned emission reductions due to AQLVs
5. Include nitrogen reductions due to ND
6. Include greenhouse gas policy plans
Contribution of North Sea emissions
**Implications**

- Given the ambition level more ship emission reductions = higher national emission ceilings
- Inclusion of GHG-policy will lower the costs and drive cost-effective policy from NH$_3$ towards SO$_2$ reduction.
- Estimates by EC for international emission trading, renewable certificates trading & use of CDM/JI are not yet available
Relation between new and existing EU Climate and Energy policies

1. European Trading Scheme (ETS) ~45%
   - CO₂ (all) + N₂O + PFC
     - ETS-Aviation EU target: -21%

2. non-ETS ~55%
   - CO₂ non-CO₂ EU target: -10%

3. Renewable energy
   - Electricity
   - Heat/cooling
   - Transport

4. CCS (CO₂)

5. State aid

- Total GHG emissions
  - EU target:
    - -20% 2020/1990 = -14% 2020/2005

- Non-CO₂ regulations

- Directive Energy Efficiency/Services

- CO₂ from cars

- Motor fuel quality refineries

- C-sequestration ~1%
  - CO₂ (forests)

Policy issue
EC proposal Jan. 2008
Other regulations
When the share of the ETS-sector is larger, emissions of SO$_2$ or NO$_x$ will be more sensitive for transboundary emission trading (or v.v.)
Planning EU process 2008

**May**: PRIMES baseline available (excl. climate & energy proposal)

**June**: EC-proposal NEC – directive (based on PRIMES incl. climate & energy proposal and assumptions on trading)

**June - December ?**: Negotiations with Member States & European parliament
Synergies between GHG reduction and air pollution in Sweden

- CO$_2$ -30%
- NO$_x$ -10%
- SO$_2$ -25%
Synergies between GHG reduction and air pollution in the Netherlands

![Bar chart showing GHG, NOx, SO2, NMVOC, NH3, and PM10 emissions for 2000, 2020BL, and 2020new categories. The chart indicates that NOx emissions show a significant increase compared to the other pollutants.]
Updated national projections

• Updates available by September 2008
  – Timing possible ?
  – Consistency ?

• Projections based on PRIMES
  – Only for sensitivity analysis ?
  – Harmonization of CLRTAP and CAFE-data ?
3. Type of abatement options

1. Traditional (national) ‘end-of-pipe’ measures
2. Include options for structural changes in energy, transport and agriculture
3. Include (local) economic instruments (behavioural change)
2050 ambitions

- Full implementation of MFTRs
- Structural changes in energy, transport and agriculture
  - Increased prices of fossil fuels
  - Clean electricity production: CCS ? Hydrogen?
  - Private transport ?
  - After oil ?
  - After meat ?

Workshop with TFEIP/PEP November 2008