Success factors in the joint effort to reduce non-CO_2 greenhouse gases

tailor-made public-private partnerships work effectively

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Introduction – NCGG reduction benefits from cooperation

- PPPs and Voluntary Agreements are integral part of the environmental policy mix in Europe

- Large variation:
  - forms – binding or non-binding
  - scopes
  - measures
  - number of parties involved

- Example of NCGG-reduction at NXP Semiconductors

NCGG reduction approach facilitated by sector ROB working group

Three phases of ROB-programme 1999-2012 (instruments)

1. **Initiative and inventory** (Assignments, assessment of PPP stakeholders, invitation to participate in ROB working group)

2. **Exploration of options and R&D** (Assignments and subsidies, joint exploration of NCGG-reduction options in the short and long term by way of ROB working group)

3. **Implementation** (Legislation and regulations, permits, tax schemes, investment subsidies, demonstrations, information, covenants, etc.

Joint NCGG reduction approach for semiconductor industry

- Production of ICs require F-gases for plasma etching and cleaning process rooms
- F-gases CF_4, C_2F_6 and C_4F_8 (PFCs), CHF_3 (HFC), NF_3 and SF_6 are used at NXP
- The ROB working group can be seen as non-binding form of PPP in which representatives from government and business community go through above-mentioned phases 1 through 3 together
- Emission 1995: 59 kton CO_2 eq
- Emission 2005: 222 kton CO_2 eq.
- Strategy document
  - reduction potential clarified on the basis of four standpoints
  - reduction options
  - approach chosen win-win

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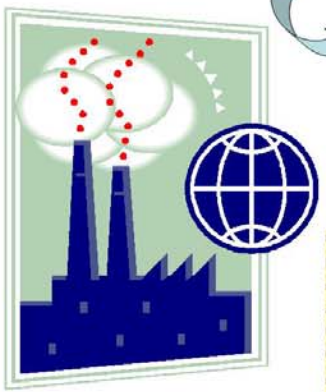
Nine process steps towards PPP for realising NCGG reductions

1. Appoint problems and define overall objectives

2. Establish co-operation or letter of intent

3. Offer public-private-partnership (PPP) incentives



4. Negotiate on specific targets, measures and monitoring

5. Conclude (sign) and implement PPP

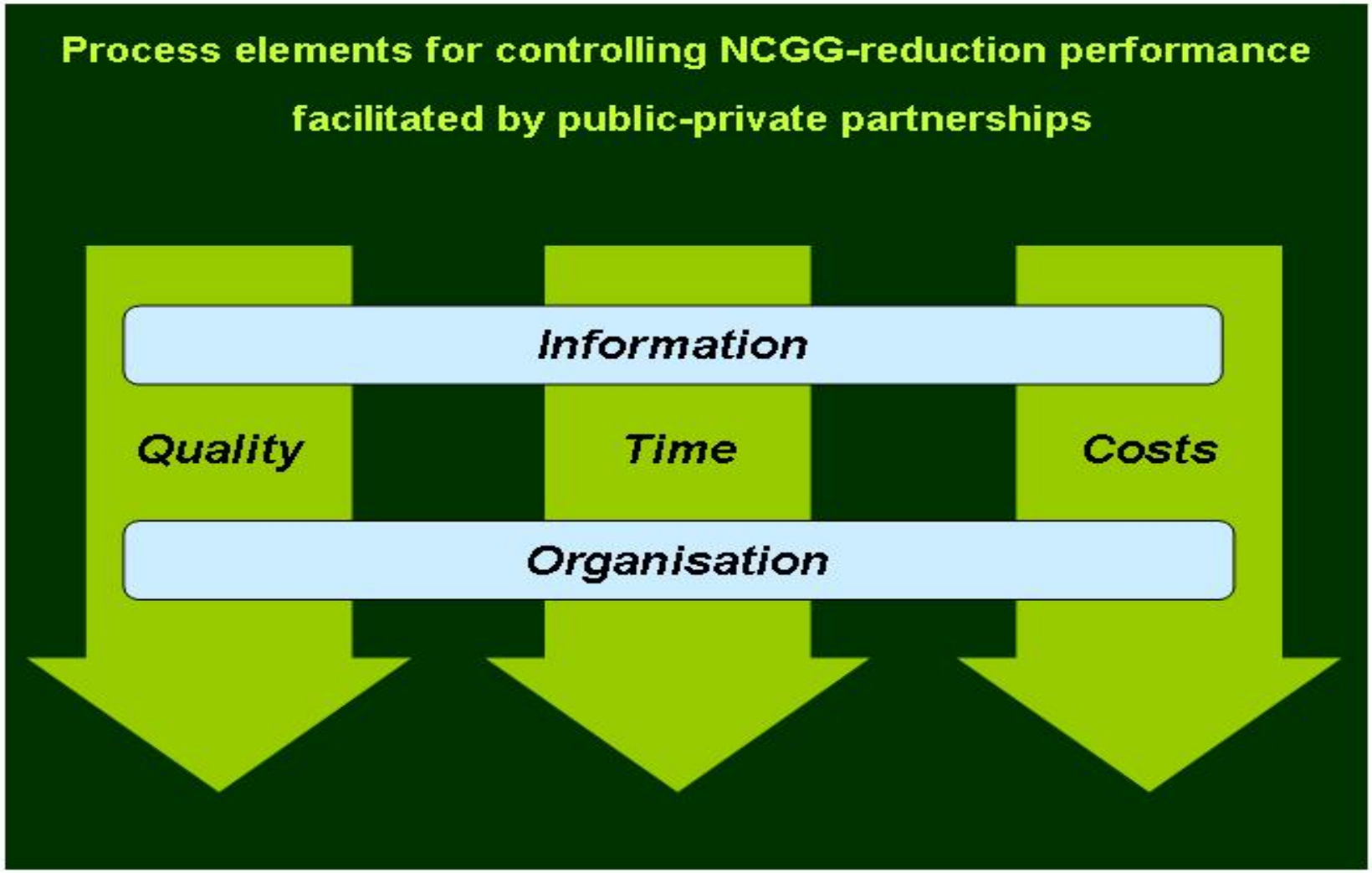
6. Control annually through monitoring

7. Promote dissemination of information

8. Communicate intermediate results

9. Apply sanctions if needed

NCGG-reduction needs co-operation


Process elements for controlling NCGG-reduction performance
facilitated by public-private partnerships
Information
Quality
Time
Costs
Organisation

Success factors in the realisation of NCGG reduction via PPPs

- Information : use is made of existing information
- Organization: tasks and responsibilities are arranged
- Quality: realistic quality requirements related to target and compliance
- Time: realistic timeframe and sufficient manhours
- Costs: sufficient money available to start, facilitate and implement PPP

Clustered PPP success factors which have proven their value in practice

- External policy framing / subsidy schemes / working group
- Credible threat of sanctions
- Promotion of awareness
- Flexible form of PPP
- Climate of mutual trust
- Bridging and/or supporting function
- Lower costs of implementation than alternatives
- Climate change solving capacity (how far beyond BAU and compliance)
- Regular monitoring and supervision
- Facilitator or intermediate organization

Conclusions and recommendations

- Success of PPPs depends on design and process management of agreement
- During the launching phase, attention should be focused on establishing relevant conditions for phases 2 en 3
- Strategy document with input from all NCGG stakeholders is also effective as non-binding PPP
- NXP solution for NCGG-reduction via lowering target in permit
- PPPs to be guided by five well-proven process control parameters

- Global NCGG-reduction needs and deserves cooperation over the existing borders