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Clean Power Generation Technology for Europe

from a fossil fuel perspective

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Contents of Presentation

➤ CURRENT BASE LINE

- the Changing Market
- the US Scene and Implication for Europe

➤ EUROPEAN CLEAN FOSSIL INITIATIVE

- POWER21: Industry and the Sector
- FENCO: Member States Action
 - UK Foresight (UK CMS)
 - German COORETEC Concept



Current Issues

Security of Supply

Economics!!

Global Climate Change (up to and post 2050) targets will need full range of solutions

Continuing reliance on fossil fuels for decades yet

Acceptability of Nuclear?

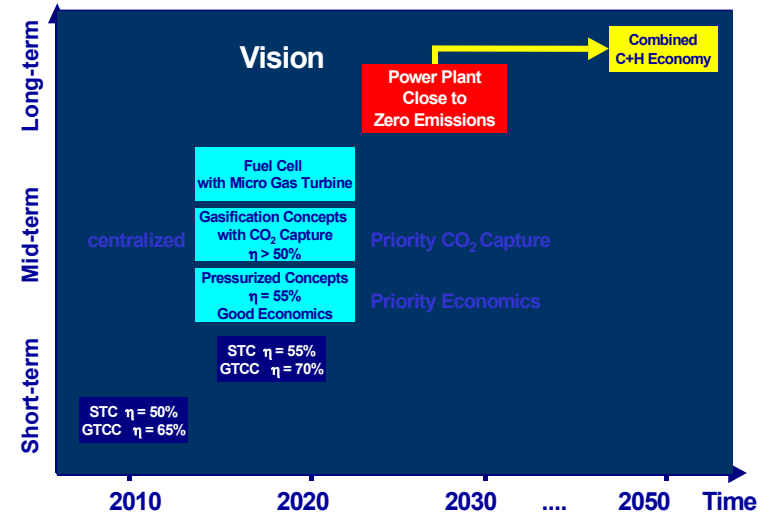
Developing countries (eg China) have to be engaged if GCC is really to be tackled

REN will become significant in the energy mix only in time - portfolio approach needed

A major transitional issue will be clean use of fossil fuels

➤ COORETEC Concept (DE)

- improved efficiency
- working towards `zero emission`



➤ Carbon Management Strategy for Fossil Fuel (UK)

- improved efficiency
- fuel flexibility
- CO_2 capture/sequestration

“Snap Shot” of US Position

- **Clean Fossil Fuel Technologies firmly established as key component of carbon reduction strategy**
 - 18% reduction in carbon intensity by 2012, backed by RTD and D initiatives
 - Clean Coal Plant Improvement programme : 2b US\$ over next decade
 - CO₂ Capture and Storage (CCS) budget for 2004 requested at 60m US\$ from a `zero` position less than 5 years ago
 - US CCS regional networks established
 - Futuregen Project launched with 1b US\$, 80% from USDOE - electricity and hydrogen plant with CO₂ sequestration

Strong competition from USA on world markets

- **US Industry set to take the lead on low-to-zero emission technologies**
 - benefit from US DOE and other support
 - US Carbon Sequestration Leadership Forum set for Washington in June/03, 13 countries invited including UK, Italy and the EC.
 - to the detriment of Europe in European and world markets

European Response

- **Vital that Europe responds in an effective way**
 - critical mass initiative to ensure that Europe can compete on world markets
 - Sector wide initiative bringing together industry, academia and governments
 - combination of national Member State and EC RTDD Programmes with industry and research community
 - thrust towards carbon management strategy for power generation with fossil/associated fuels



What to do in the future?

- **Mechanism introduced under EC FP6 ERANET scheme**
 - possible to take a two stage approach
 - Specific Supported Action (SSA) followed by a Concerted Action (CA)
 - to be initiated by (quasi) government organisations of Member States
 - link to industry and national aims and objectives:
POWER21

SIEMENS

VGB
POWERTECH

ALSTOM

***POWER 21* – A Low Emission Power Plant Initiative**

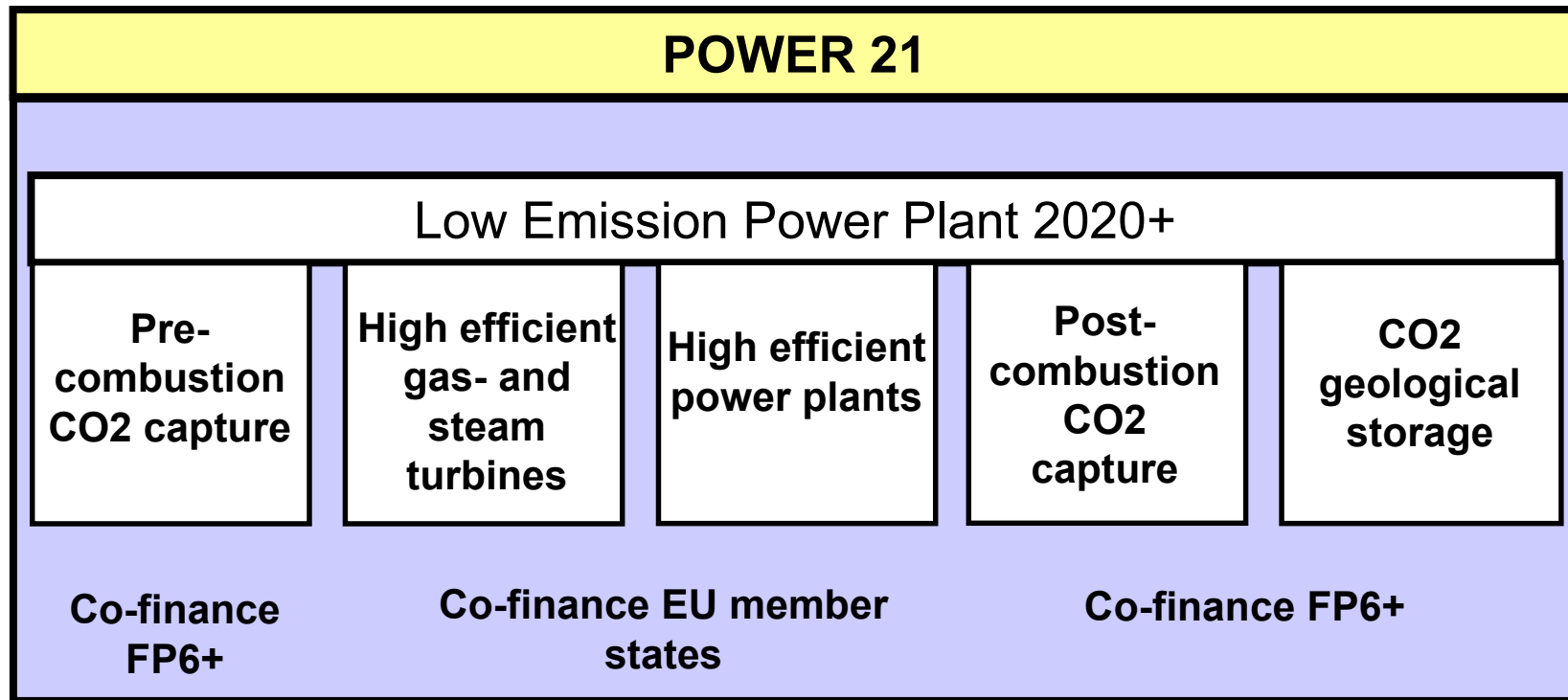
A convincing European approach to protect the environment and strengthen the European Industry

Links R&D and demonstration needs of EU member states, the EU, industry and academia on an extended European level

**A Siemens - Alstom Initiative supported by
European Electrical Utility Companies**



Technical Scope

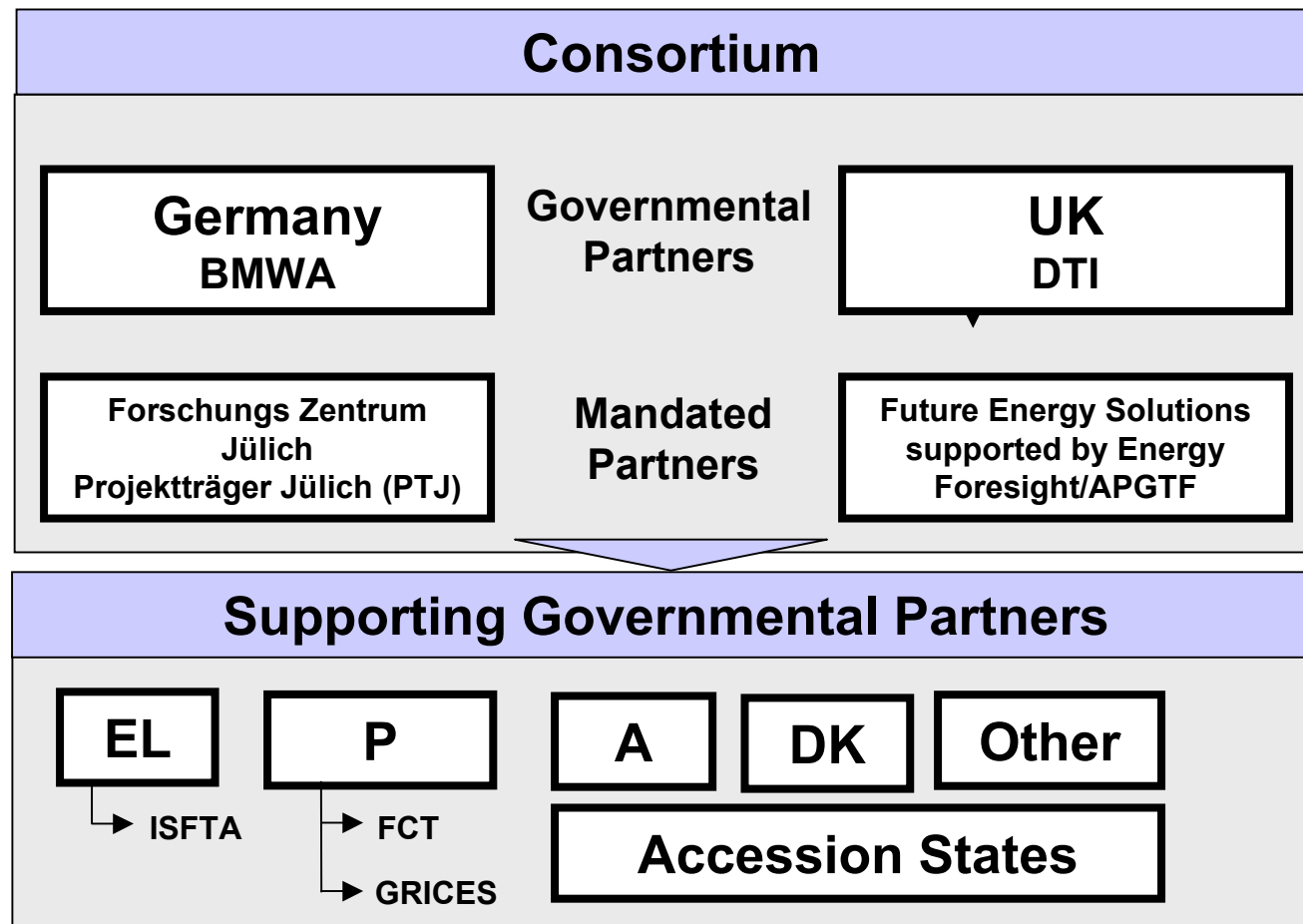


FENCO

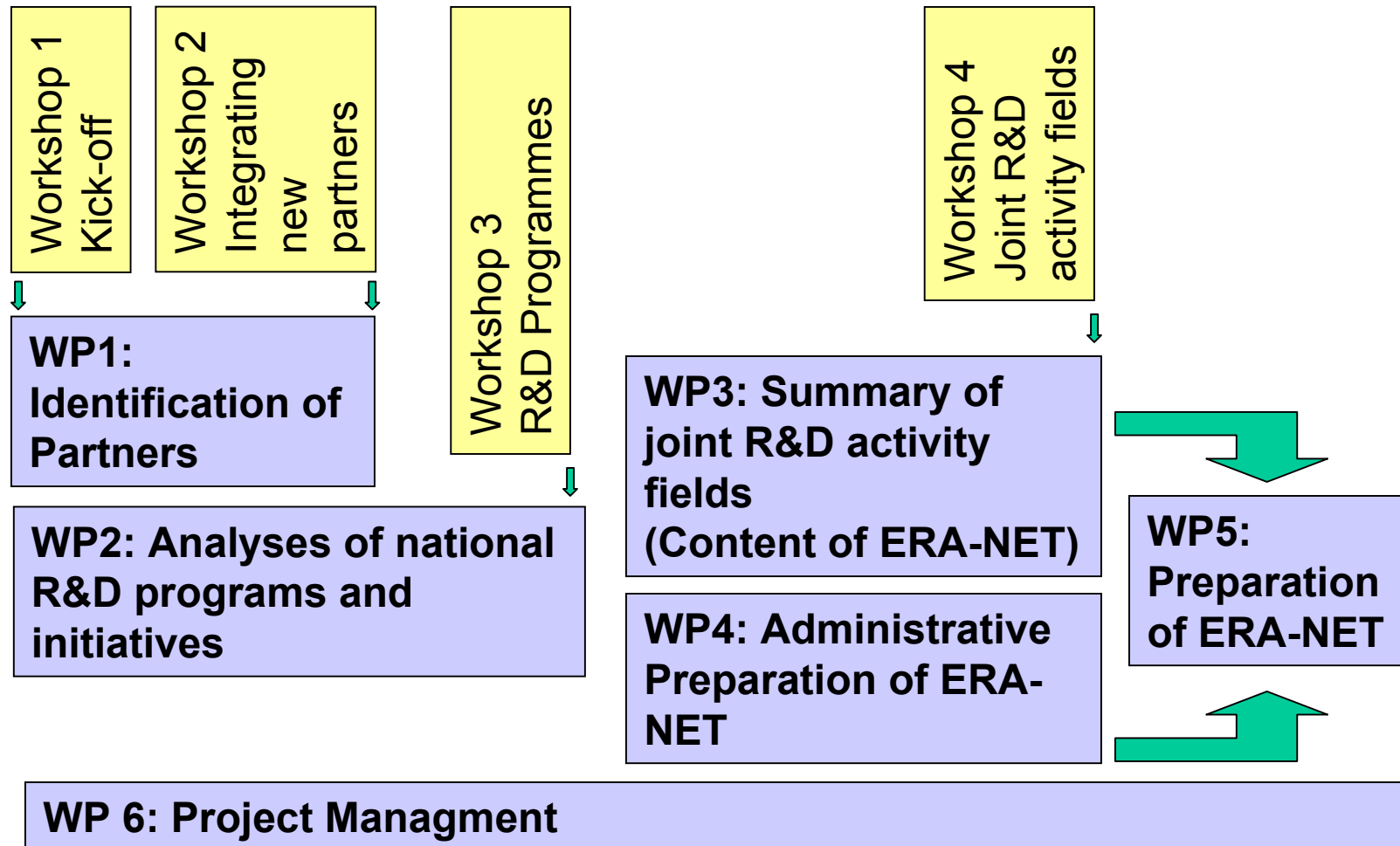
Clean Fossil Energy Coalition

- **FENCO:** Proposal for a SSA preparing an ERANET - an initiative taken by **Germany and UK**
- **Aim:**
to establish the basis for an unified approach to fossil fuel power generation technology in Europe
- **Method:**
series of studies and workshops to define future content and structure of a Concerted Action
- **Time frame:**
12 months from Sept/03 to Sept/04
- **Budget:**
~200k euro

The FENCO Consortium

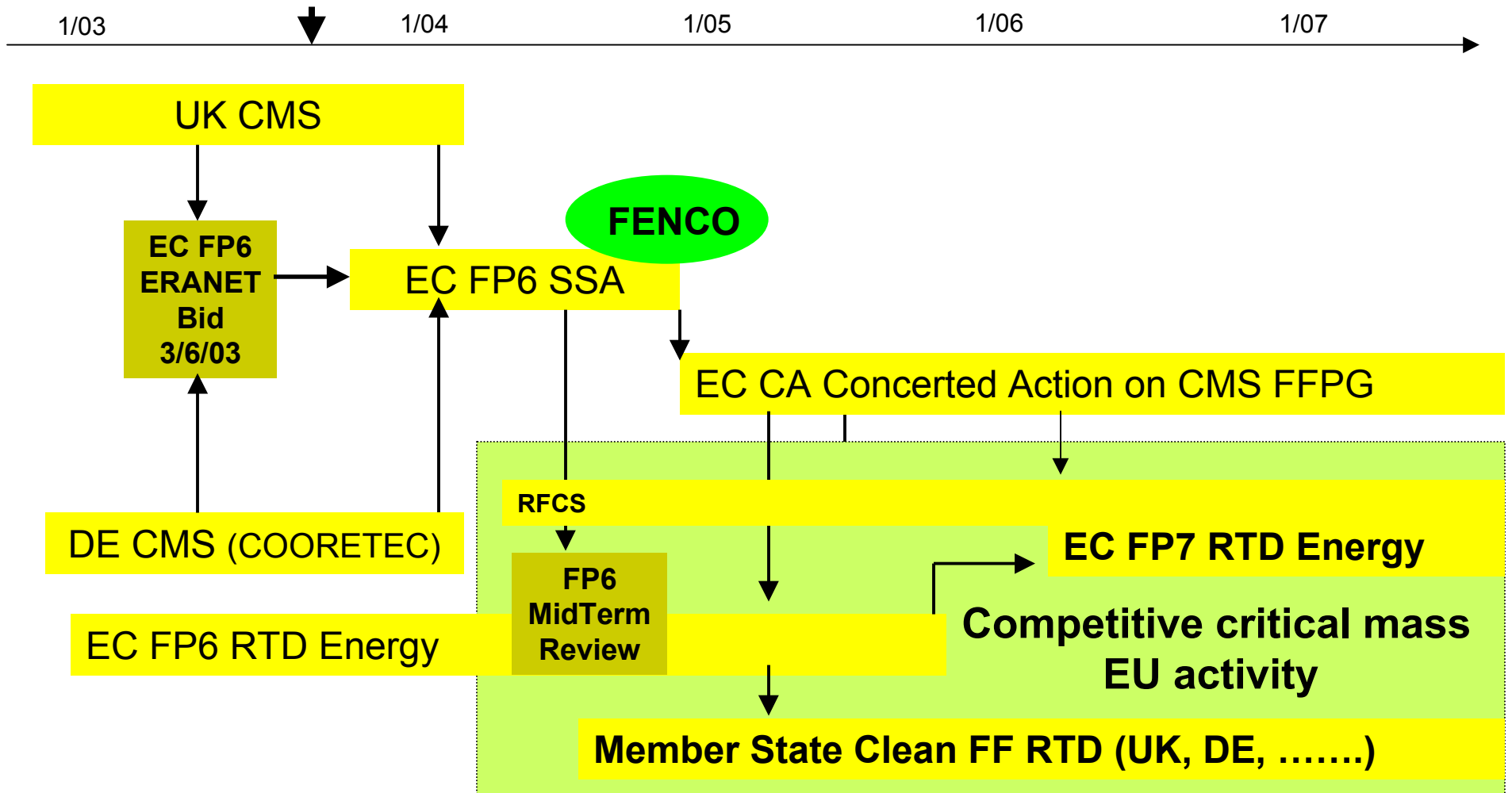


FENCO Work Packages



European Structure/Time-Line

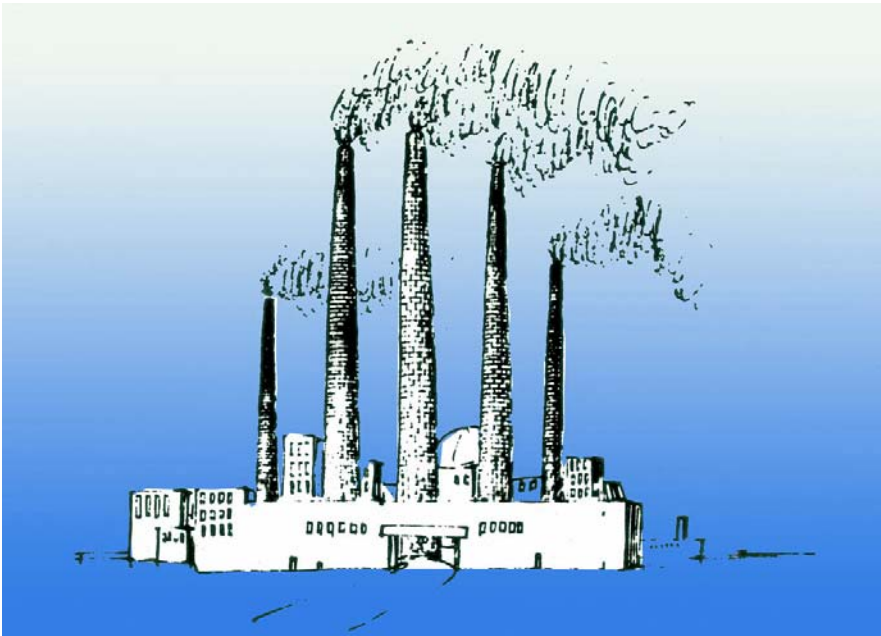
Carbon Management Strategy (CMS) for FF Power Generation



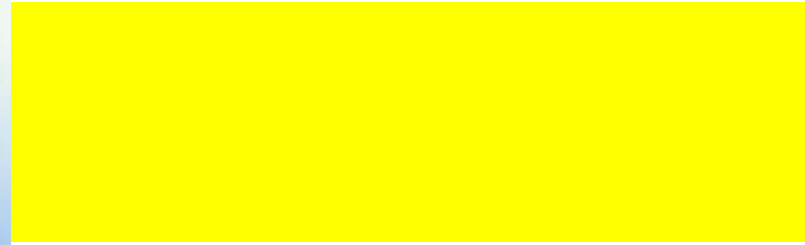
Concluding Remarks

Outcomes

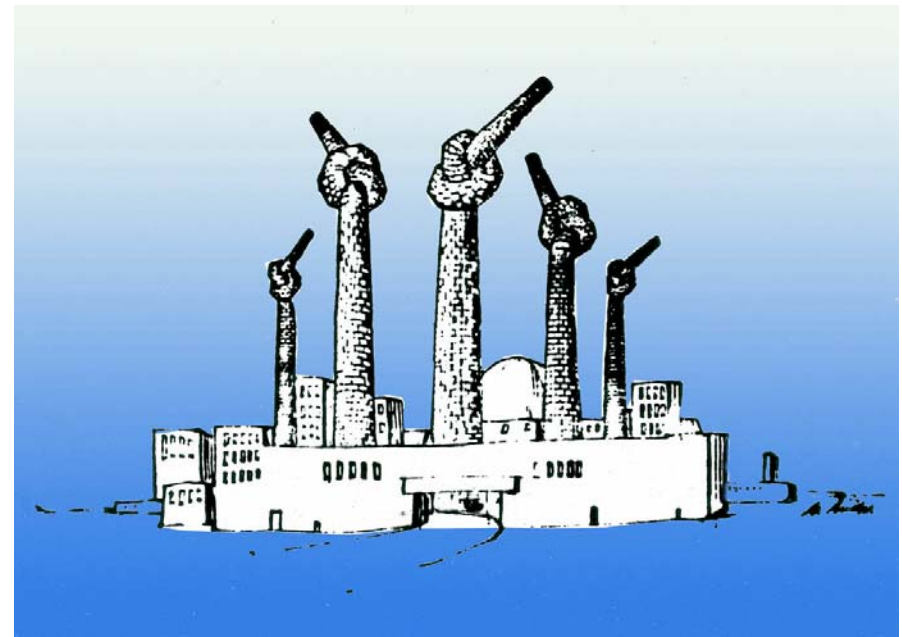
- Establish the basis for a serious European wide initiative
- Help meet future energy needs and environment targets whilst maintaining security of supply
- Enable Europe to compete effectively in markets world-wide; link to and consistent with industry and research aims



Problem



Solution





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