Zep
Zero emissions platform

Implementation of New Entrant Reserve Funding

The Zep's views

European Technology Platform for Zero Emission Fossil Fuel Power Plants

Zep and its contribution

ZEP established in 2005 as a forum for CCS technology and innovation:

- Industry (utility, equipment supplier, hydrocarbon), NGO's, research bodies
- Mandate to explore and promote development of CCS technology

ZEP has been a prime mover behind the CCS Demo Programme:

- Recommendations on technology and public/commercial structures
- 2007: recommended Demo Prog., adopted by EC and Parliament
- 2008: recommended allocation of EUAs to provide support
- April - June 2009: recommendations on implementation of NER

ZEP's response to the Commission's Non-Paper of early June:

- Commission has thought carefully over complex matters
- Strongly support the principle of central coordination for NER disbursement
- Some disagreements of emphasis
- Some important omissions, concerns about how the detail will be filled in

Zep's objectives

For the whole programme:

- Realise best value for the NER
- Fair, transparent and timely allocation process, best public value
- Meet needs of government – due process
- Meet industry's needs – complex timing and staging

CCS:

- Must have enough public support to realise full Programme
- Specify a CCS portfolio with optimum demonstration value
- Deliver the programme on time, substantially by 2015
- Large universe of candidate projects
- Design a process for selection
- Sharing of costs and risks

Timing and process

CCS Programme is urgent

- Two-stage process helps to hold 2015 target for most CCS projects
- Last CCS projects need to be operational by 2016 (or 2017 at latest)

	Invitation	Shortlist	Award	FID	Complete
Stage 1	2009	2010	2011	2011/12	2015
Stage 2	2011	2011	2012?	2013	2016/17

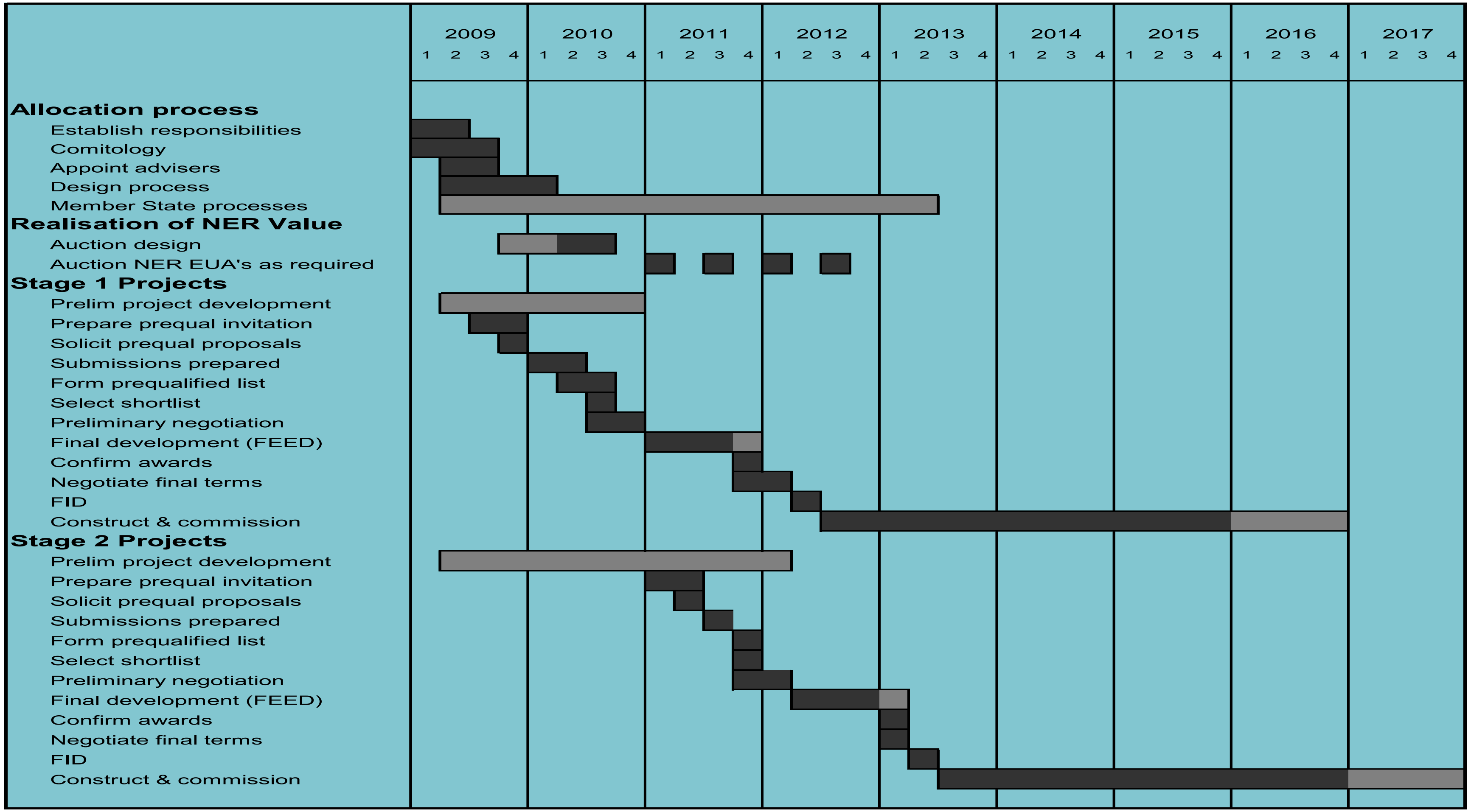
- 2014 is certainly too late for Stage 2 Final Investment Decision

Chosen projects may be appointed pre-FEED or taken through FEED to further competition

Heavy task for the Commission

- Complex process requiring intricate management
- Precedents in Alberta, US and UK – lessons from their experience?
- Advisers will be needed, recommend early appointment
- Take time to prepare and get it right!

Tentative schedule



Maximising NER value

Agree with the Commission:

- Must estimate value of the NER300 for preliminary awards in Stage 1
- Must know the value by the time of final definitive award (FID)
- Several options for award and valuation process

Future price is set by the market:

- Current market prices will (unfortunately?) set the value of the NER 300
- Complex and uncertain market, politically driven
- The market does not currently value mid-Phase 3 future upside
- Any underwriting at a higher value will be a value contribution

Projects and/or Member States carry some EUA price risk:

- Exposure from award date until FID
- To be developed and tested
- Danger that Project Developers will price unwanted risks expensively
- Flexible arrangements needed to encourage Member State underwriting

Member States - funding and relationship

Member States have a crucial role:

- Value contributions in cash, underwriting future EUA value, etc?
- Channel for NER funding
- Member State funding not considered as “public” for the purpose of NER funding competition

Primary formal relationship between Commission and Project Developer;

- In practice Member States will participate in triangular negotiations
- More thought needed to make this process efficient
- Must avoid “double competitions”

Geographical spread is vital:

- NER funding limits? e.g. special allocation to States with lower per capita GDP

Project funding

Developers invited to bid for NER funding:

- Applied alongside EEPR (if any), Member State and Developer funding
- EEPR funding bundled with NER for assessment

Form of awards needs to be more flexible

- Evaluate in cash terms
- Value provided either in cash or EUA's – facilitates Member State underwriting
- But definitive value/allocation of EUA's must be assessed at FID

Developers to fund base plant and take delivery risk:

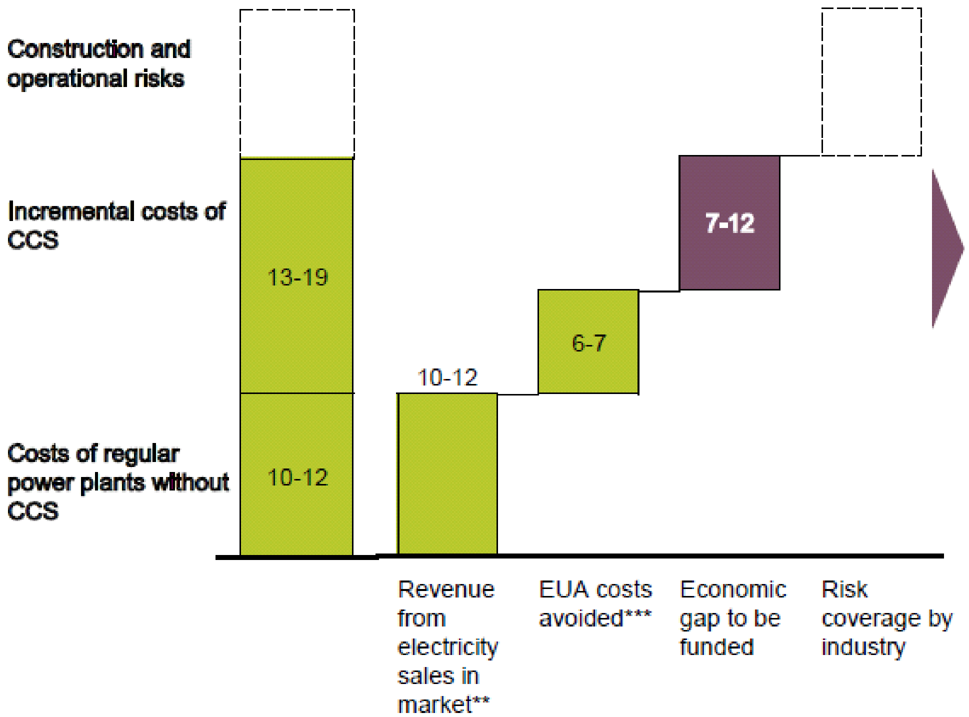
- Developers' share of CCS funding element determined by competition

Projects must receive funding during construction:

- Developers bear delivery risk through clawback for poor performance
- Provides value to public, credit risk is controllable
- Performance metric clean MWh or tonnes of CO2 stored/avoided – jury still out.

CCS Portfolio Value Components

Present Value over lifetime*, € billion



- Economic gap is directly related to CO_2 price; higher CO_2 price gives lower gap and vice versa
- Range is caused by
  – The number of projects****
  – The cost range per project, largely driven by differences in fuel types and technologies (no detail given, as exact portfolio composition not yet known)

* Assuming 300 MW power plant, lifetime 25 years, 8% WACC, 80% of portfolio offshore
** Assuming electricity revenues equal the costs of regular power plant (incl. capital costs at 8% WACC)
*** ETS Emission Unit Allowances (EUAs), assumed to be at €35/tonne CO_2
**** A portfolio of 11 projects would have a economic gap of €8 – €11 billion

Source: McKinsey & Company "CCS – Assessing the Economics" for the cost numbers; policy implications drawn by ZEP

CCS Project selection

Threshold criteria:

- Principles stand, but some project criteria should be more flexible
- Vital to make a place for gas and bio co-firing projects
- Technology blocks likely to need at least 10, possibly 12 projects

Competitive portfolio proposal is constructive:

- Allows open and transparent competition
- Courageous judgement will be needed
- Enough emphasis on geographic criteria? (Second call only?)

Funds will be tight:

- Negotiate with project promoters to reduce costs/increase contributions
- Flexibility on size – both CCS and RES should size to need, not to numbers

Conclusions

The Non-Paper is a good start:

- Thanks and congratulations to Commission staff!
- Still work to do – complex process not to be underestimated
- Harness the experience of other processes and of advisers

ZEP priority comments on the Non-Paper:

- An integrated NER award process is vital
- Must meet 2015 schedule for the bulk of CCS projects (at least)
- Flexible NER award for best value: encourage Member State underwriting
- Maximise NER value by award during construction with conditional clawback
- Attention to geographical spread
- Projects at full demonstration size – but no more

ZEP and its members continue to support the process

- A transparent competitive process
- Risk and cost sharing by industry