

Policy approaches globally

**Conference on Regulating and Financing Carbon Capture and Storage
Session 2 – Legal enabling for rapid start of diverse full-scale
demonstration projects**

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Presentation outline

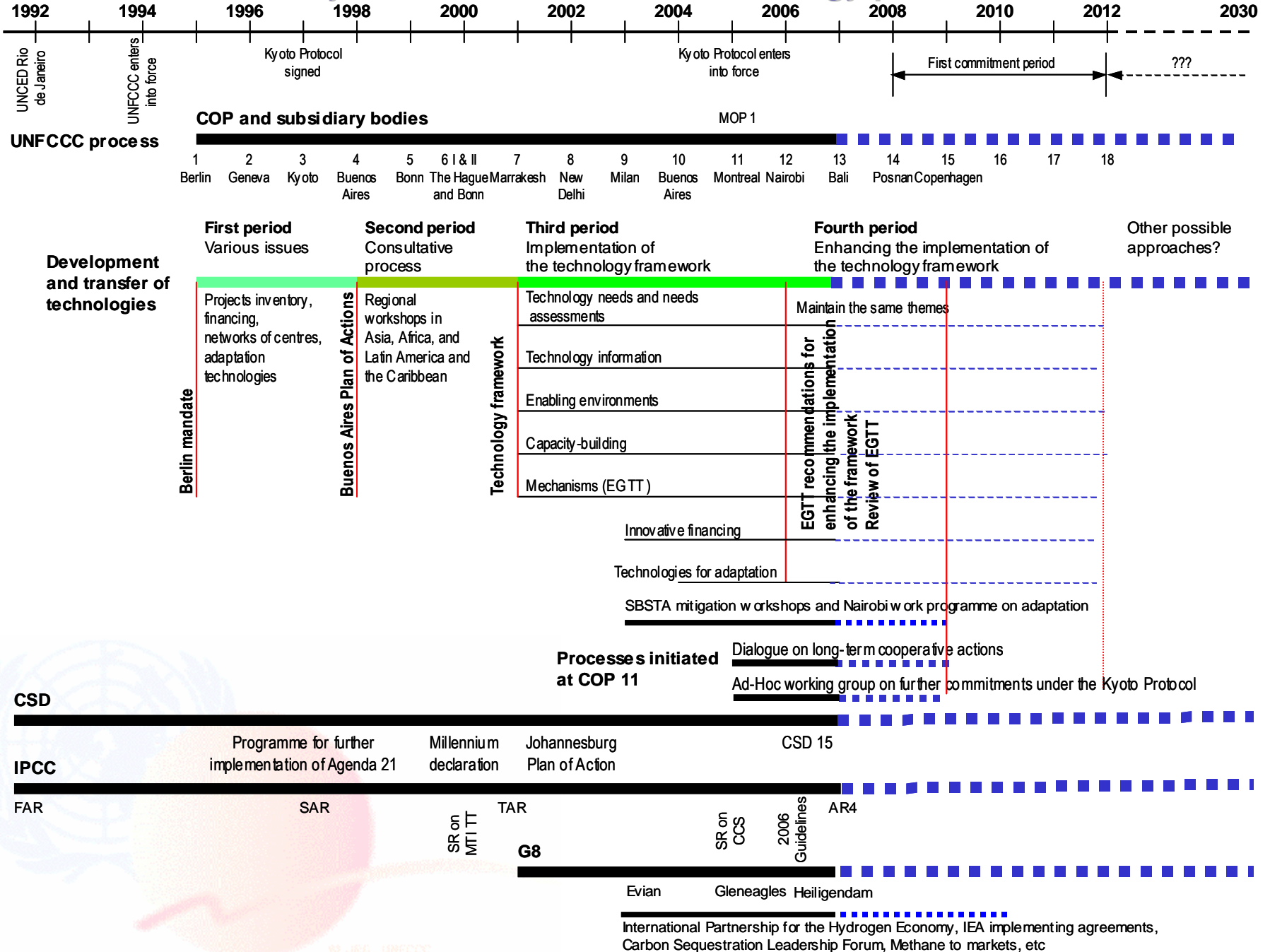
- ❑ **Technology discussions under UNFCCC**
 - Major milestones
 - Where are we under current negotiations?
 - Where are we with the discussions on the future regime?

- ❑ **Integrated vision: technology, policy and investment**

- ❑ **CCS – what have we done?**

- ❑ **Technology under the UNFCCC**
 - What could be the goals of a future international technology cooperation framework?
 - What could be key approaches to consider?
 - What is the challenge?

Major milestones for the technology process



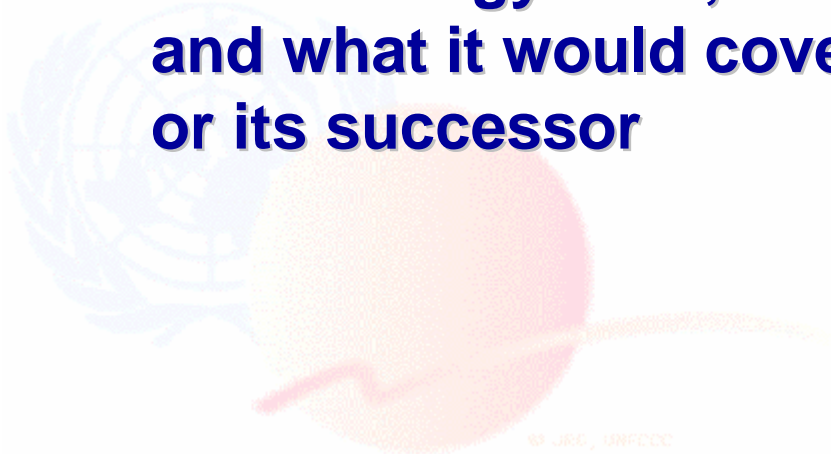
Technology under the UNFCCC | Where are we under current negotiations?

- ❑ **EGTT made recommendations for enhancing the technology framework that were endorsed by SBSTA 24 (set of actions)**
 - **New sub-themes on innovative financing, joint R&D and endogenous technologies**
 - **Medium and long term strategies, sectoral and regional details**

- ❑ **EGTT was up for review at COP 12. Parties did not agree on how to continue and the EGTT mandate was extended for one year**

Technology under the UNFCCC | What needs to be agreed in Bali?

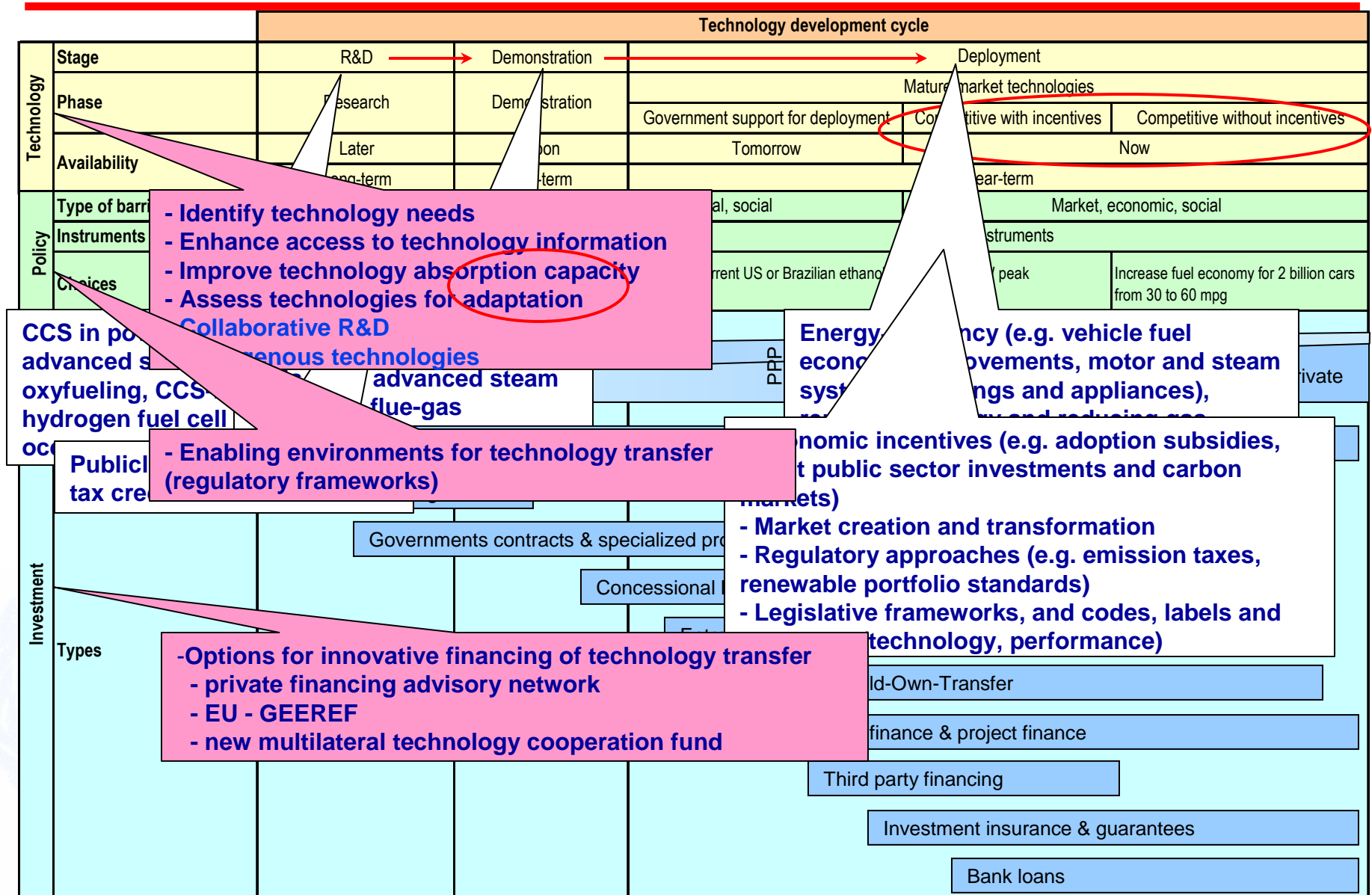
- ❑ The new terms of reference of the Expert group on Technology Transfer or its successor
- ❑ How to monitor progress and effective implementation of the set of actions for enhancing the implementation of technology transfer framework
- ❑ How to address G77's proposal on an establishment of a technology fund; where resources could come from and what it would cover including the role of the EGTT or its successor



Technology under the UNFCCC | Where are we with the discussions on the future regime?

- ❑ The Dialogue on long-term cooperative actions to address climate change by enhancing implementation of the Convention will complete its mandate in Bali with the report of the co-facilitators
- ❑ The report recognizes the strong agreement that the following building blocks would need to construct an effective response to climate change: **mitigation; adaptation; technology** development, deployment, diffusion and transfer for both mitigation and adaptation; and **availability of financial resources** and setting the conditions to enable investment
- ❑ None of these essential building blocks can function effectively in isolation, when they are truly integrated the whole become more than the sum of its parts

Integrated vision | Technology, policy and investment



CCS | What have we done?

- ❑ **Requested the IPCC to prepare a paper/report on CCS**
 - ➔ **The Special Report on Carbon Dioxide Capture and Storage was prepared and presented to SBSTA 25**
 - ➔ **An in-session workshop on CCS was held at SBSTA 26 (FCCC/SBSTA/2006/7). Participants **exchanged views and experiences** on a range of activities relating to CCS**
 - ➔ Experiences from demonstration and pilot projects
 - ➔ Relevant provisions of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
 - ➔ Capacity building for development of this technology and other related issues. Participants identified potential areas where further work was needed to advance carbon dioxide capture and storage



CCS | What have we done?

□ Issues that emerged for further consideration:

- Initiate additional pilot and **large-scale demonstration projects**, including for the power sector with storage sites in different geological settings. Develop **best practices manuals** as a practical and technical guide for design and implementation of CO₂ storage associated with EOR
- **Research and development** to bring down the costs, in particular the costs associated with CO₂ capture, and increase capture and overall efficiency
- **Build trust in storage** by addressing the issue of permanency, by sharing experiences, methods and tools developed by the oil and gas industry for EOR and by establishing standards and guidelines for site selection and site management (industry and governments)

CCS | What have we done?

□ Issues that emerged for further consideration:

- **Develop regulatory frameworks** that address site selection, risk assessment and long-term monitoring. Develop regulations for CO₂ storage building upon existing effective regulatory frameworks that may promote consistent and environmentally sound approaches to CCS across the world
- Promote **effective public policy** to seed the development of a large and economic CO₂ supply and infrastructure as well as mechanisms for monetizing credits for CO₂ storage
- Identify and promote **incentives** to make this option attractive (e.g., policy frameworks, market eligibility for mechanisms such as CDM and EU ETS) and remove barriers to technology transfer and diffusion

CCS | What have we done?

- ❑ **Requested Parties to report CCS activities in national communications and requested the IPCC to include CCS in the revised guidelines for national GHG inventories**

- ❑ **2006 IPCC Guidelines for National Greenhouse Gas Inventories gave a complete methodology for CCS that was consistent with the remainder of the 2006 guidelines. The 2006 GL provided guidance for the capture and transport of CO₂ and for geological storage**

- ❑ **SBSTA considered the guidelines and**
 - **Recommended their use on voluntary basis**
 - **Requested Parties to submit views**
 - **Will consider experiences in 2009**

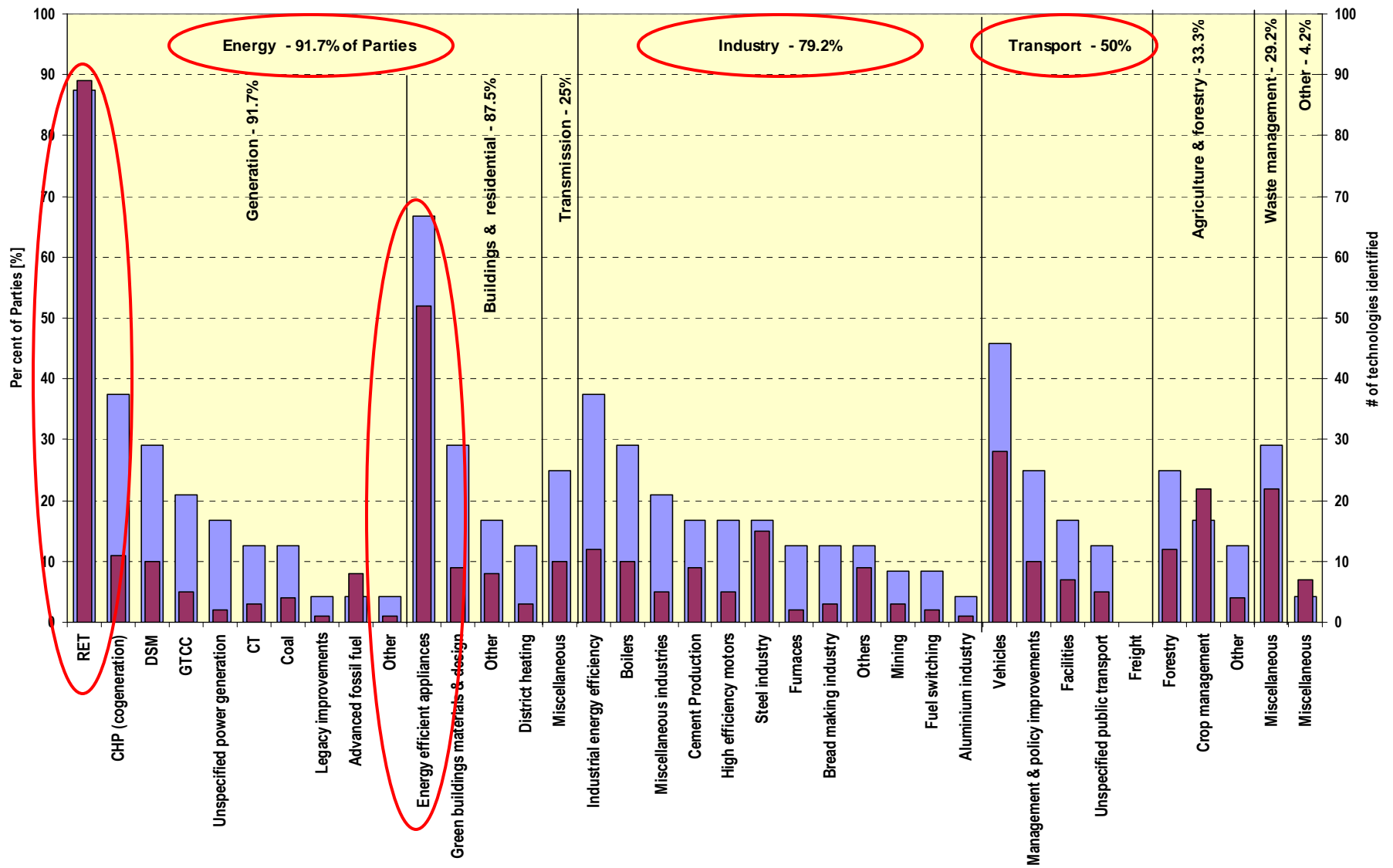
CCS | What have we done?

❑ Identified technology needs of developing countries

- Technology needs assessments (TNAs) are central to the work on technology transfer. They follow a country-driven approach, bringing together stakeholders to identify needs and develop plans to meet those needs
- Synthesis of technology needs assessments highlights priority technology needs based on information contained in 23 TNAs and 25 initial national communications submitted by non-Annex I Parties (FCCC/SBSTA/2006/INF.1)



TNAs | What are commonly identified mitigation technologies in TNAs?



CCS | What have we done?

- ❑ **Consider CCS under CDM – already presented**

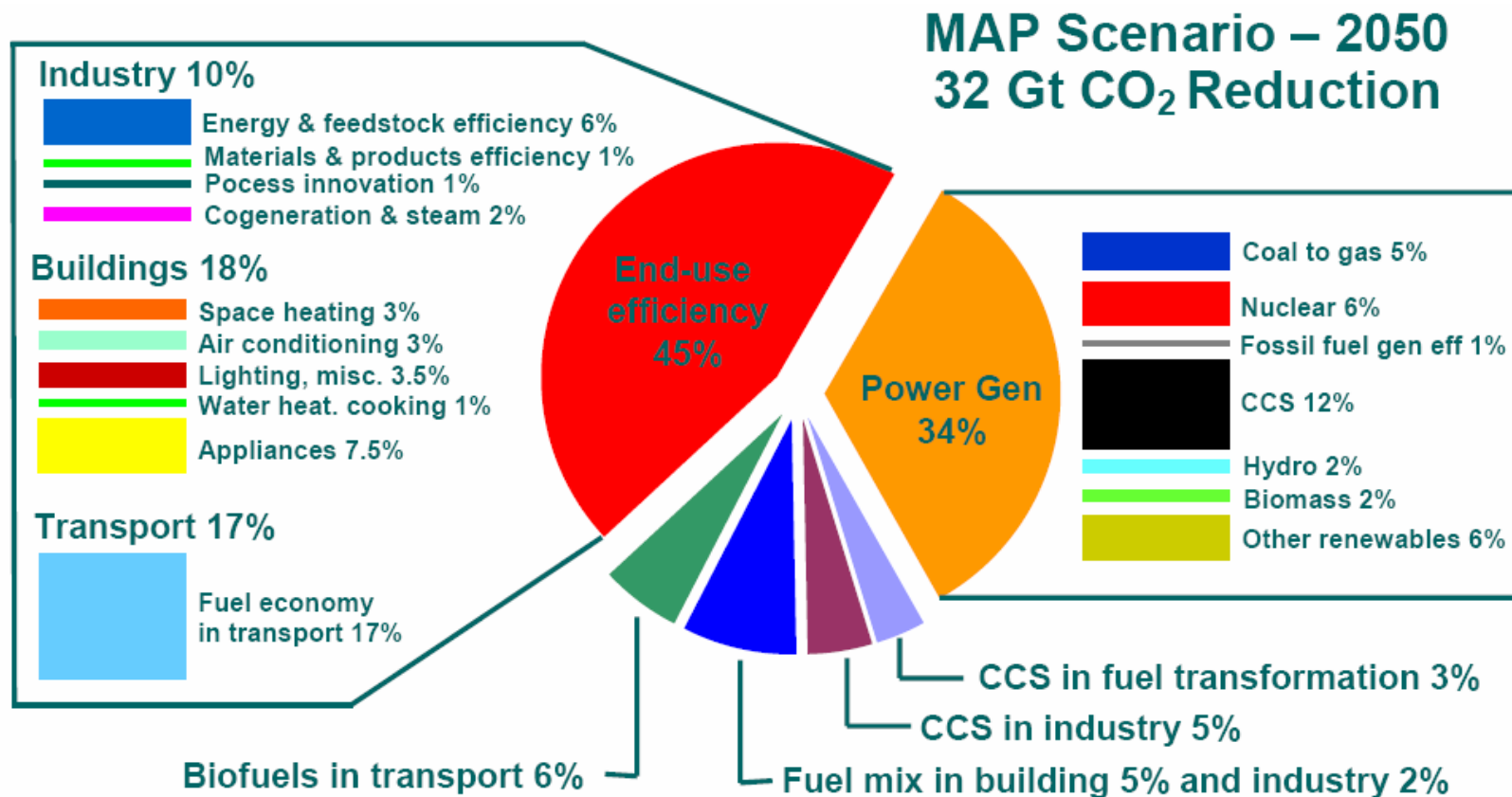
- ❑ **Considered CCS**
 - **At the round table discussion on technology on international technology cooperation and partnerships in the development, deployment, diffusion and transfer of environmentally sound technologies and know-how held in Nairobi (FCCC/SBSTA/2007/2)**

 - **When assessing mitigation potentials within the work of Ad-Hoc working group on further commitments under the Kyoto Protocol**

 - **When assessing investments and financial flows (WEO BAPS scenario)**

CCS | What others are doing?

□ Emission reduction by technology area - IEA ETP 2006 ACT Map Scenario



CCS | What others are doing?

❑ Energy Technology Perspectives 2008 - How to get there:

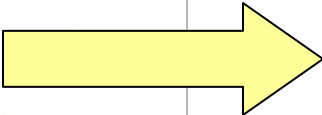
- Research, development and demonstration policies
- Technology learning and deployment
- Technology transitions
- Investment needs and policy cost
- Energy and CO₂ emission indicators (efficiency)
- Consequences for consumers

❑ ACT and Blue scenarios

- Regional analysis (G8+5) for ACT
- Look at more radical options

CCS | What others are doing?

- ❑ **Workshops on near term opportunities for CCS to support the G8 goal of accelerating development of those opportunities that are technically and economically viable or ready for demonstrations**
- ❑ **High priority issues identified**

<p>Technical issues:</p> <ul style="list-style-type: none"> • Address long-term liabilities. • Facilitate commercialisation through the provision of incentives, insurability and reasonable permitting processes. • Accelerate capture technology RD&D 	<p>Public awareness issues:</p> <ul style="list-style-type: none"> • Prioritise key messages on CCS and prepare communication strategy. • Ensure effective education and outreach activities with early CCS demonstration projects.
<p>Commercial and financial issues:</p> <ul style="list-style-type: none"> • Create value for CO₂ and a global market. • Governments need to create a framework for business value. 	<p>International mechanisms issues:</p> <ul style="list-style-type: none"> • Need an economic incentive for CO₂ capture and storage. • Ensure an effective international framework to support CCS development.
<p>Legal and regulatory issues:</p> <ul style="list-style-type: none"> • Establish regulatory framework. • Develop monitoring and remediation procedures. 	<p style="text-align: center;"></p> <p>IEA invited to the next EGTT meeting</p>

Technology under the UNFCCC | What could be the goals of a future international technology cooperation framework?

- ❑ **Accelerate progress in all the stages of the technology process from technology innovation to application, and to promote access to available technologies through international cooperation and partnerships**
 - **Greatly enhance investments in research, development and demonstration of new and innovative technological solutions**
 - **Promote more focused action-oriented regional and international technology cooperation programmes and initiatives to accelerate the deployment, diffusion and transfer of technologies and know-how such CCS, renewables, and biofuel**
 - **Increase the speed of diffusion, deployment and transfer of technologies by addressing issues relating to regulations; price of carbon; efficiency standards (e.g., for vehicles and appliances), sharing knowledge, co-ordination of deployment support, and removal of barriers to technology transfer**

Technology under the UNFCCC | What could be some the goals of a future international technology cooperation framework?

- ❑ **Agree on a long term technological goals at national and sectoral levels (e.g., X millions fuel-cell vehicles on the roads by 2025, 3,500 CCS projects or 70 per cent of new coal plants equipped with CCS, add 2 millions peak windmills, increase fuel economy for 2 billion cars from 30 to 60 mpg, reduce generation costs of solar thermal to 40 mills per kWh)**
- ❑ **Integrate the technology cooperation in mitigation and adaptation efforts**
- ❑ **Consider the interests and capabilities of all Parties**

Technology under the UNFCCC | What could be key approaches to consider?

- ❑ Collaborative R&D (investments in well-structured R&D and joint R&D activities, coordination of R&D programmes and approaches for pooling of risks and rewards)
- ❑ Working in partnerships (CSLF, AP6)
- ❑ Sectoral and technology agreements (could lower global emissions trajectories by significantly influencing the emissions-intensity of investments in some key sectors of the global economy)
- ❑ Strengthening the private sector participation in technology cooperation activities (public-private partnerships could be an effective way to create a financial multiplier for development and transfer of technologies)
- ❑ Establishing short-term priority for technology work under the Convention
- ❑ Establishing a mechanism and/or other means to realize the full potential of technologies that promote their development, deployment, diffusion and transfer, rewards those taking action and reduces the cost of the transition to a low-carbon economy

Technology under the UNFCCC | What is the challenge?

- ❑ Governments have an important role in enabling favourable environments for development, deployment and transfer of climate friendly technologies, including CCS
- ❑ The challenge is to identify what **international policies** could be agreed upon under the Convention to stimulate national action on enabling environments that would accelerate the development and deployment of CCS technological systems



THANK YOU!

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