CCS: Real solutions or fossil fuel industry's last fig leaf?

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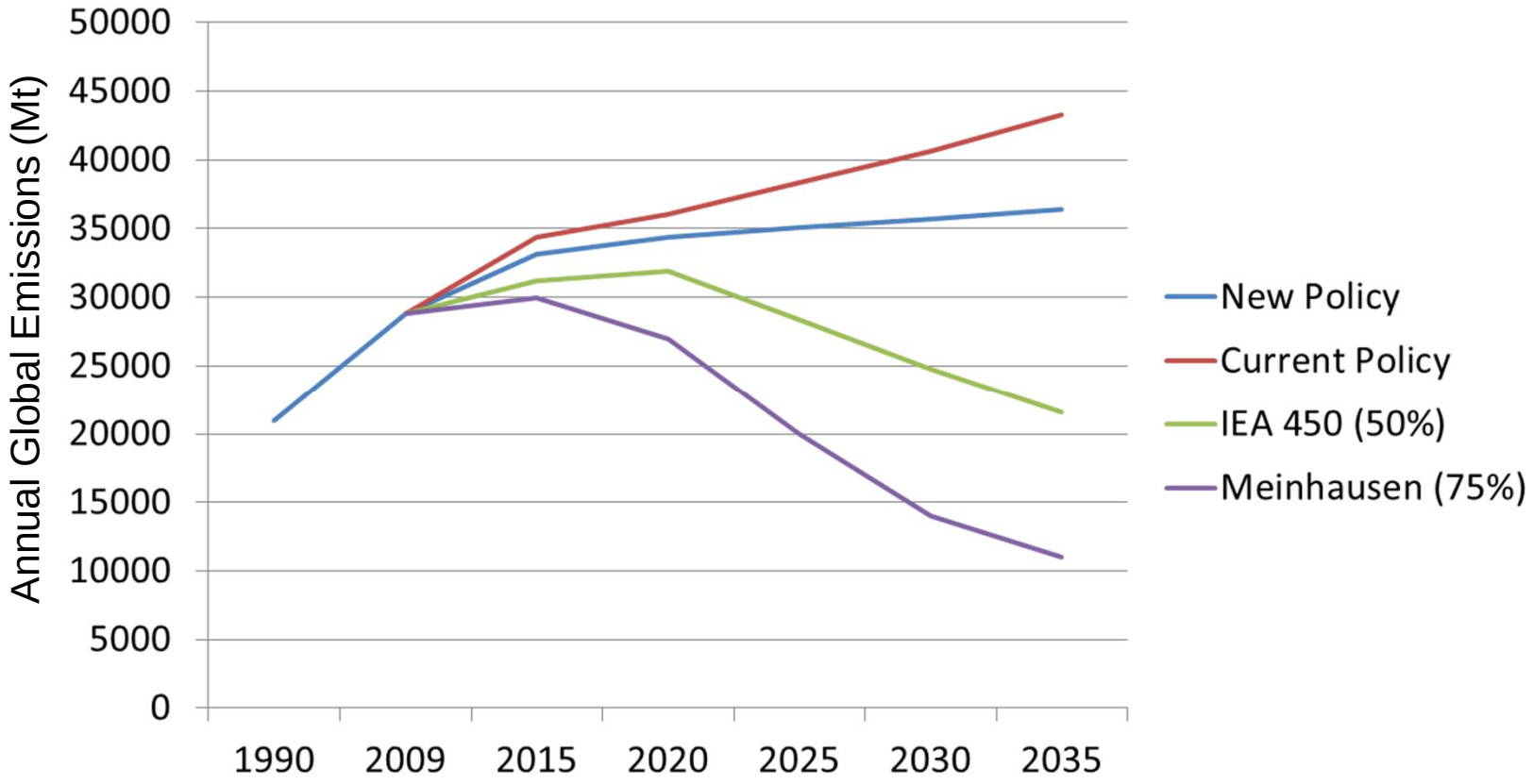
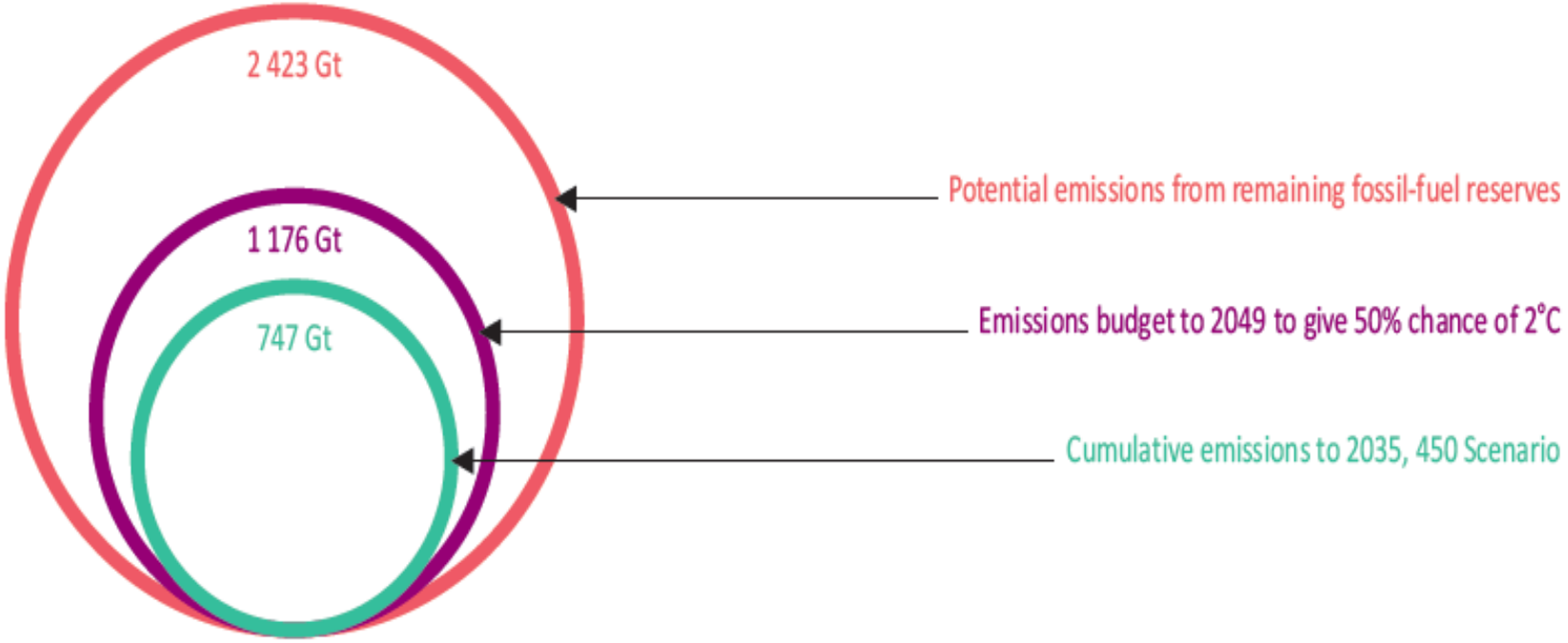
Global CO2 trajectories 2010-2035



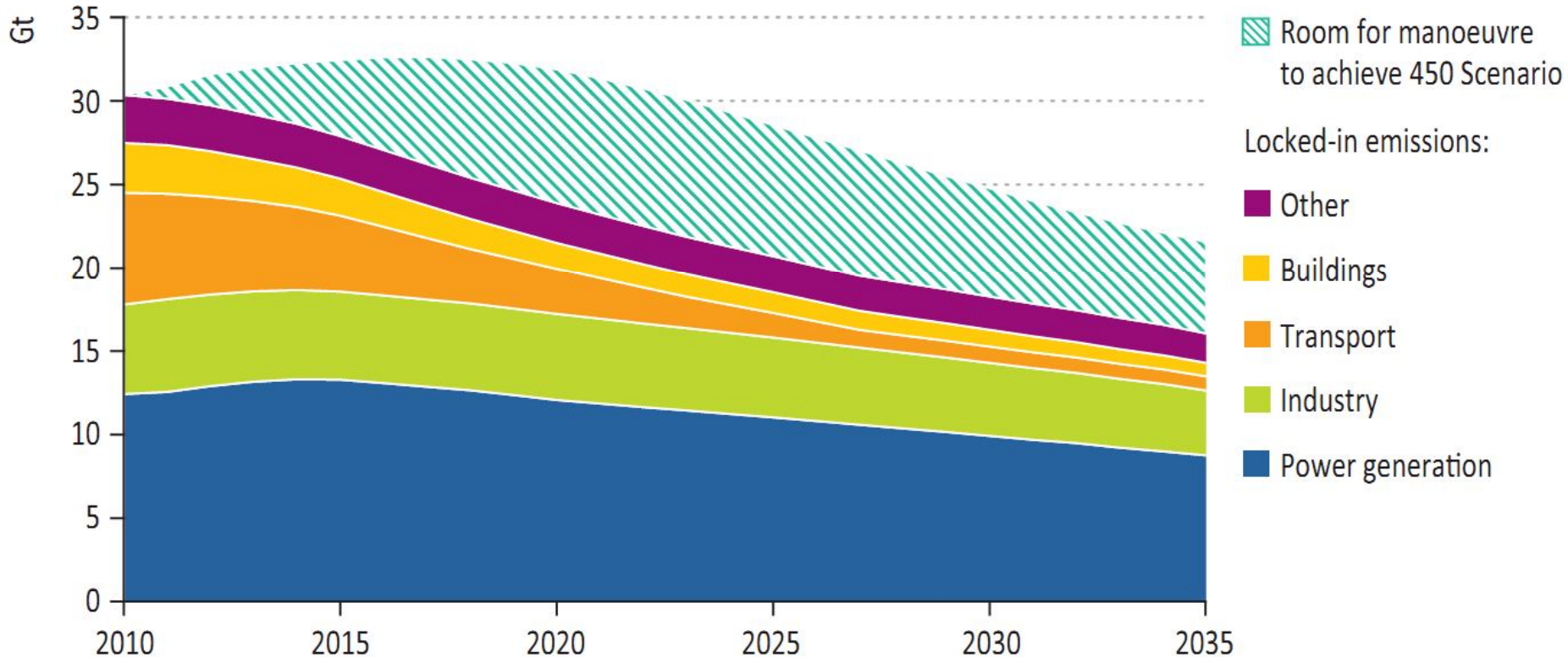
Remaining carbon budget for fossil fuel

Figure 6.17 • Potential CO_2 emissions from remaining fossil-fuel reserves and in the 450 Scenario, compared with the emissions budget to achieve 2°C



Emissions: limited room for manoeuvring

Figure 6.12 • World energy-related CO_2 emissions from locked-in infrastructure in 2010 and room for manoeuvre to achieve the 450 Scenario



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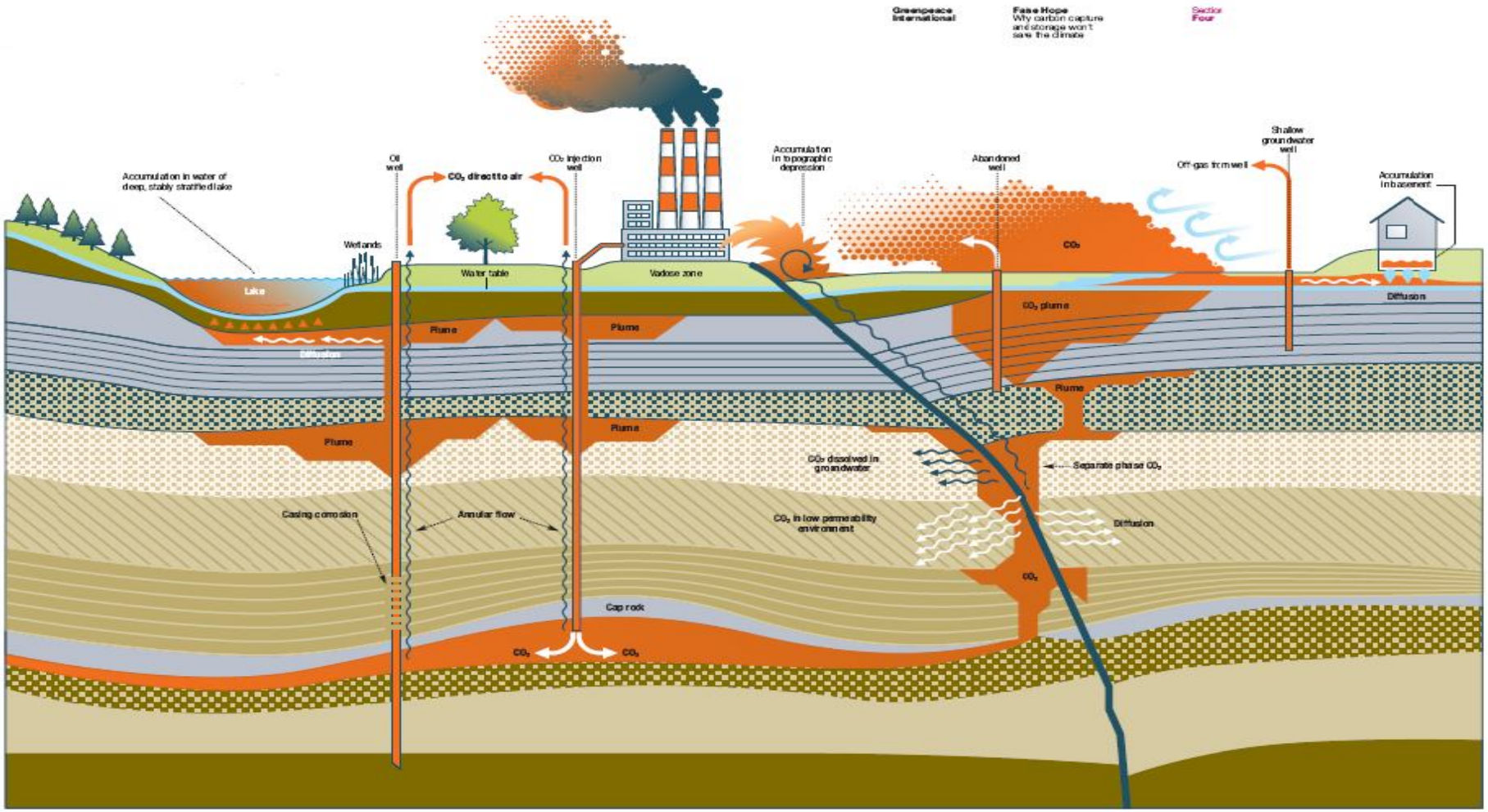
Solutions from fossil fuel industry: CCS



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The promise of CCS

- CCS is an essential technology for reducing fossil fuel's CO_2 emissions
- By deploying CCS through CDM, developing countries will enjoy the benefit of this mitigation technology, and promote sustainable development

- Now, let's do a reality check on this claim

CCS: questionable climate credential

Too late to save the climate: technology readiness 2020 - 2030

Energy: 10-40% energy penalty for capture process, wipe out efficiency gain in last 50 years.

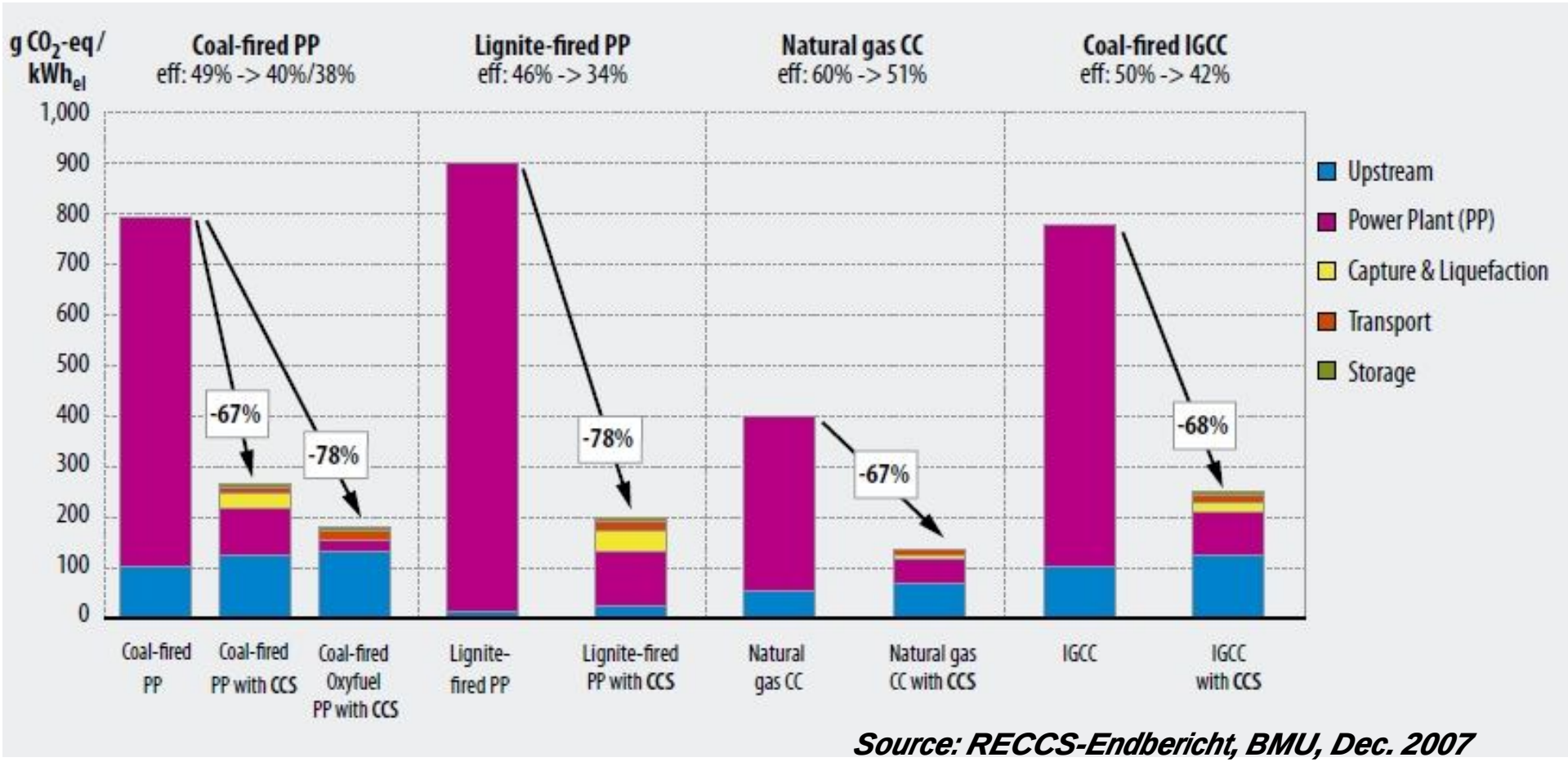
Resource consumption: 30% more coal, water

Storage capacity: uncertain, often overestimated

Liability and risks: industry not willing to bear

Net effect: justisfy new coal plants

CCS-power plants:
still high GHG-Emissions



Source: RECCS-Endbericht, BMU, Dec. 2007

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CCS: failing in Annex I countries

- IEA CCS Roadmap: 100 plants by 2020, 3000 by 2050
- Total no. of demo CCS project today: 8
- Total no. of demo coal plants with CCS: 0
- 12 major project cancellations and legal set back in last 12 months
- International Energy Agency expects only 1 % all fossil fuel facilities is expected to have CCS by 2035.
- CCS is failing to deliver and rapidly losing support

Long-term liability: some reasonable doubts

What happens when we inject gigatonnes of CO2 underground?

Do we know what CO2 leakage from CCS project looks like?

Who bears the burden of proof?

Operators are selective about info disclosure

Timeframe: eternity, with MMV

→ If project developers (who knows the risks) won't start until govt picks up the liability, then the risk is not small.

CCS: driving up electricity price

Additional costs with 'Clean Coal':

Global CCS Institute:	Viebahn, et al:	IPCC:	MIT:	Harvard University, Belfer Center
Up to	About	Up to	Up to	Up to
+78%	+50%	+91%	+60%	+$50/MWh

Additional costs with CCS-based coal-fired power generation, compared to non-CCS.

Source: Ekopolitan

- **Energy security: dependent on import.**
- **future coal price uncertainties.**

CCS in Durban

Inclusion of CCS in Clean Development Mechanism is being debated in SBSTA

If parties decide to include CCS, it would:

- Give CCS the legitimacy as a climate solution which it hasn't earned in Annex I countries
- Eat away scarce financial support for real, proven solutions like RE and energy efficiency

Climate financing shouldn't be used for transferring for risky and unproven technology to developing countries.

CCS: Conclusion