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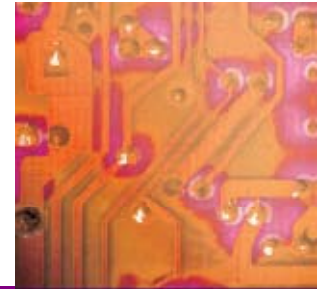
# Today's Energy Challenges: The Role of CHP

*Cogen Europe Annual Meeting  
Brussels, Belgium  
22 May 2008*

Nobuo Tanaka, Executive Director  
International Energy Agency

# Overview

- Today's Energy Challenges
- The Role of CHP
- The IEA's CHP Analysis and Outreach
- Looking to the Future



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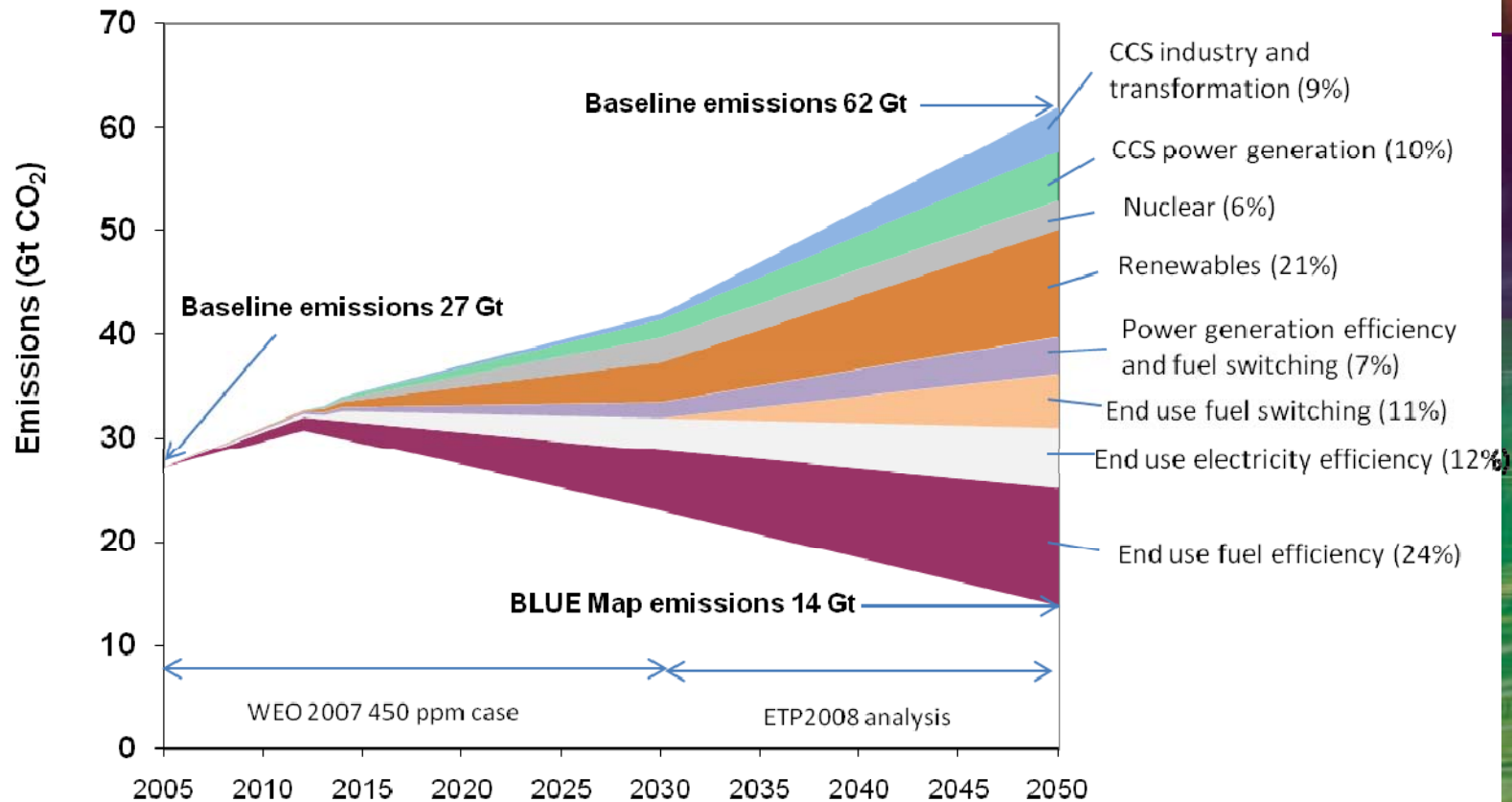
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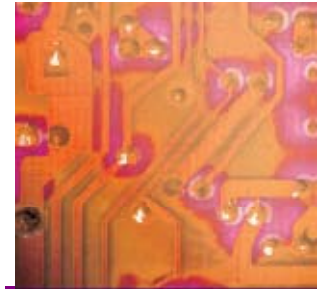


# A New Energy Revolution...

## Cutting Energy-Related CO<sub>2</sub> emissions



*Improved efficiency and decarbonising the power sector could bring emissions back to current levels by 2050. To achieve a 50% cut we have to revolutionise the transport sector.*



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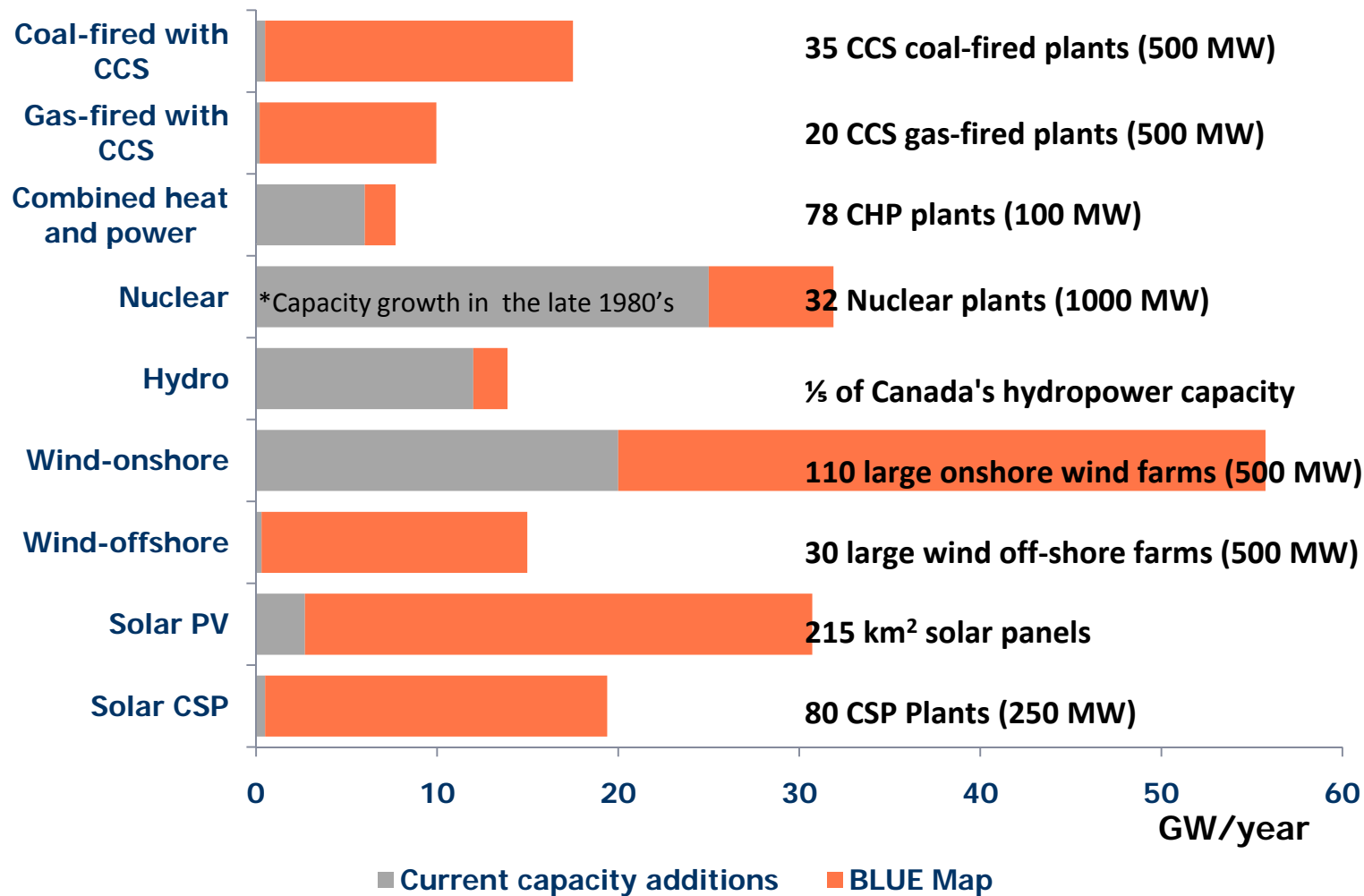
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# Average Annual Power Generation Capacity Additions in the "50% Cut Scenario" 2010 – 2050



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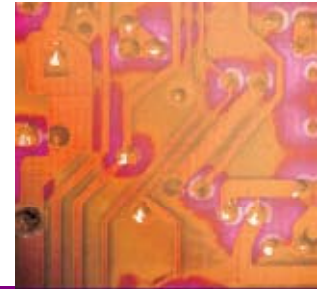
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# Policy Messages

- **Deep emissions cuts are technically achievable**
  - But we need an energy revolution
- **Cooperation with developing nations is essential**
- **The task is urgent**
  - Capital stock turnover is low
  - Technology deployment needs time
- **Start with existing opportunities**
  - Governments should identify and pursue all cost-effective CHP today



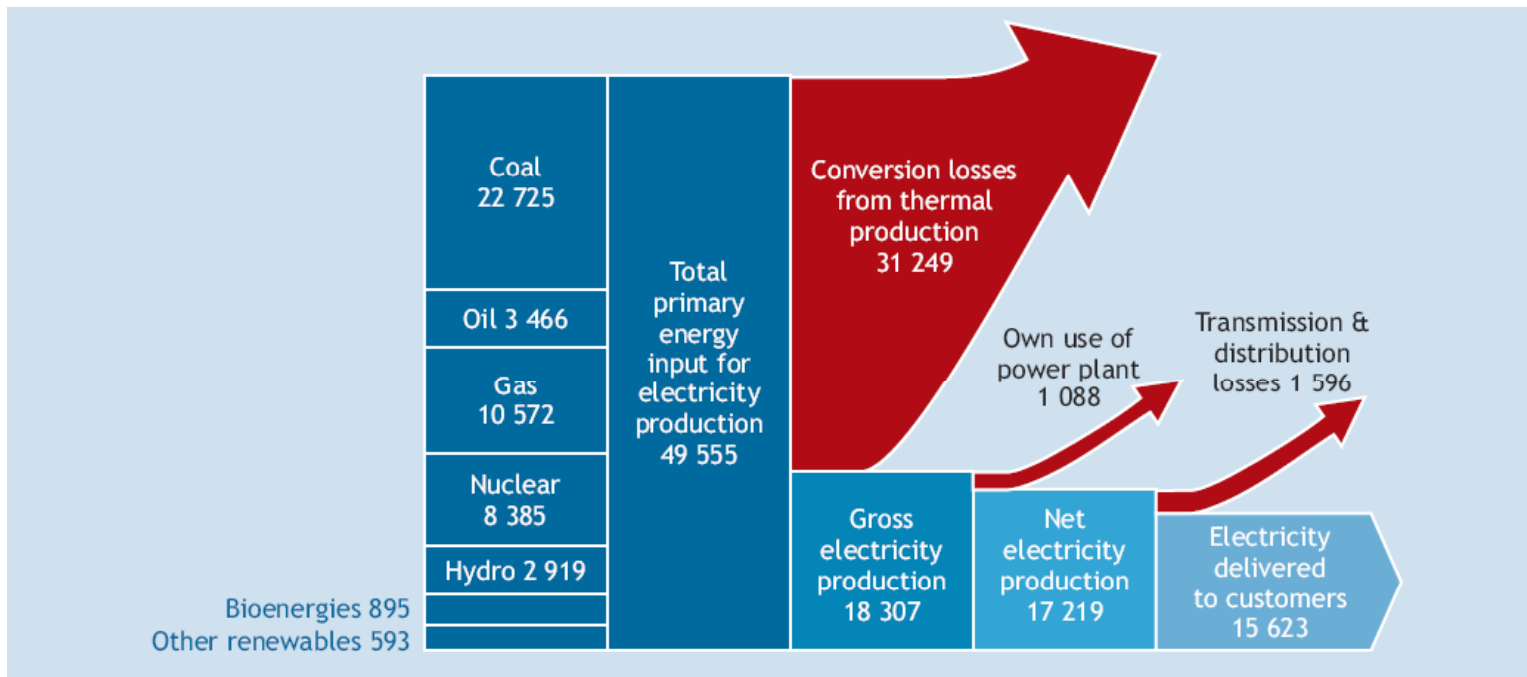
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# Wasted Energy Is a Huge Opportunity

## Energy Flows in the Global Electricity System



Source: IEA, *CHP: Evaluating the Benefits of Greater Global Investment* (2008).

*2/3 of the fuel we use to produce power is wasted --  
CHP can more than double this efficiency*

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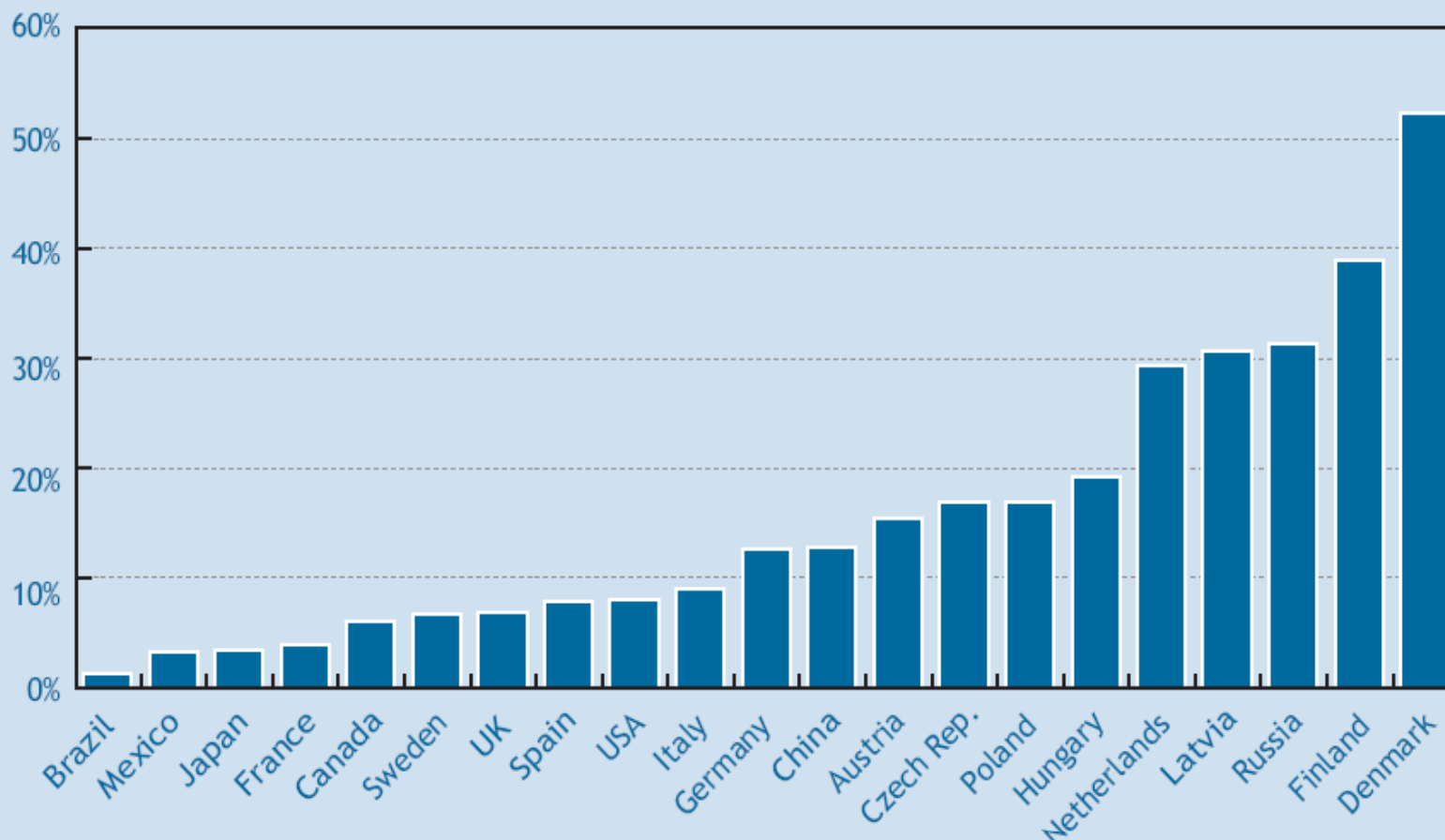
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# CHP as a Share of Total National Power Generation

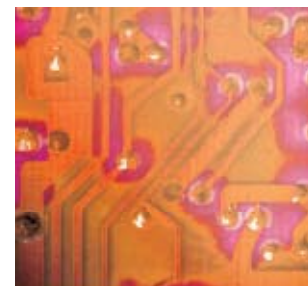


Source: IEA, *CHP: Evaluating the Benefits of Greater Global Investment* (2008).

**Average use of CHP is just 9%**

In support of the G8 Plan of Action

© OECD/IEA - 2008



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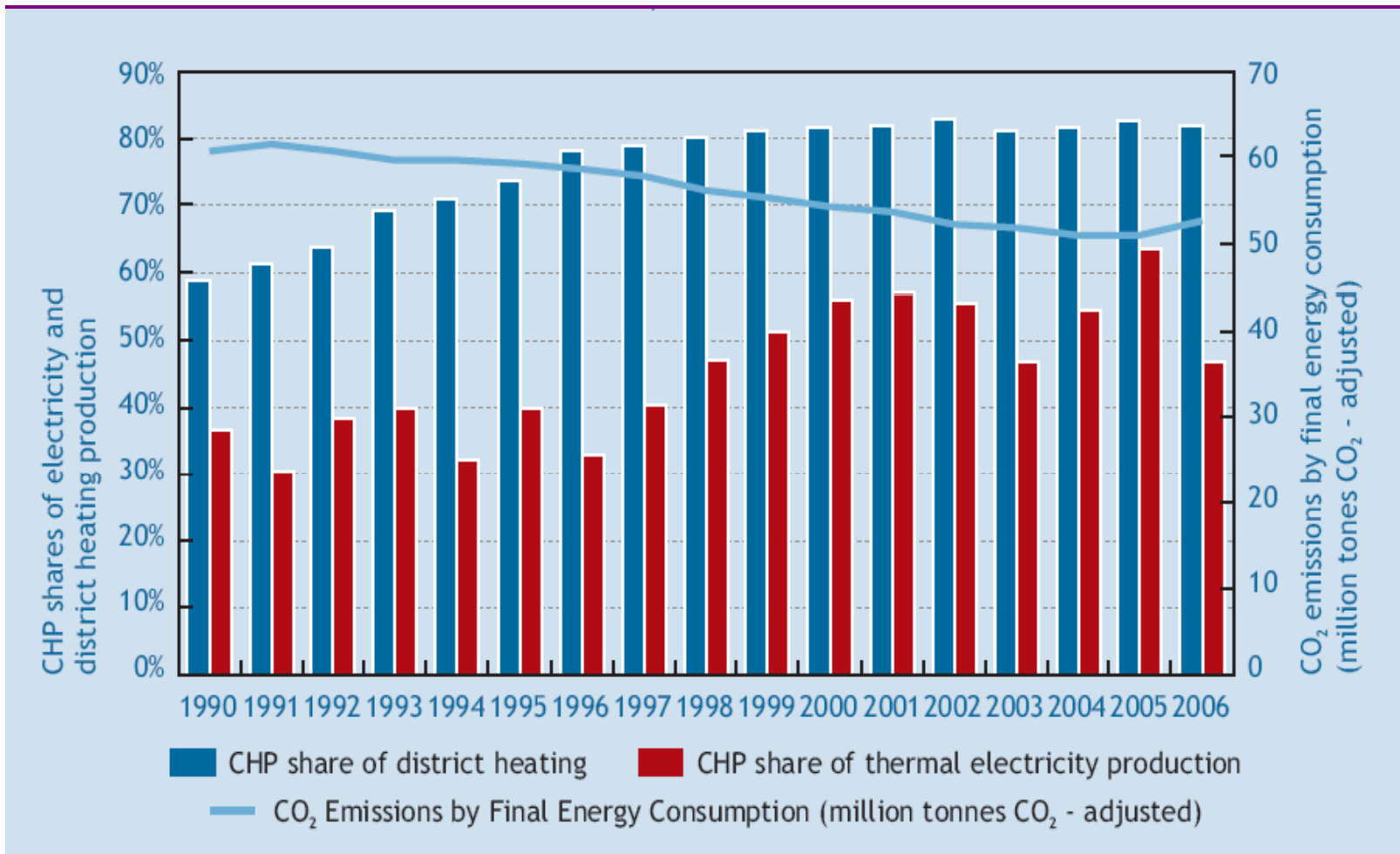
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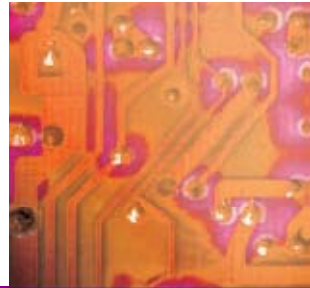
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# One Model: Denmark



Source: IEA, *CHP: Evaluating the Benefits of Greater Global Investment* (2008).



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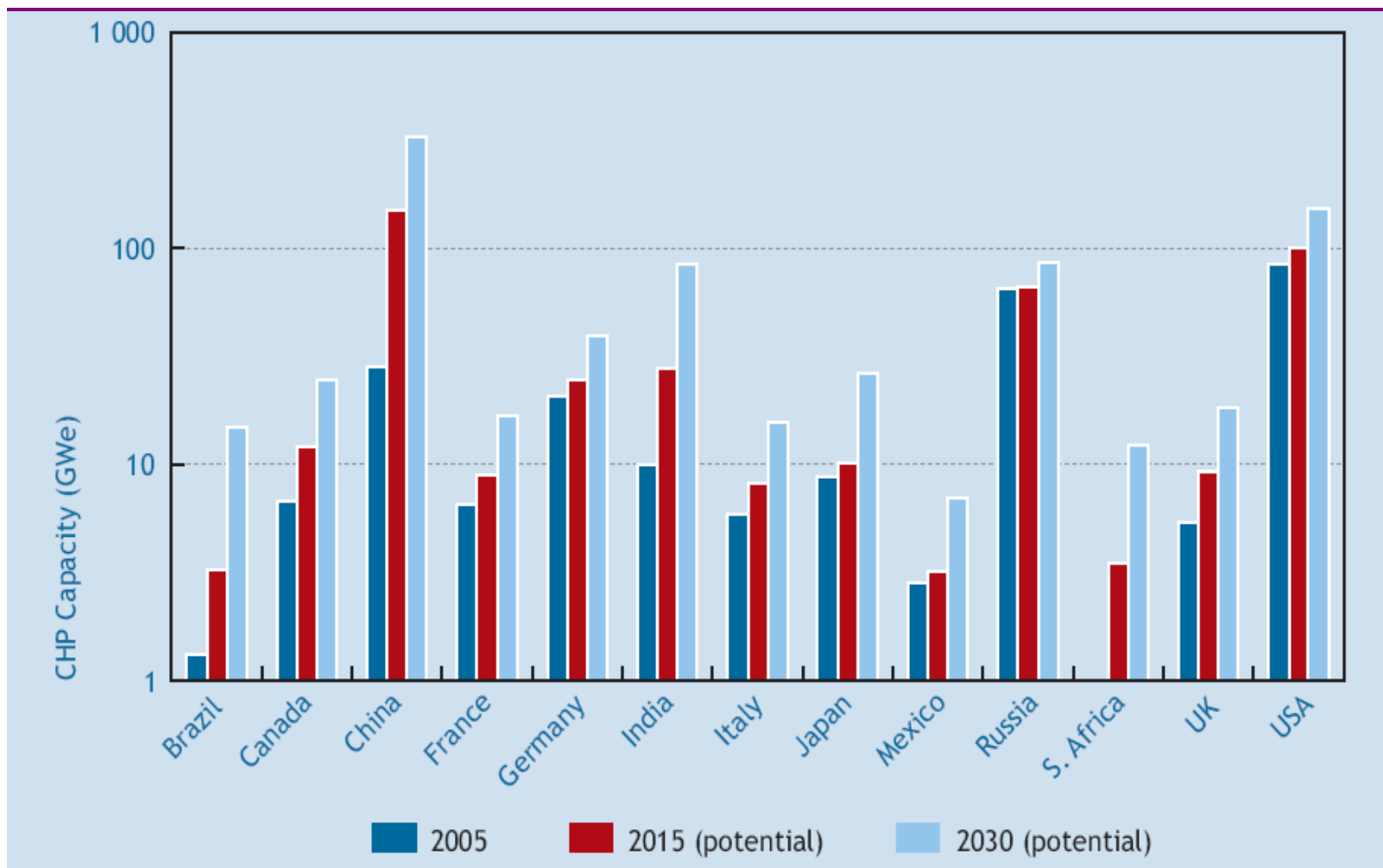
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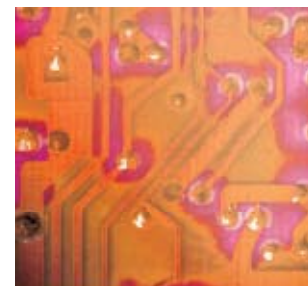




# CHP Potentials, 2015 and 2030



Source: IEA, *CHP: Evaluating the Benefits of Greater Global Investment* (2008).



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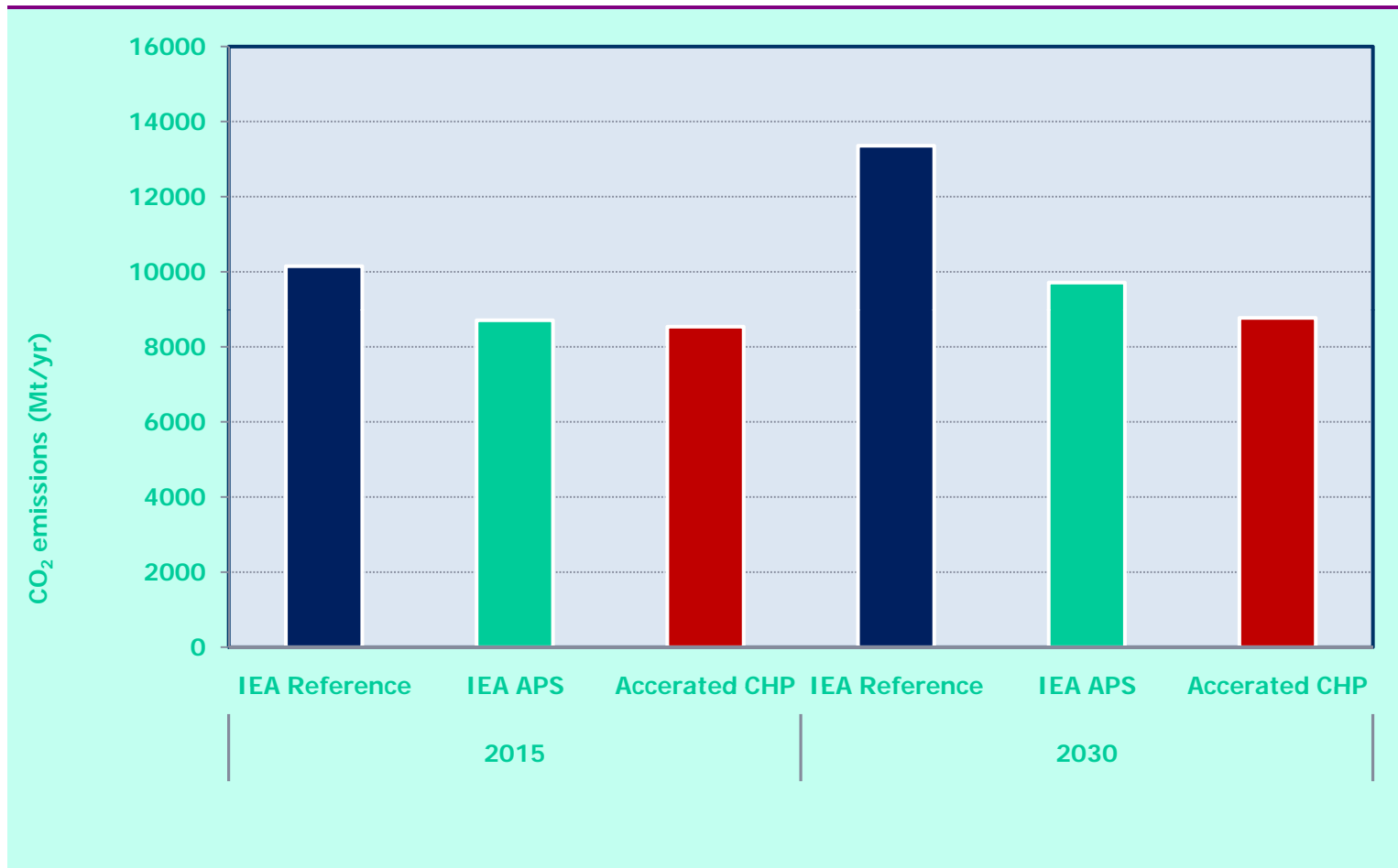
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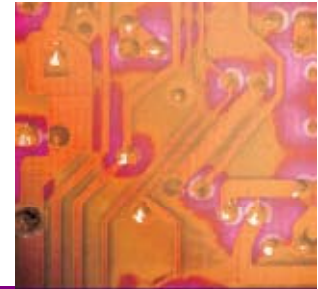
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# CO<sub>2</sub> Emissions Benefits



Source: IEA, *CHP: Evaluating the Benefits of Greater Global Investment* (2008).



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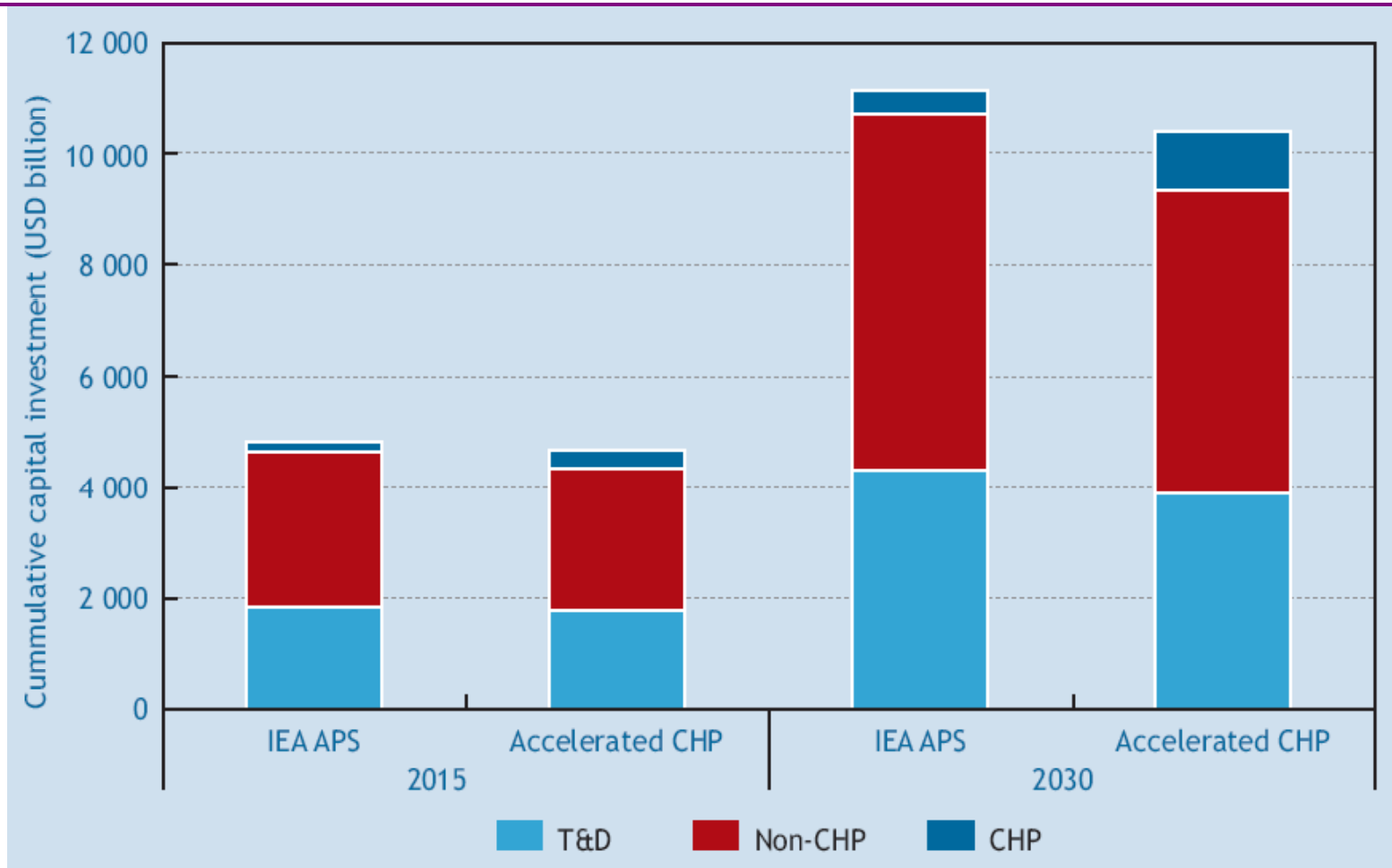
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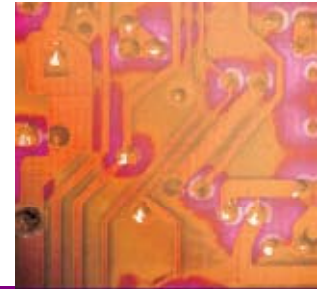


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# Capital Cost Savings



Source: IEA, *CHP: Evaluating the Benefits of Greater Global Investment* (2008).



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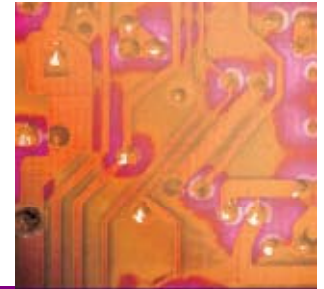
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# ...So Why Are We at 9% CHP?

- Difficulties connecting CHP to the electricity grid
- CHP benefits are not recognised in GHG regulation
- Lack of information about cost savings, other benefits
- Developing countries only now beginning to see potential



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# The IEA's International CHP/DHC Collaborative

- **Who:** The IEA, working with government, industry CHP leaders worldwide
- **What:** Raise the profile of CHP/DHC among policy makers, industry
- **When:** Launched March 2007 with a 2-year Work Plan
  - Collect and publish CHP data
  - Analyze CHP benefits
  - Document best-practice policies



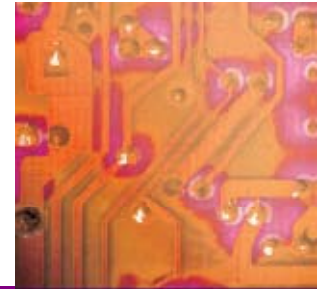
# Next Steps

- **July 2008: IEA Information Paper on CHP and Emissions Trading Schemes**
- **July, October, December 2008: CHP country scorecards for G8 +5 countries**
  - Evaluation of current policies, markets
  - Country-specific benefits analysis
  - Recommendations for possible improvements
  - First profiles to be announced in July at G8 side event in Japan
- **October 2008: Best practice policies, approaches**
  - CHP/DHC in cities - technologies, financing
  - Industrial CHP: focus on China, EU, US
  - Transitioning to biomass/renewable CHP/DHC



# Conclusions

- We are facing an urgent set of energy challenges
- Deep emissions cuts are technically achievable
- We need an energy revolution
- Leadership is needed by government, industry
- CHP is a key opportunity to get started



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# Join Us



[www.iea.org/G8/CHP/chp.asp](http://www.iea.org/G8/CHP/chp.asp)

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