



African Caribbean and Pacific Group of States
Science and Technology Programme

Sustainable non-food, bio-energy supply chains

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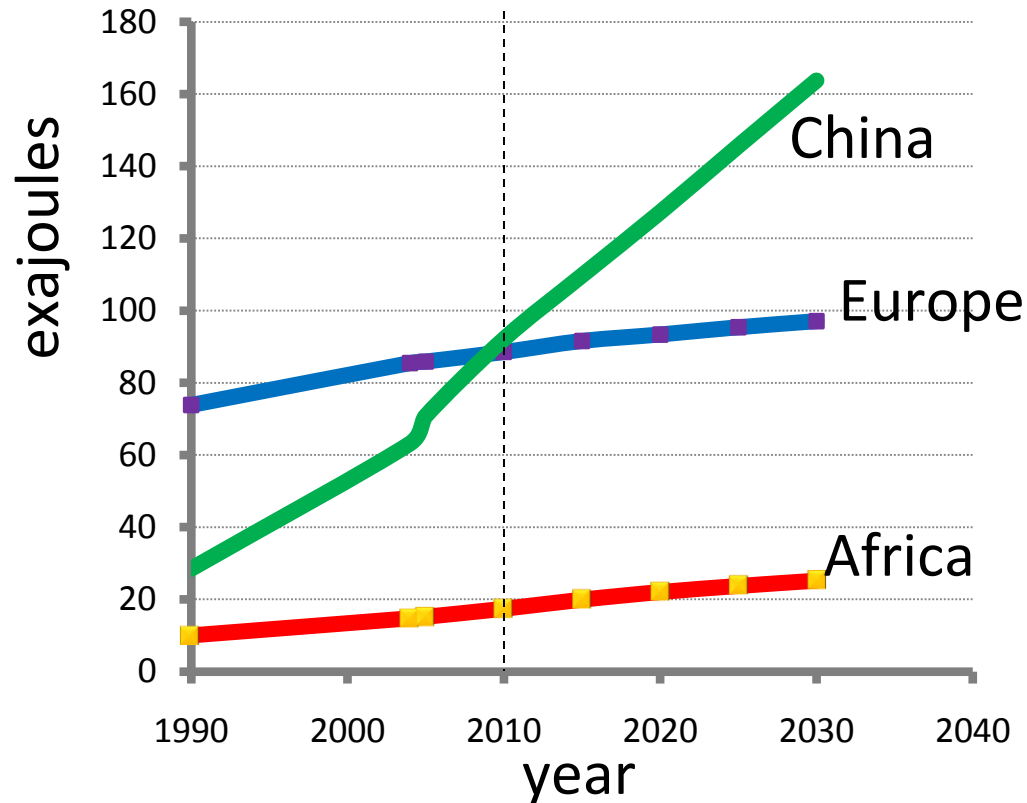
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Jatropha Africa



Global energy-related CO₂ emissions set to rise

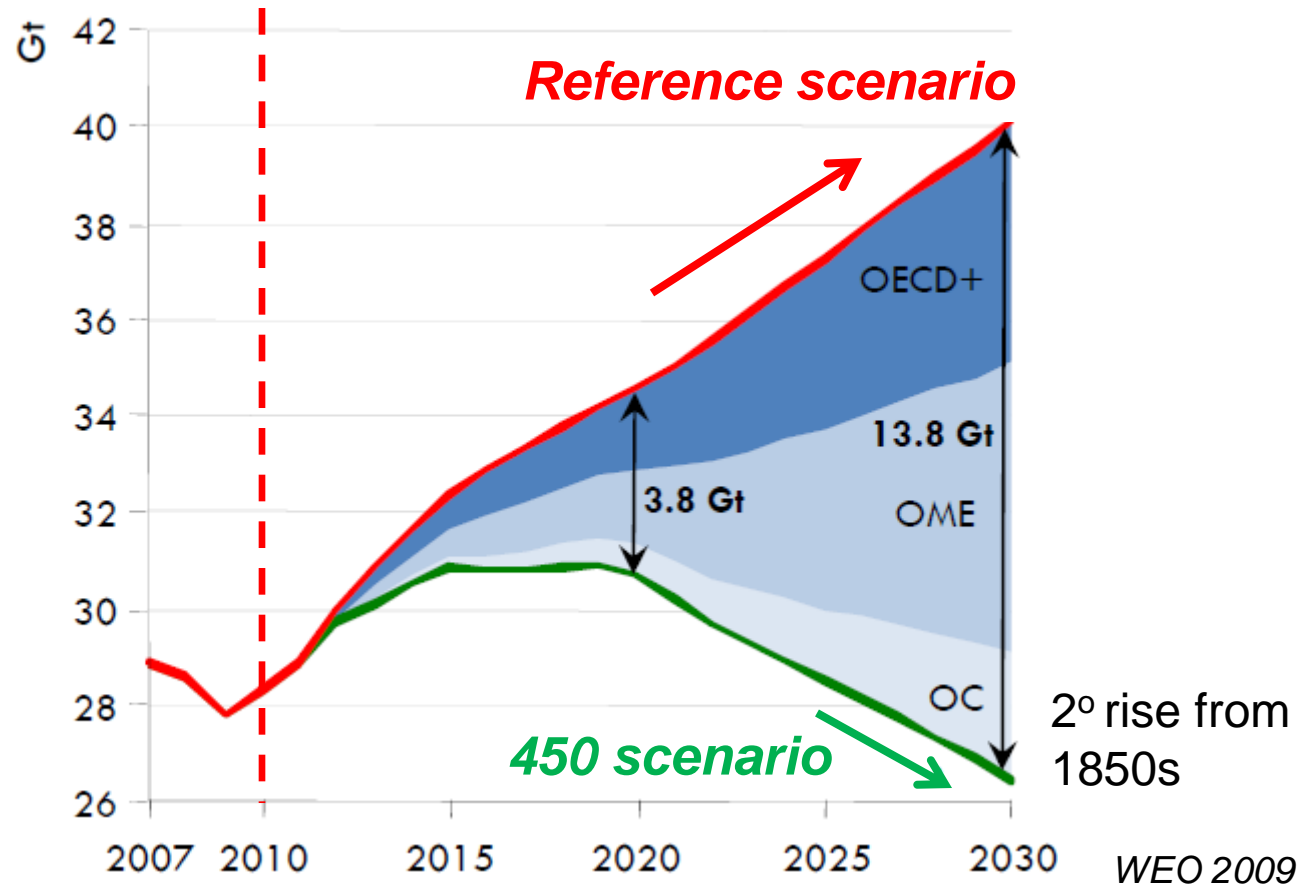


Executive Director of the IEA Nov 2009

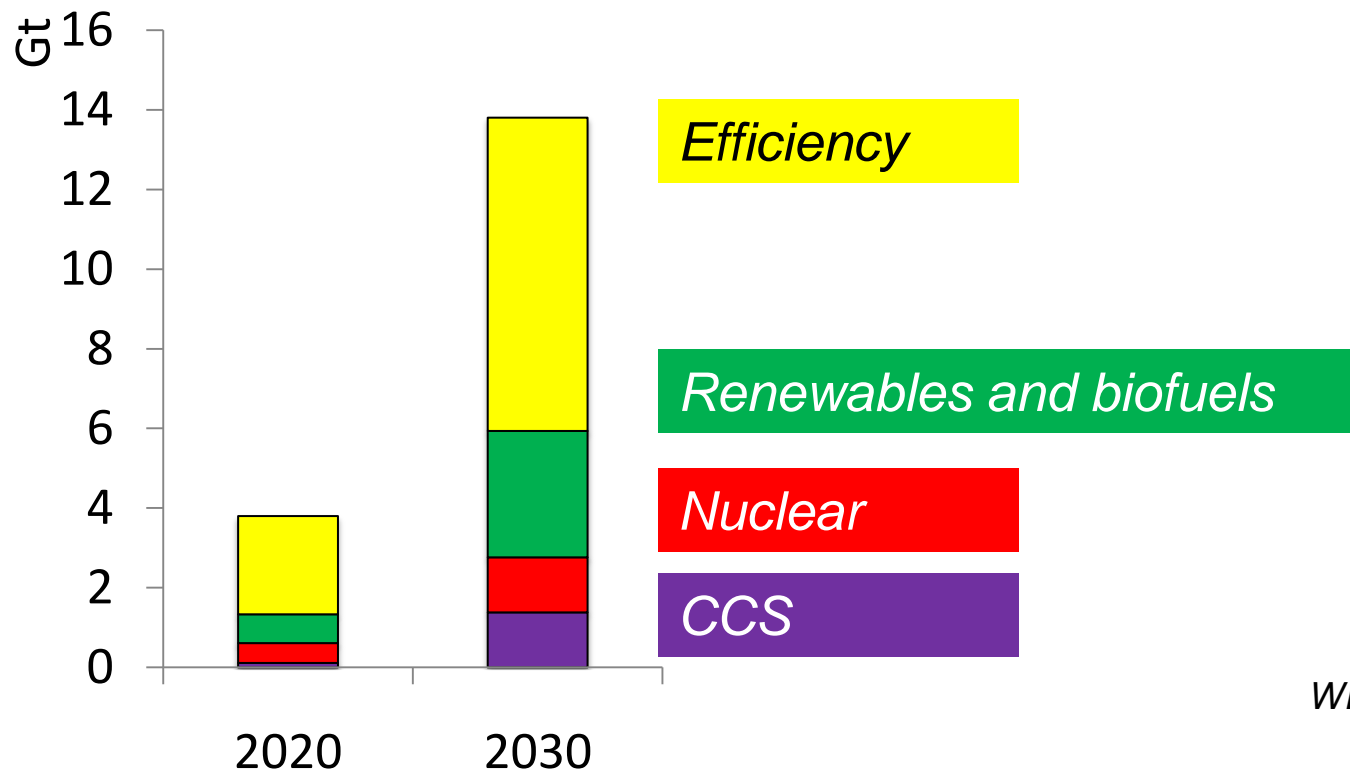
If the world continues on the basis of today's energy policies, the climate change impacts will be severe.

Energy which accounts for two-thirds of today's GHG emissions is at the heart of the problem: and so must form the core of the solution

Abatement measures needed for 450ppm CO₂ eq by 2030

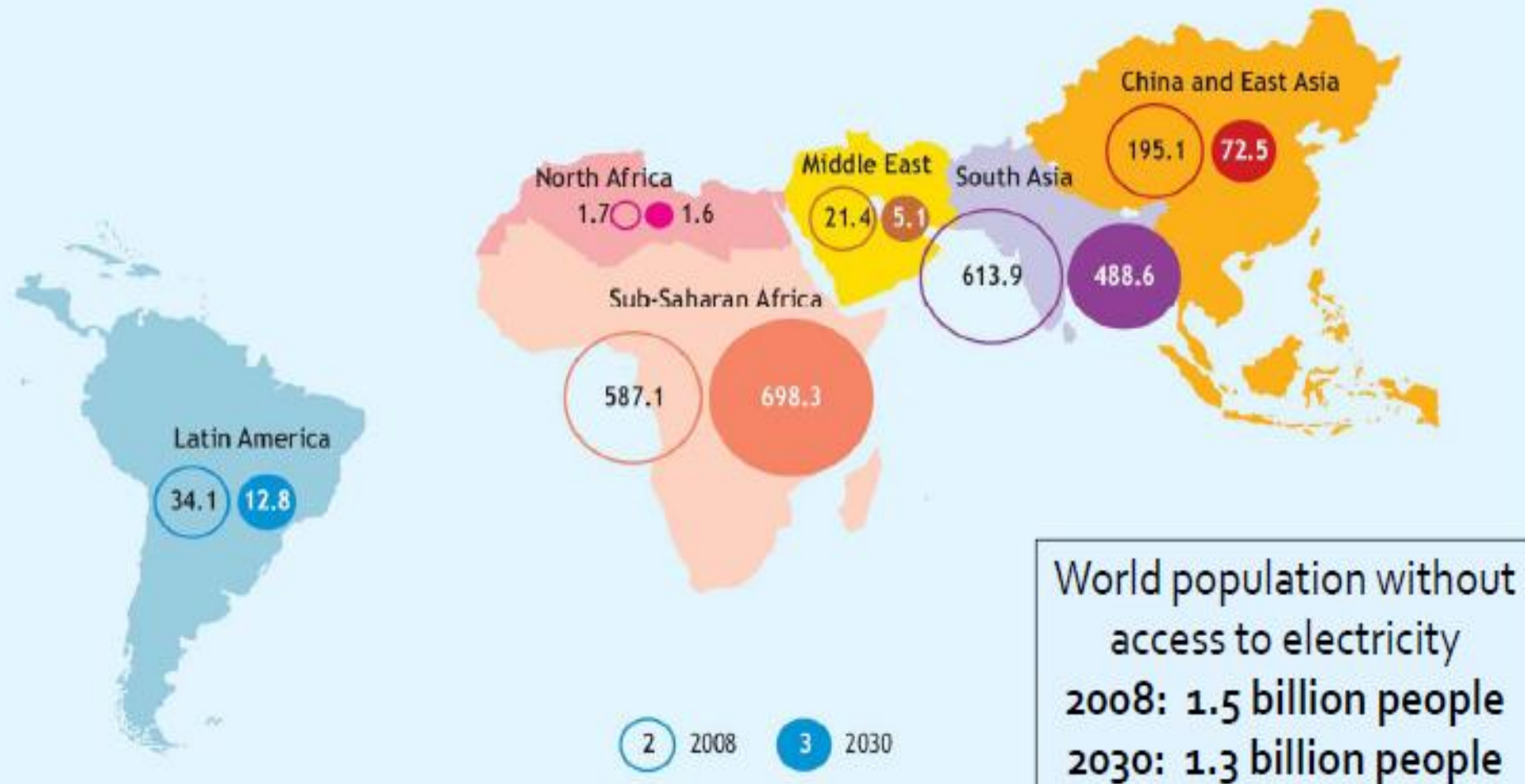


Abatement measures for 450 ppm CO₂ eq by 2030



WEO 2009

Number of people without access to electricity in the Reference Scenario (millions)

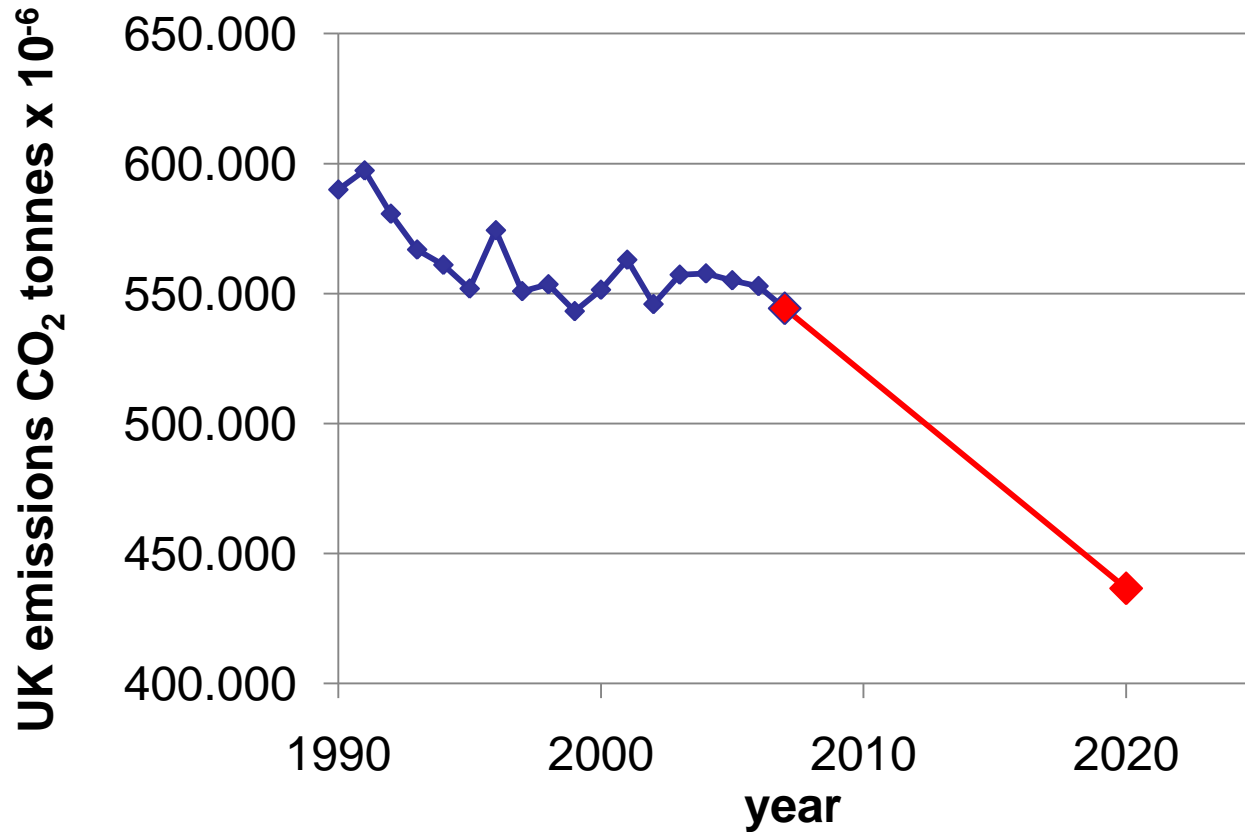


How will we meet the challenge?

What abatement measures?



UK : Low carbon technologies challenge



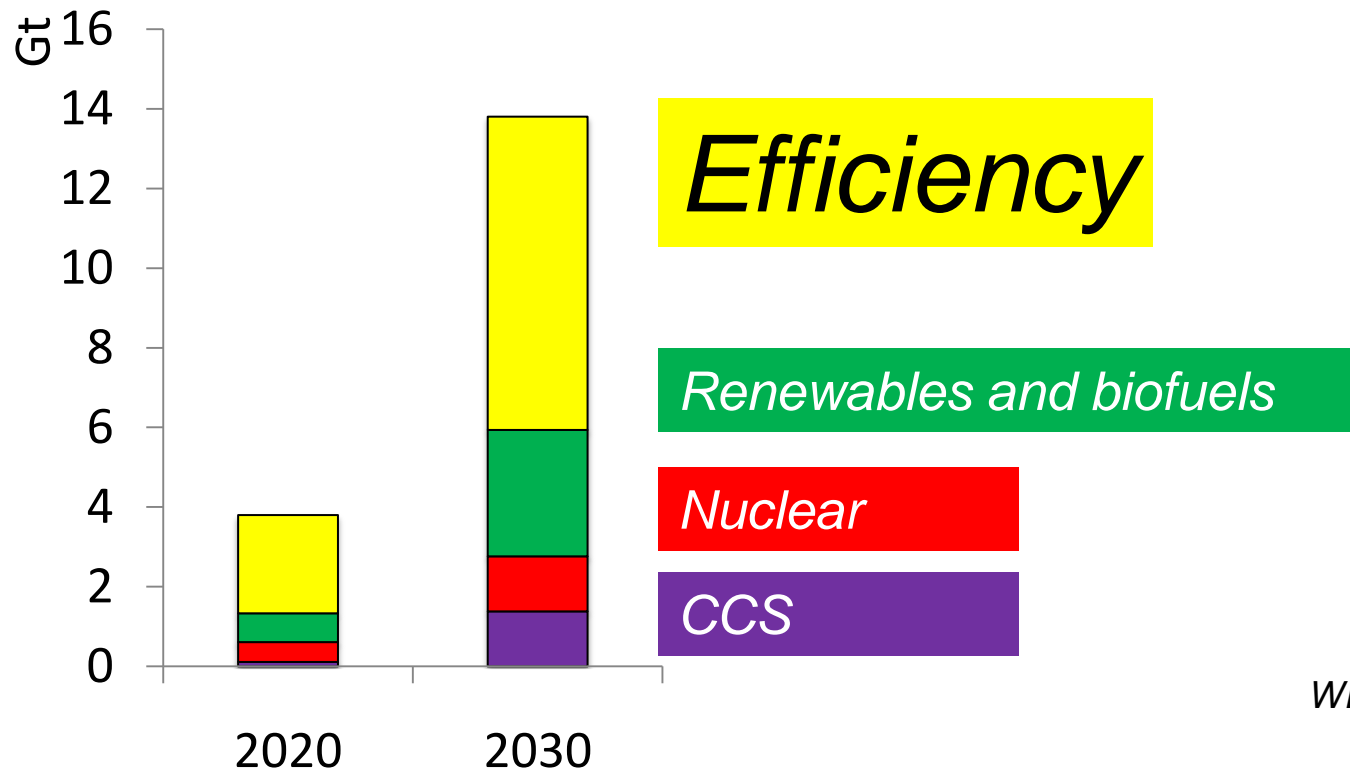
Climate Change Bill 27 November 2008



What technologies to meet the challenge?



Abatement measures needed for 450 ppm CO₂ eq by 2030



WEO 2009

Efficiency: Electricity made in power stations is energy-wasteful



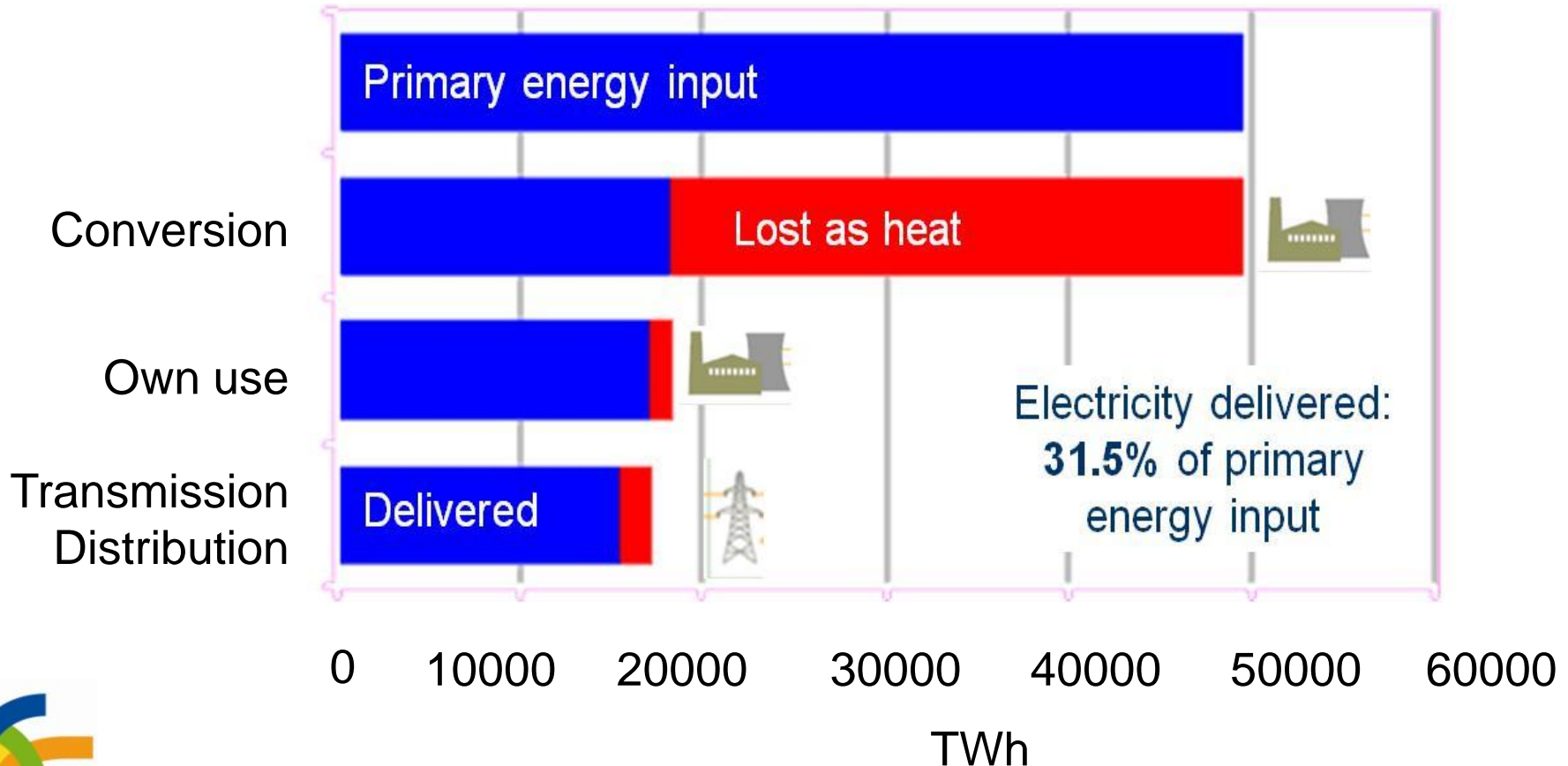
Coal-fired power station
~ 30-35% efficiency



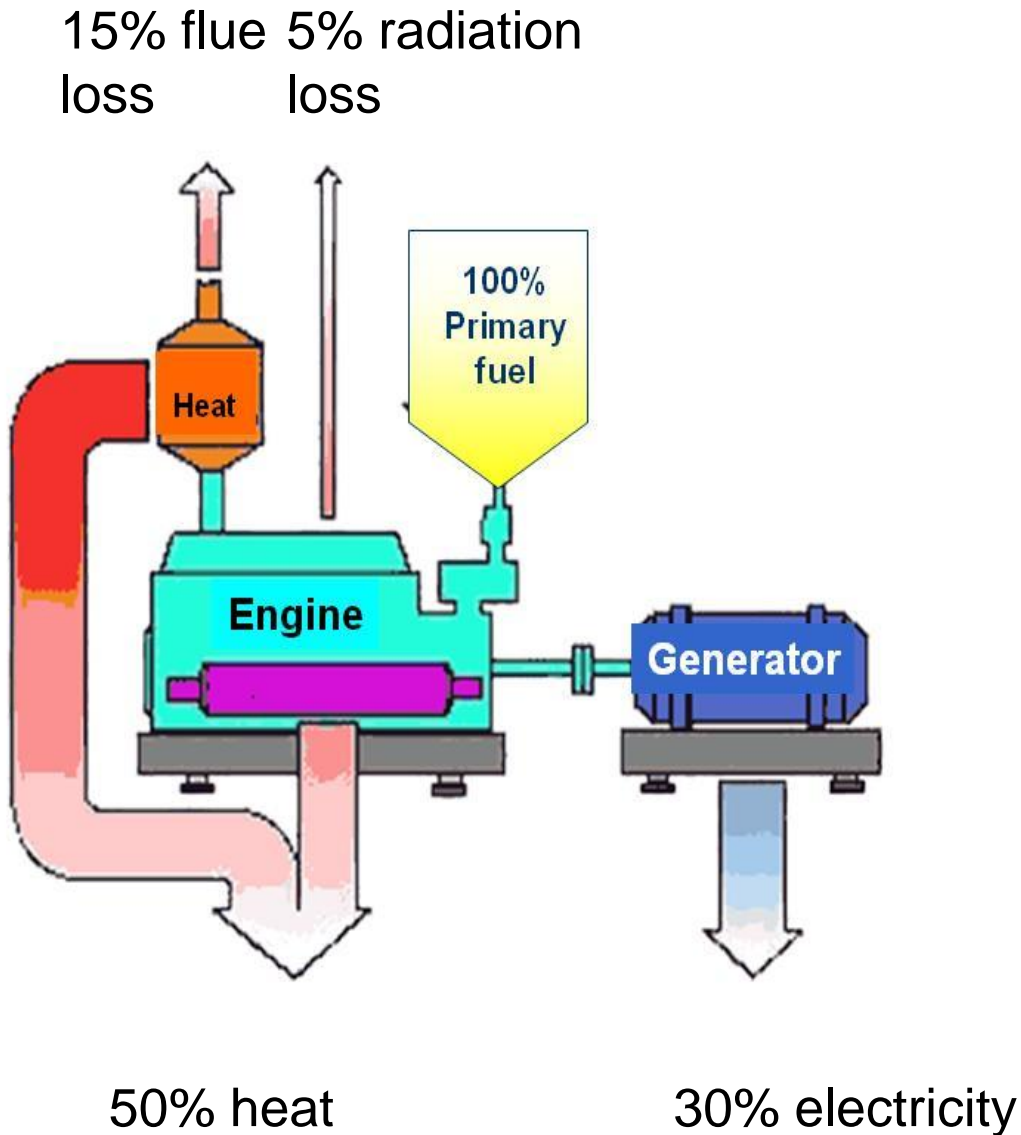
10% losses in transmission

Losses in global energy conversion and power delivery

Source: IEA 2008

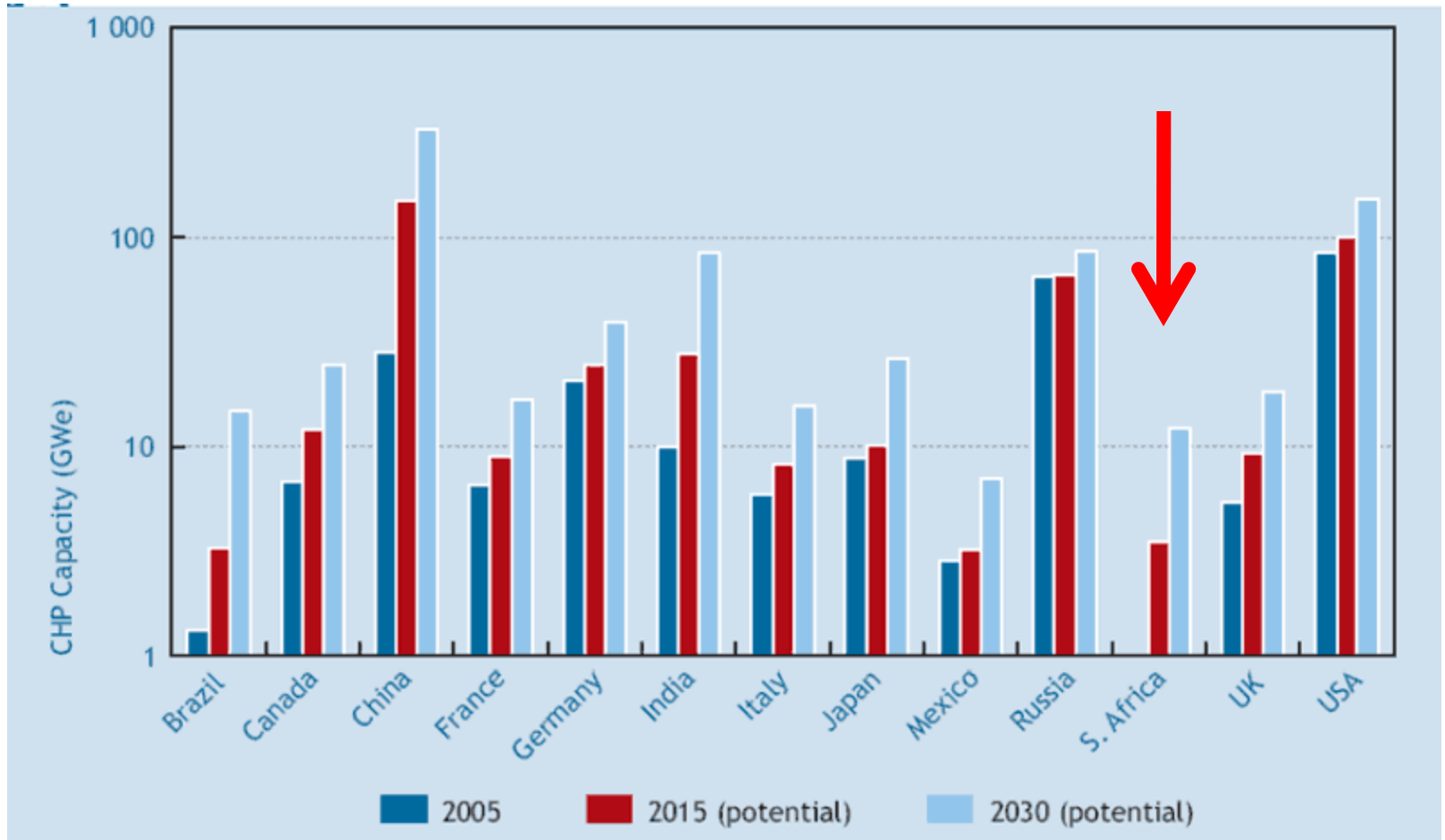


Cogeneration - CHP



- Simultaneous generation of heat & power
- Ideal where both heat & power needed

CHP potential



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

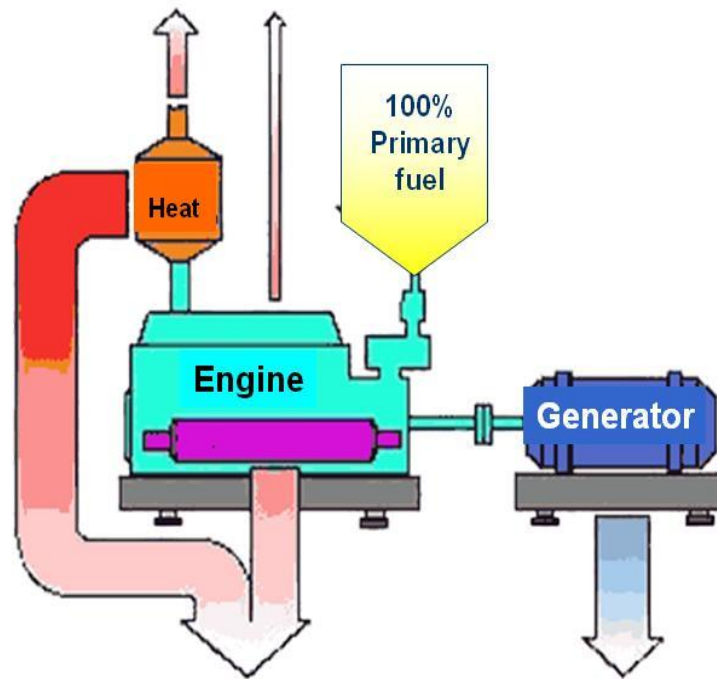


BIO-ENERGY IN AFRICA

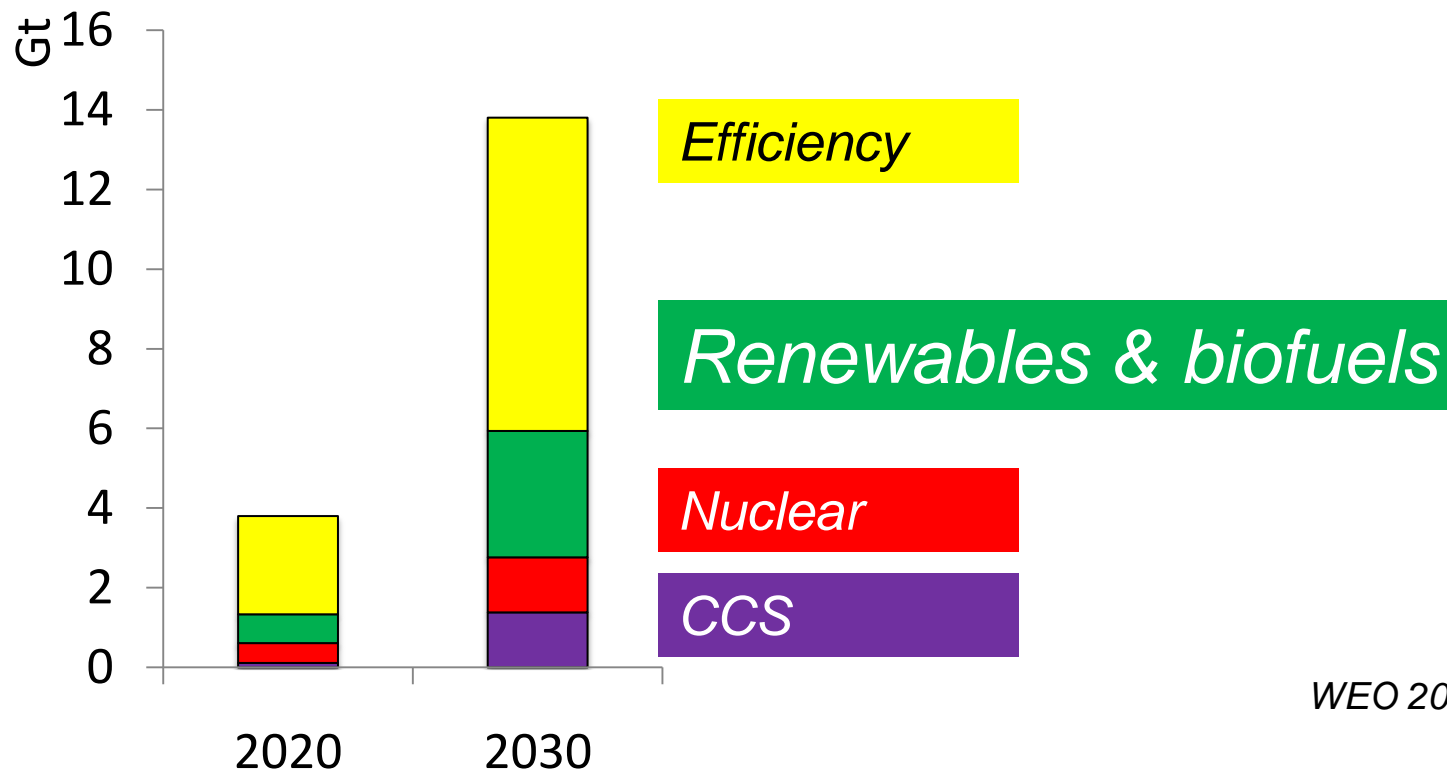
Combined Cooling Heat & Power
(CCHP) for remote communities



But CHP needs fuel



Abatement measures for 450 ppm CO₂ eq by 2030

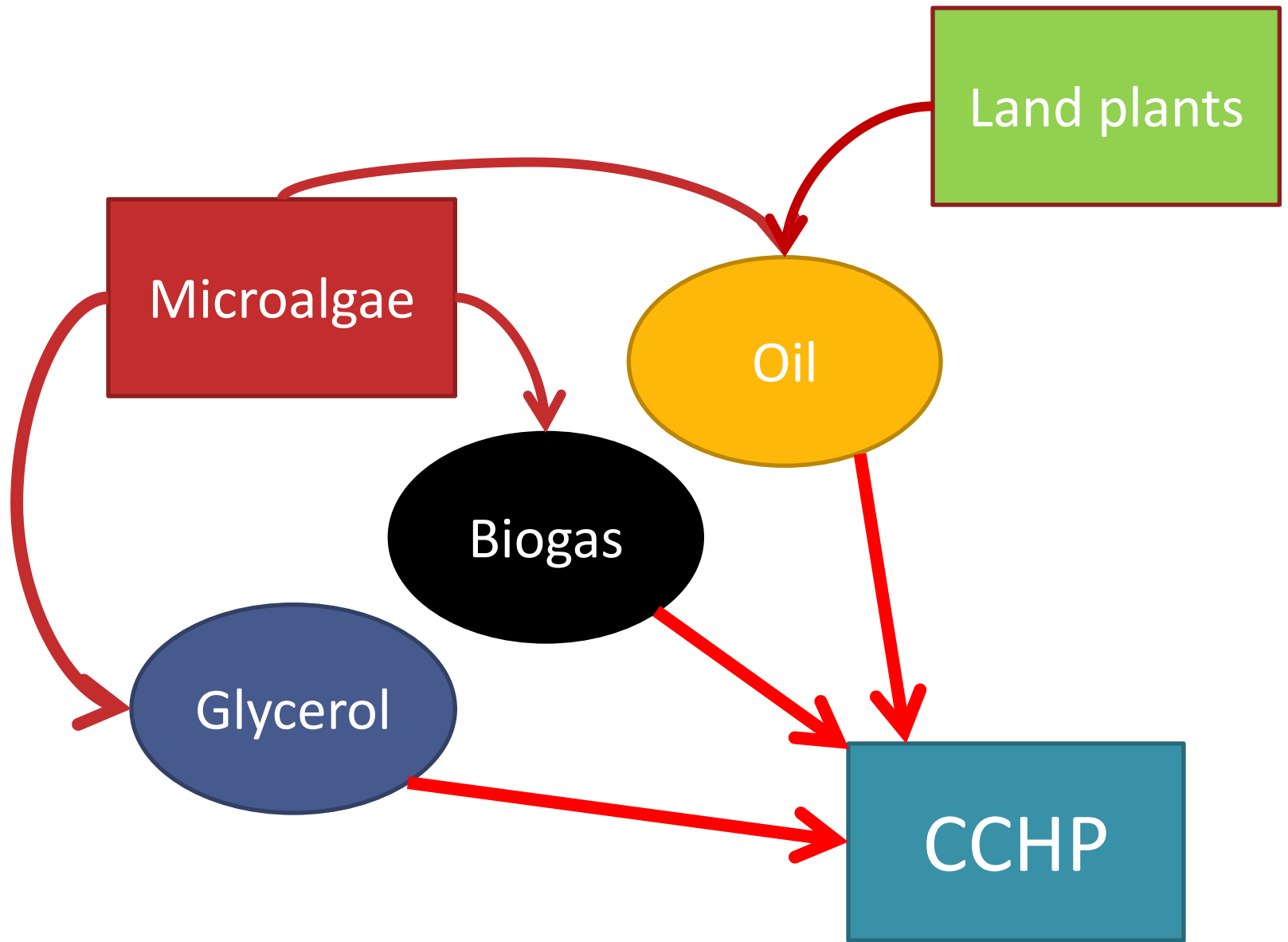


WEO 2009

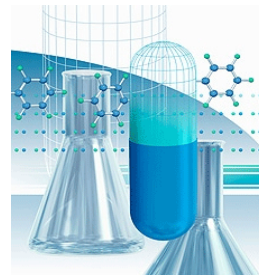
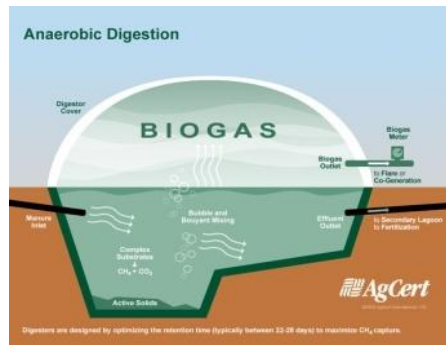


Jatropha Africa





Renewable biofuels



Workforce

Grow
plants, algae

Process

Fuel
CHP
engines

High-
value
chemicals

Supply logistics



ACP

- *'EC's Strategy for Sustainable Development'*
- Build, enhance scientific & technological capacity for R&D & innovation
- Enable activities /policies critical to sustainable development



This ACP Project

- 36 months
- South Africa, Namibia, Ghana, UK, Italy
- Regional, local authorities, municipalities
 - sewage, water,
 - energy procurement



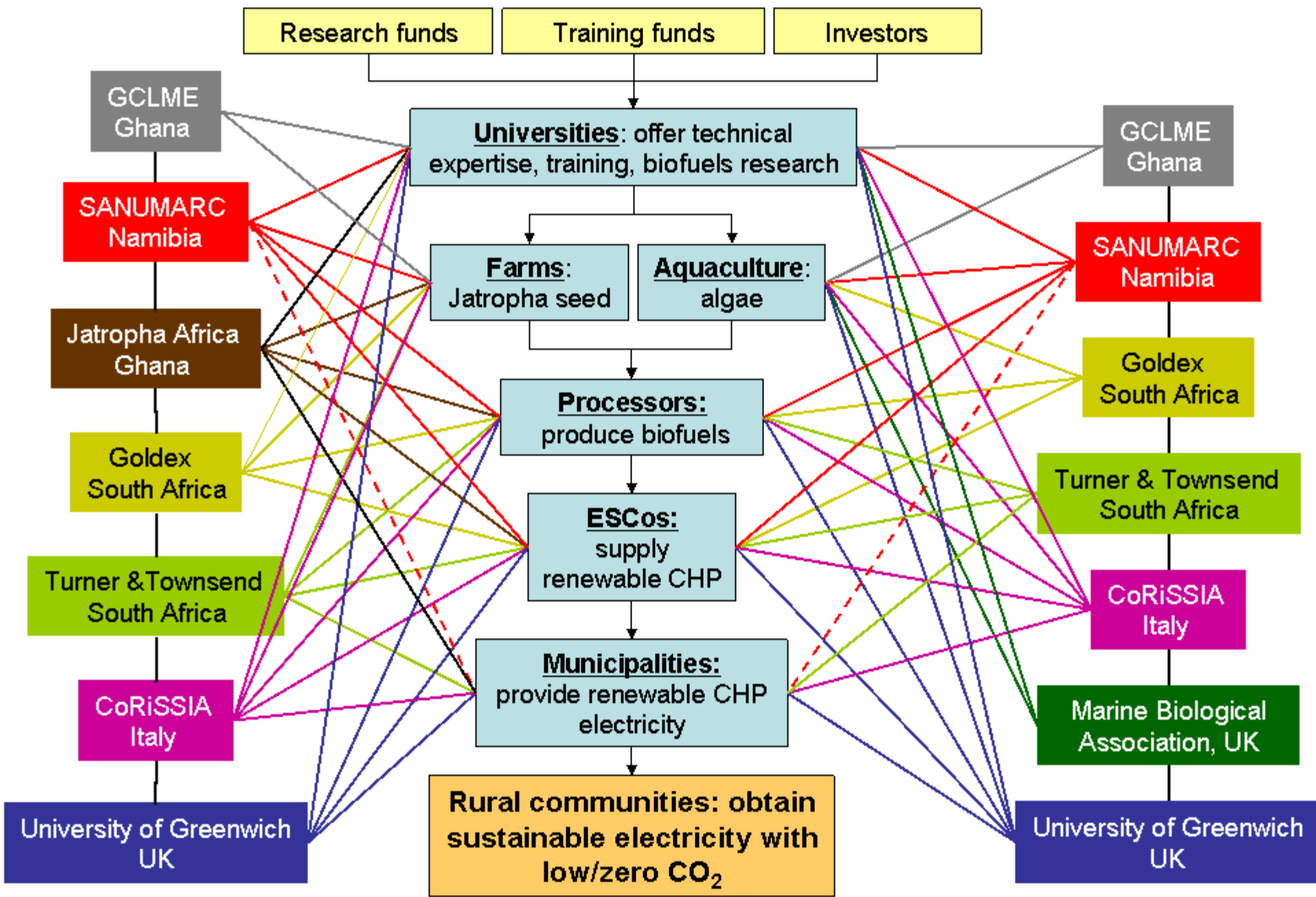
This workshop

- Understand contexts
- Develop connections
- Attract investment
- Build capacity
- Create sustainable non-food supply chains
- Africa



Jatropha Africa





Jatropha Partners

Stakeholders

Microalgae Partners