

GREEN GROWTH SMART GROWTH

A New Approach to Economics,
Innovation and the Environment

FOREWORD BY ANTHONY GIDDENS



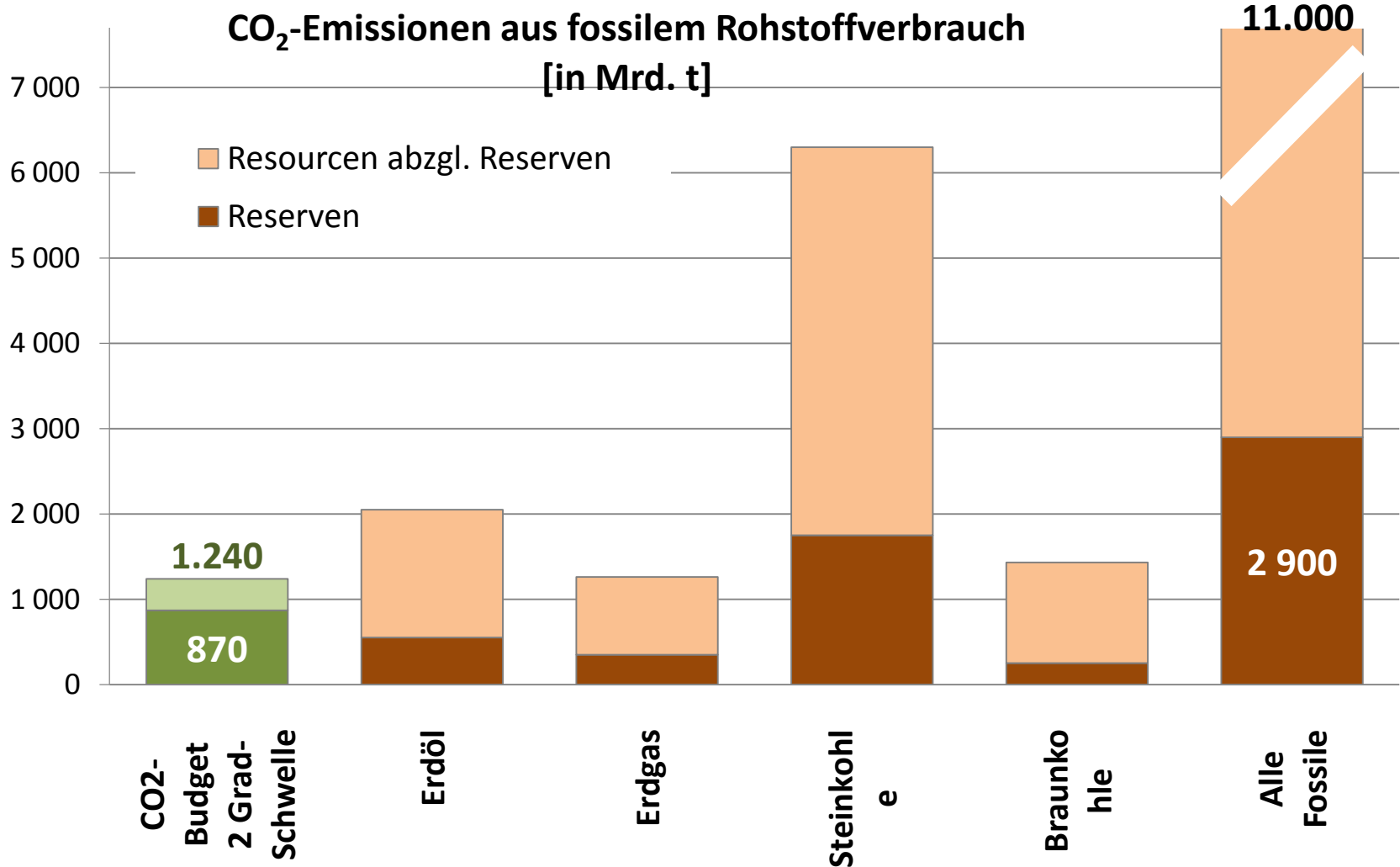
RALF FÜCKS



UN-CLIMATE SUMMIT PARIS:

- Keep global warming below plus 1,5°, at least below 2°
- Reduction of global greenhouse-gas-emissions by 50% until 2050
- Reduction target for high industrialized countries: 80-90%
- Decarbonization!! Leave 80% of fossil fuel reserves in the ground

Carbon Budget vs. Bubble



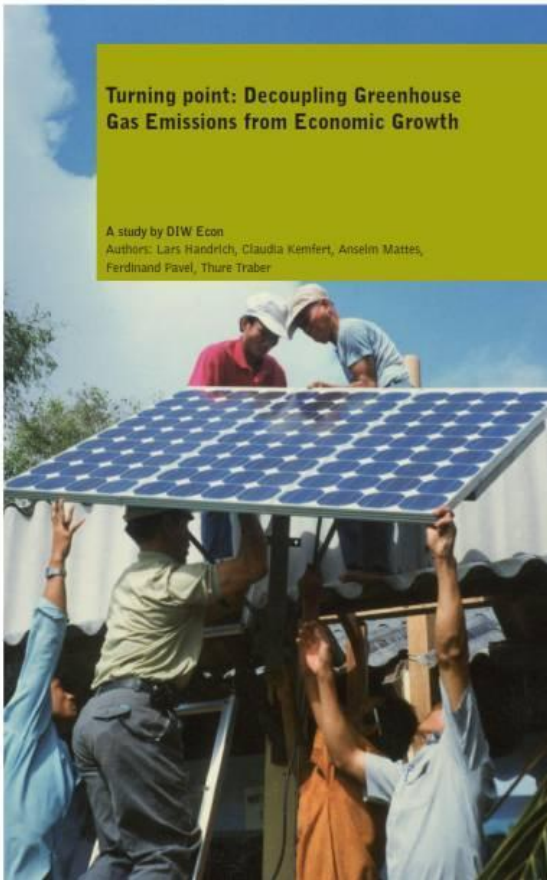
Decoupling Growth from Environmental Degradation

- Efficiency Revolution: Making more out of less
- Energy Revolution: Renewable Energies, Photosynthetics
- Circular Economy: Zero Waste, Cradle to Cradle)



Decoupling: No Fairy Tale

HEINRICH BÖLL STIFTUNG
ECOLOGY



2014: first year of worldwide decoupling between growth and greenhouse gas emissions



Germany: strong decoupling due to clean energy transition & higher efficiency



China: moving from weak to strong decoupling



EU 1990-2014:

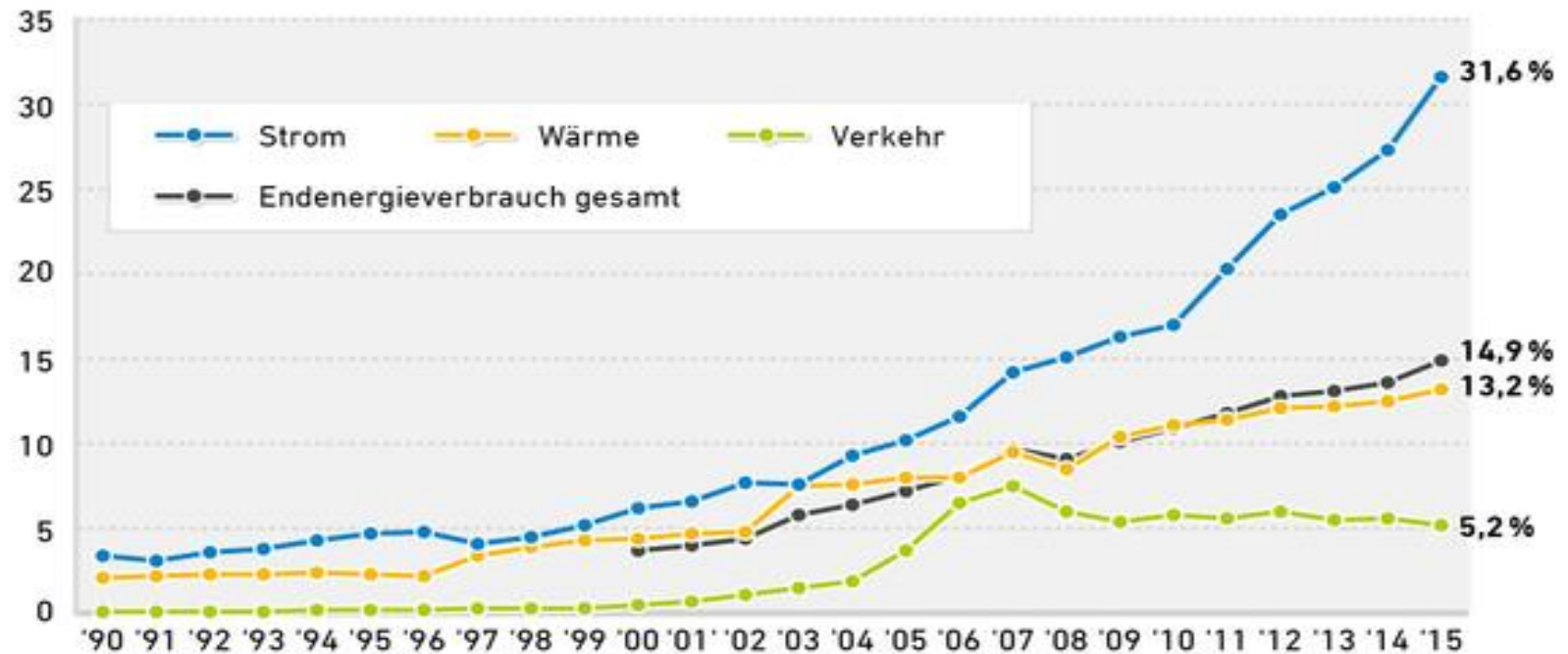
GDP + 46 %

Greenhouse-Gas-Emissions - 23 %

Renewable Energy Boom Germany

Anteile Erneuerbarer Energien am Endenergieverbrauch in Deutschland 1990-2015

Prozent



Quelle: BMWi / AGEE-Stat

Stand: 8/2016

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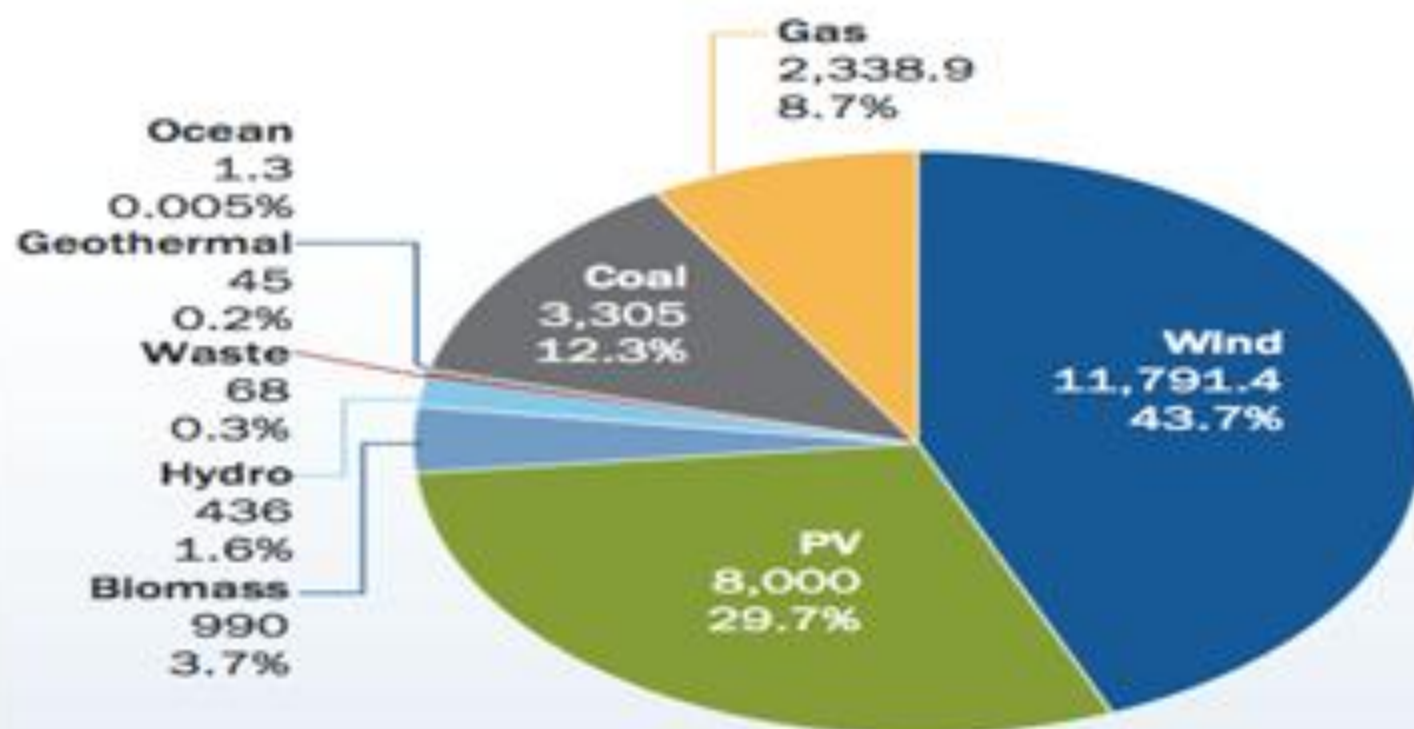


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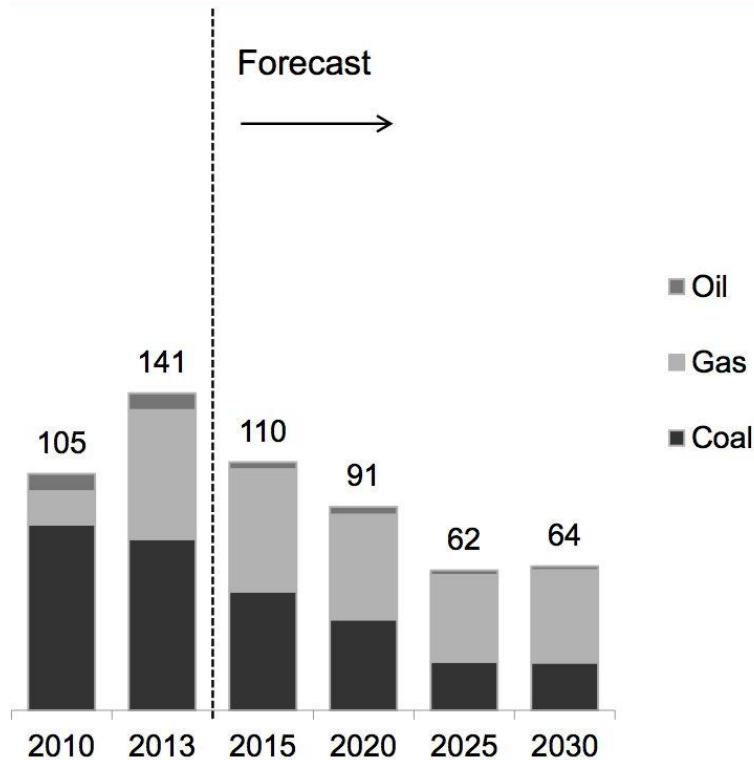
Phasing out coal: EU 2014

New power generation capacities

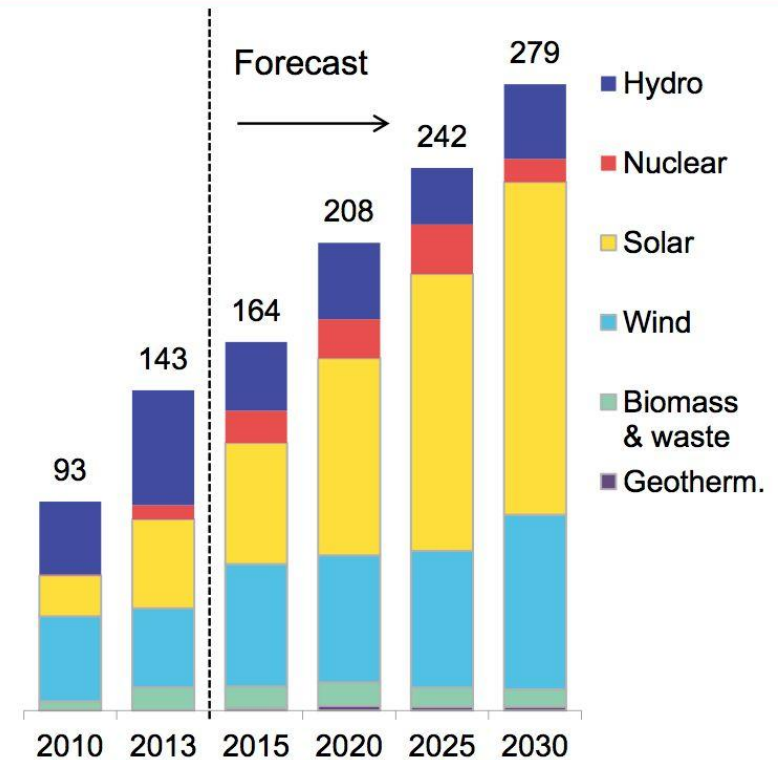


Investments in Renewables vs. Fossil Fuels

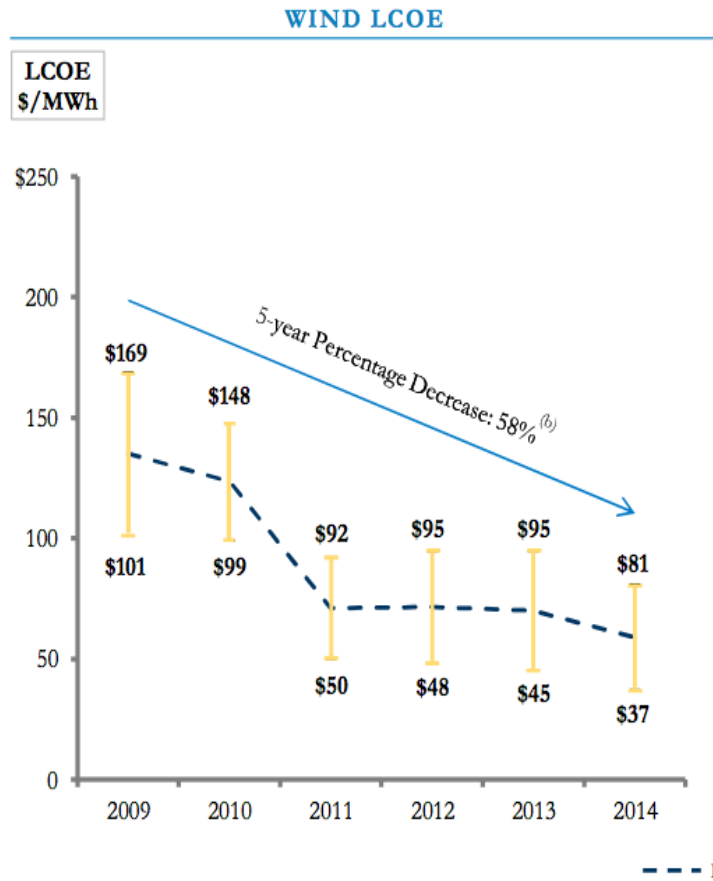
FOSSIL FUEL



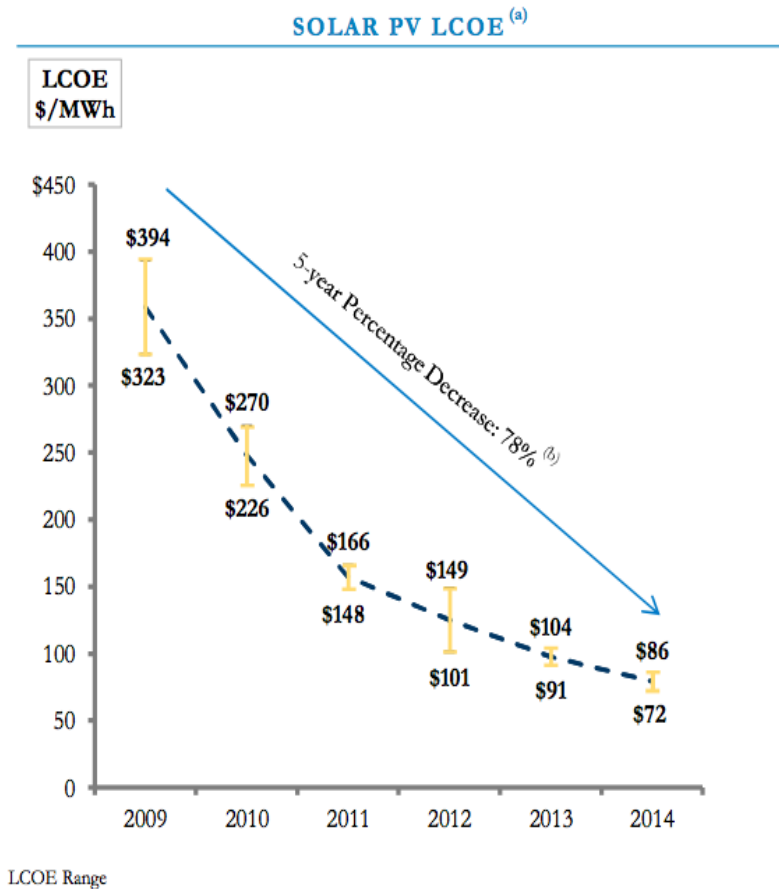
CLEAN ENERGY



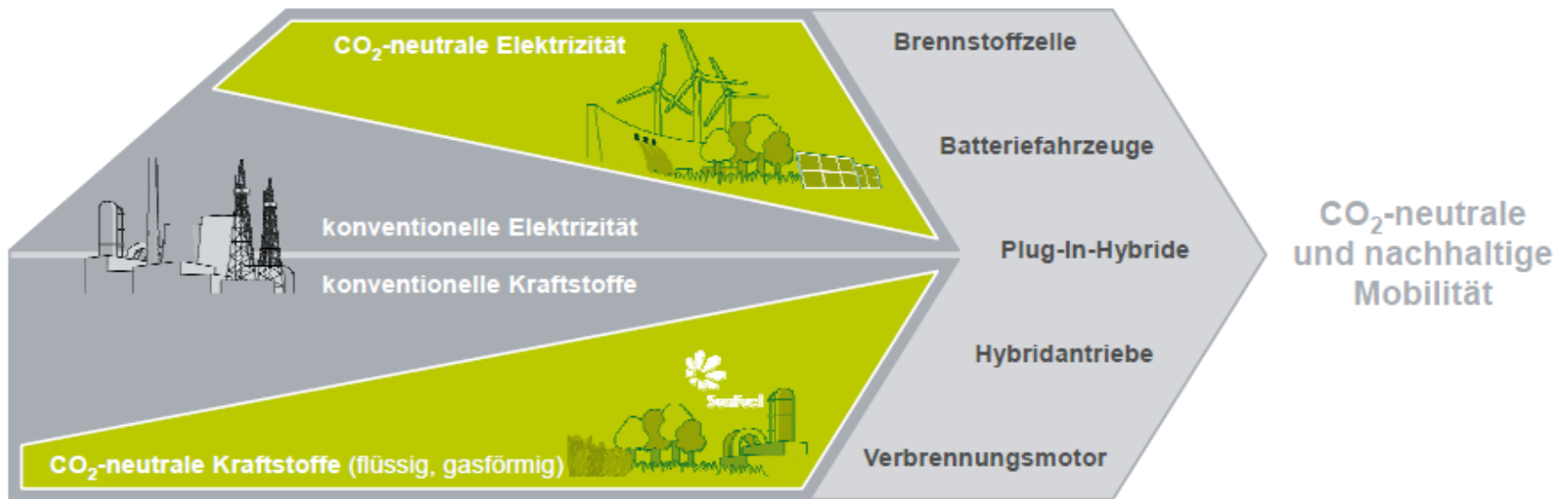
It's the Economy, Stupid! Cost Degression Wind & Solar (US)



Source: Lazard estimates.



Sustainable Mobility: Replacing Fossil Fuels by Renewable Energy



Green Chemistry: Bio-Refinery (Matrica, Italy)



Fossil Free: Algae + Geothermal + Photovoltaics

BIQ Hamburg



Change Agents

Policy matters!

Governance of the commons
(atmosphere, oceans etc)
Environmental standards
Cap & Trade (ETS)
Green Tax Reform
Public procurement

Civil Society

NGO's
Consumer Power (demand side)
Lifestyle change
Bottom-up Innovation

Businesses

Innovations are mainly taking place
within and by businesses.
Fostering entrepreneurship

Science (R & D)

Science-based innovation
Biotechnology, Nanotech,
Green IT

