



# Global Conversation

Energy Policy – a global move to  
renewables and energy efficiency

Professor Catherine Mitchell

Professor of Energy Policy

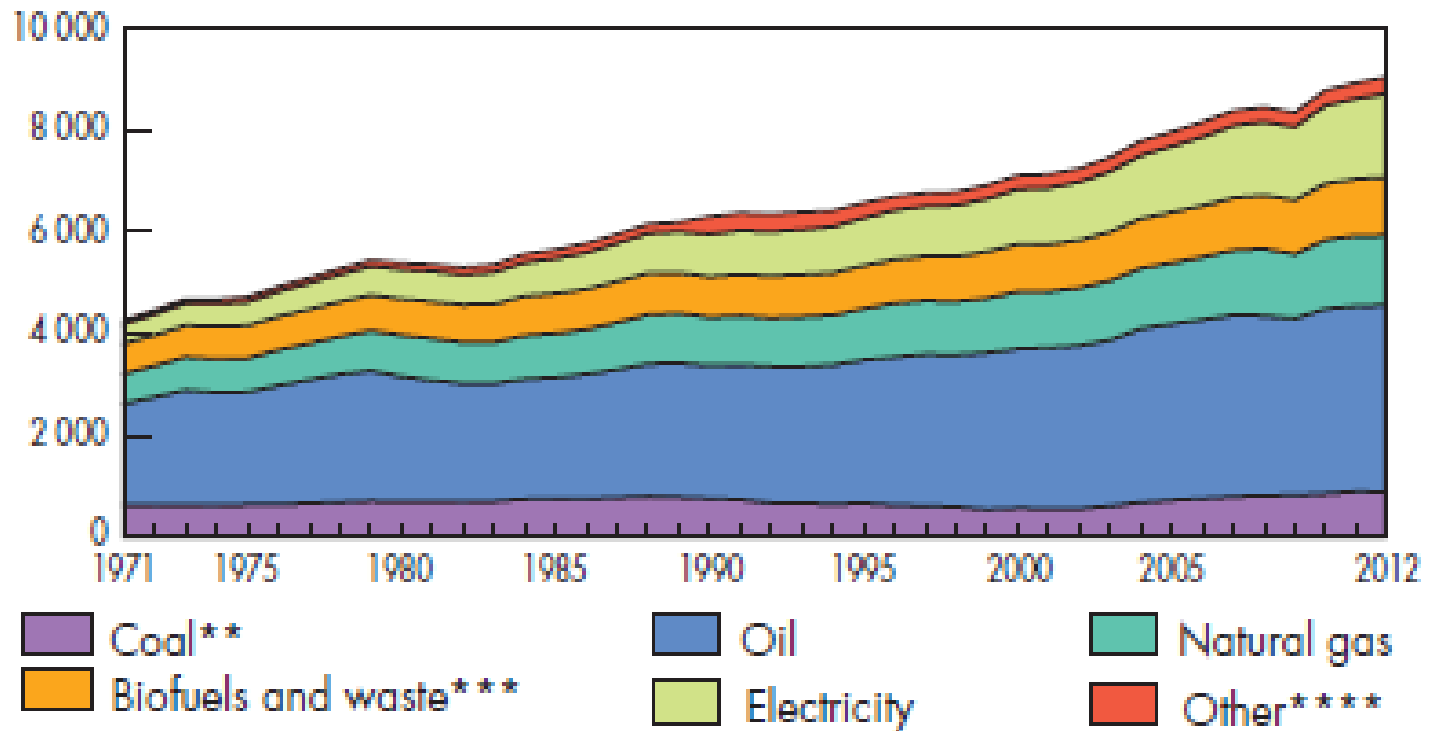
University of Exeter



# The World is still Fossil Fuel Dominated

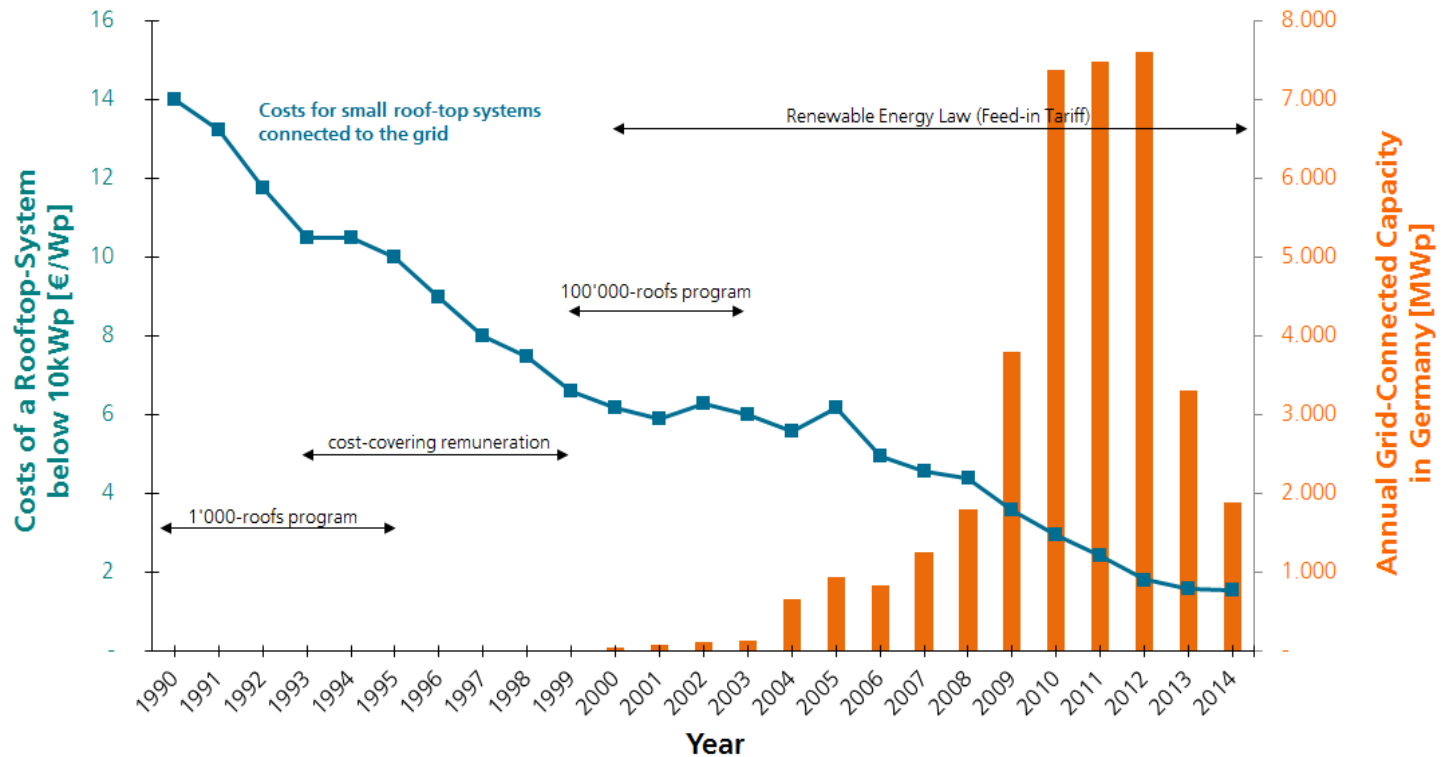
Source: WEO, 2014 (to be updated in November when WEO, 2015 is published).

World\* total final consumption from 1971 to 2012  
by fuel (Mtoe)



# However, some electricity systems are rapidly changing because of new technologies, changing economics, and changing social preferences

The cost of rooftop PV systems in Germany (Fhg, 2015)

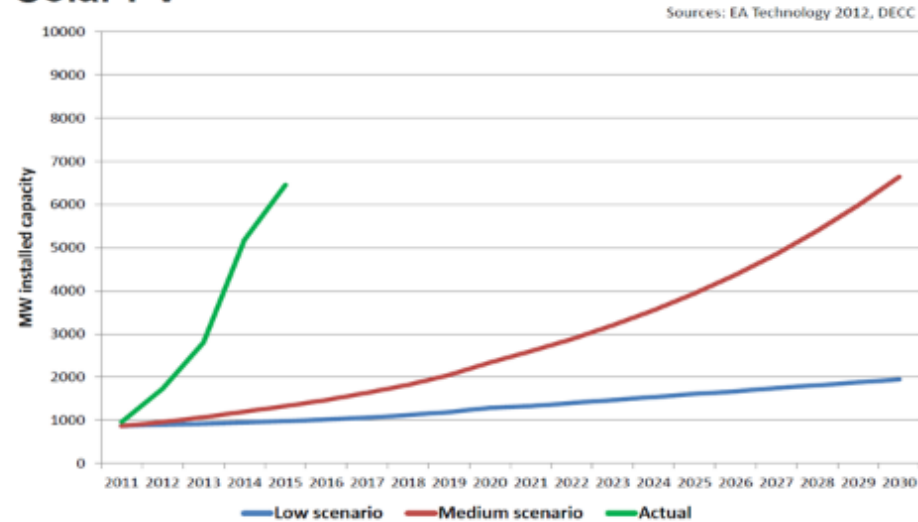


# Deployment of renewables is happening much quicker than expected

**ofgem** Making a positive difference  
for energy consumers

## Solar PV deployment in the UK compared to expectations

### Solar PV



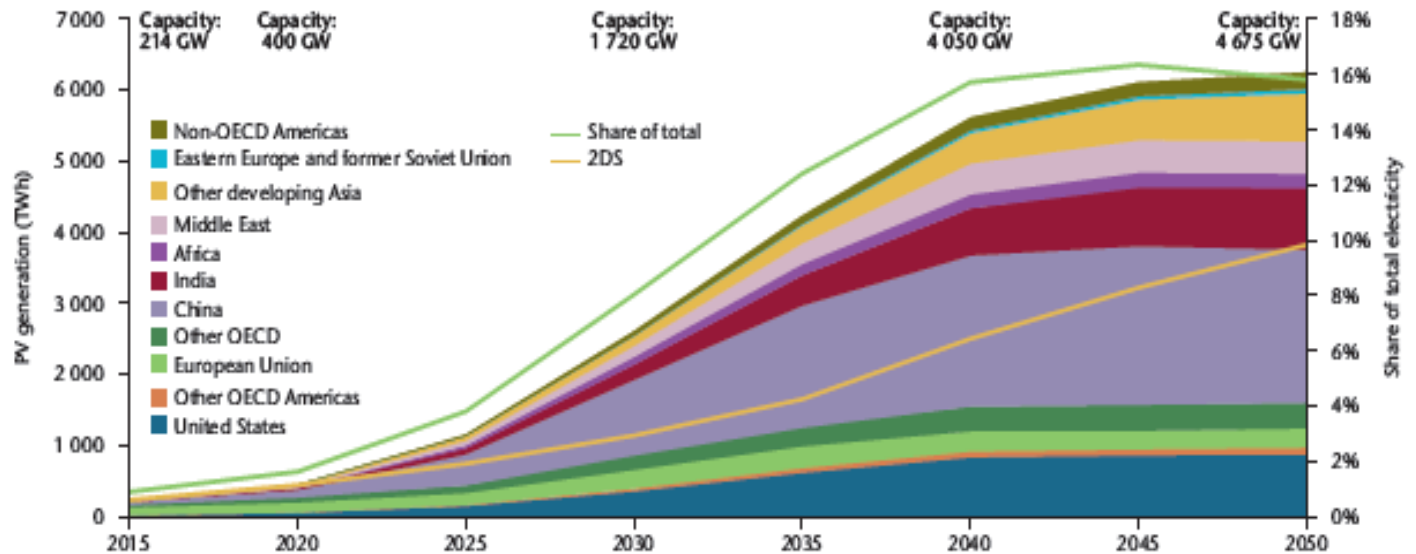
Current deployment now c. 8 GW

(source: Cornwall Energy)

# Models are often wrong but predictions for technology take-up is staggering, this is again PV

IEA Solar Technology Roadmap predictions for 2050 (IEA, 2014)

Regional electricity production from solar PV in TWh and share of global electricity

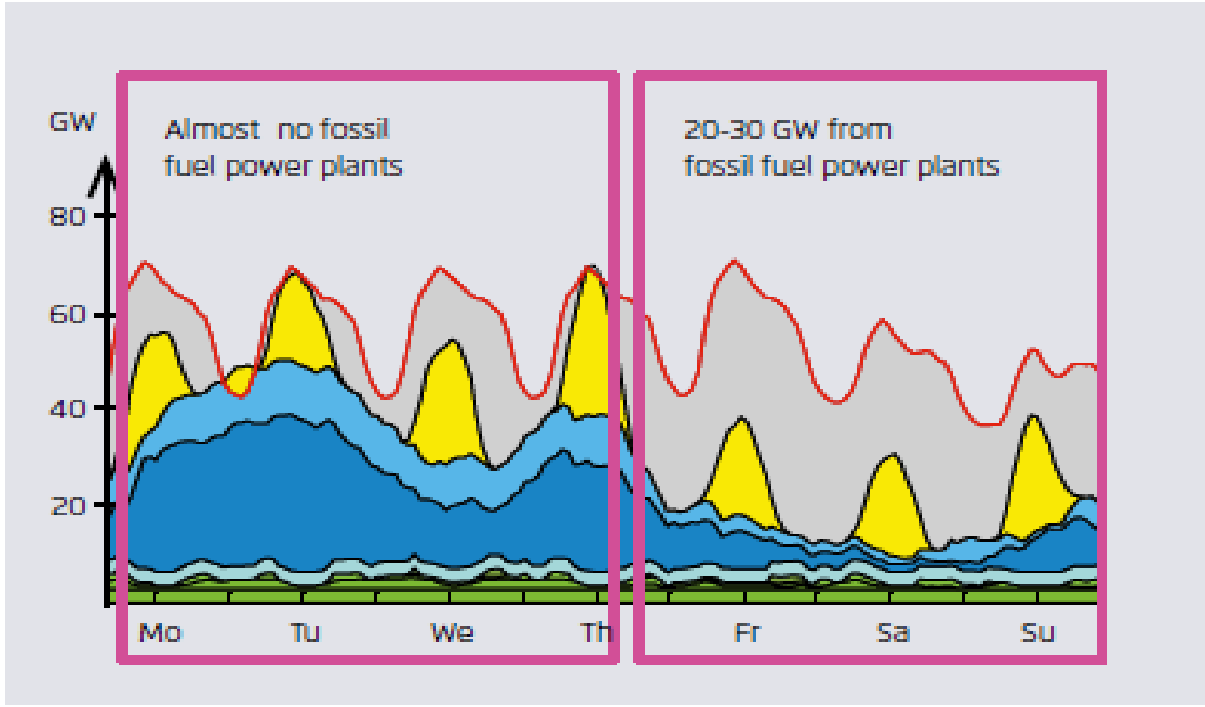




# Already operation of our electricity systems is changing because of renewables

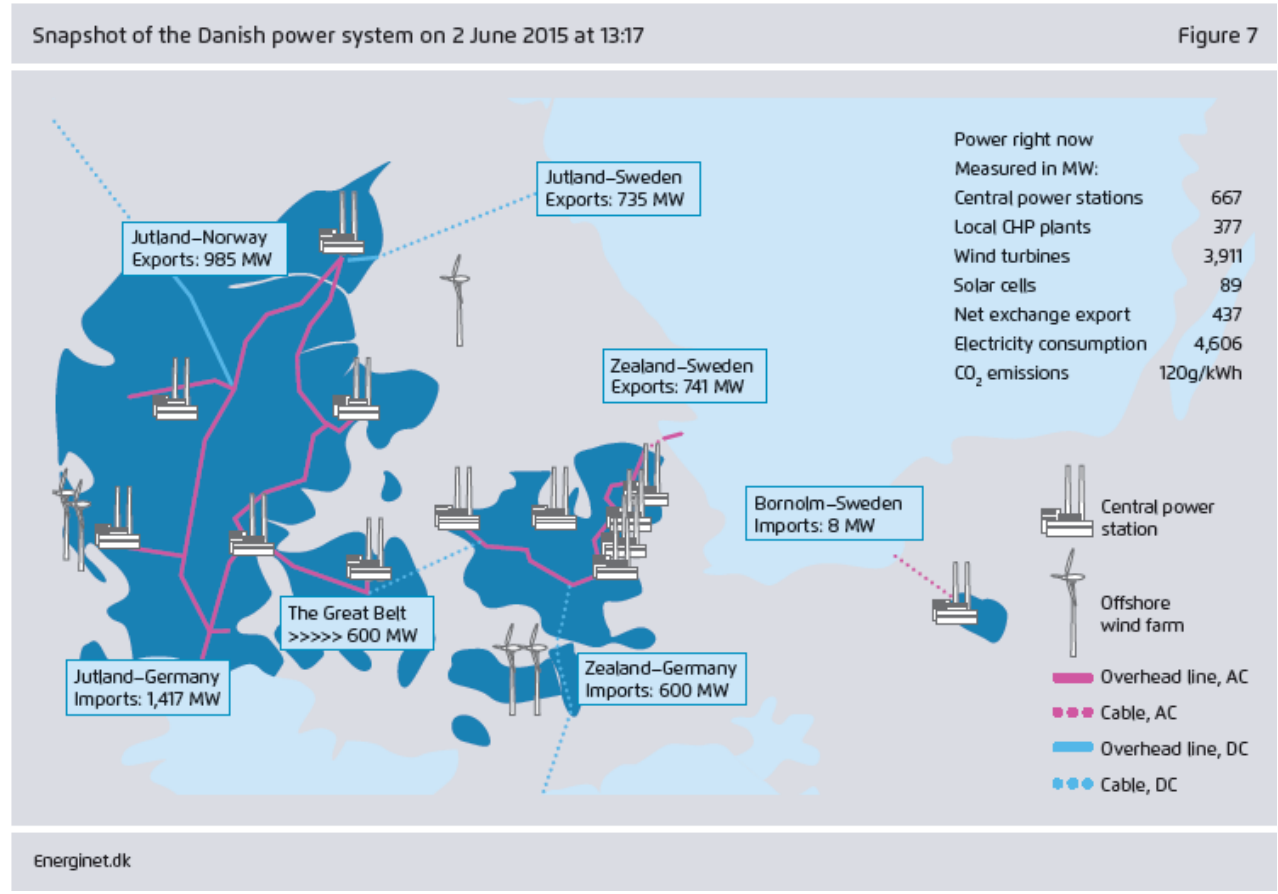
Source: Agora's 12 Insights from Germany's Energiewende

Demand for Fossil Fuel Power Plants in 2022:  
Example of a Week in August 2



# Electricity systems are likely to be increasingly flexible, integrated and decentralised

Agora's The Danish Experience of Integrating Variable Renewable Energy



# Changes are already having a major existential impact on European Utilities leading to restructuring





# Public discourse on energy policy has changed

**CLIMATE CHANGE AND PRESIDENT OBAMA'S ACTION PLAN**

THE UNITED STATES IS LEADING GLOBAL EFFORTS TO ADDRESS THE THREAT OF CLIMATE CHANGE. PRESIDENT OBAMA IS TAKING THE BIGGEST STEP YET TO COMBAT CLIMATE CHANGE BY FINALIZING AMERICA'S CLEAN POWER PLAN, WHICH SETS THE FIRST-EVER CARBON POLLUTION STANDARDS FOR POWER PLANTS.



**AFRICA PROGRESS PANEL**

PANEL NEWS SPOTLIGHT PUBLIC/

**BOOST INVESTMENT IN AFRICA'S ENERGY FOR A TRIPLE WIN FOR PEOPLE, POWER AND PLANET, ANNAN REPORT URGES**

By Africa Progress Panel on 05.06.2015 in Media Press Releases



**International Islamic Climate Change Declaration**

HOME ABOUT DECLARATION

**Islamic Declaration on Global Climate Change**

*In the name of Allah, Most Merciful, Most Compassionate*

**PREAMBLE**

- God – Whom we know as Allah – has created the universe in all its diversity, richness and vitality: the stars, the sun and moon, the earth and all its communities of living beings. All these reflect and manifest the boundless glory and mercy of their Creator. All created beings by nature serve and glorify their Maker, all bow to their Lord's will. We human beings are created to serve the Lord of all beings, to work the greatest good we can for all the species, individuals, and generations of God's creatures.

**Report on India Renewable Electricity Roadmap 2032**

Toward Accelerated Renewable Electricity Deployment

NITI Aayog Government of India

Logos for CII, SHAKTI, and RAP are visible at the bottom.

**RAP Energy solutions for a changing world**

ABOUT RAP OUR REGIONS OUR TOPICS IN THE NEWS

**China**

**A New Framework for China's Power Sector**

The Chinese government has just finalized *Deepening Reform of the Power Sector*, a policy document co-signed by the Central Committee of the Communist Party and the State Council. The Chinese media have anticipated this document for months, and billed it as a follow-up to the last major power

**OUR TOPICS**

- Energy Efficiency / Resource Planning
- Renewable Energy



# Global Conversation

**Professor Peter Cox**

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**Professor Catherine Mitchell**

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**Professor Travis Bradford**

Columbia University

**Dr Gavin Schmidt**

NASA Goddard Institute for Space Studies

