

The background of the slide features a series of thick, orange, curved lines that sweep across the frame, creating a sense of dynamic movement and energy. These lines vary in thickness and curvature, some forming partial circles or spirals, while others are more linear but still curved. The overall effect is a modern, abstract design that complements the 'energy revolution' theme.

energy revolution

Your guide to making it happen

Howard Johns

the problem



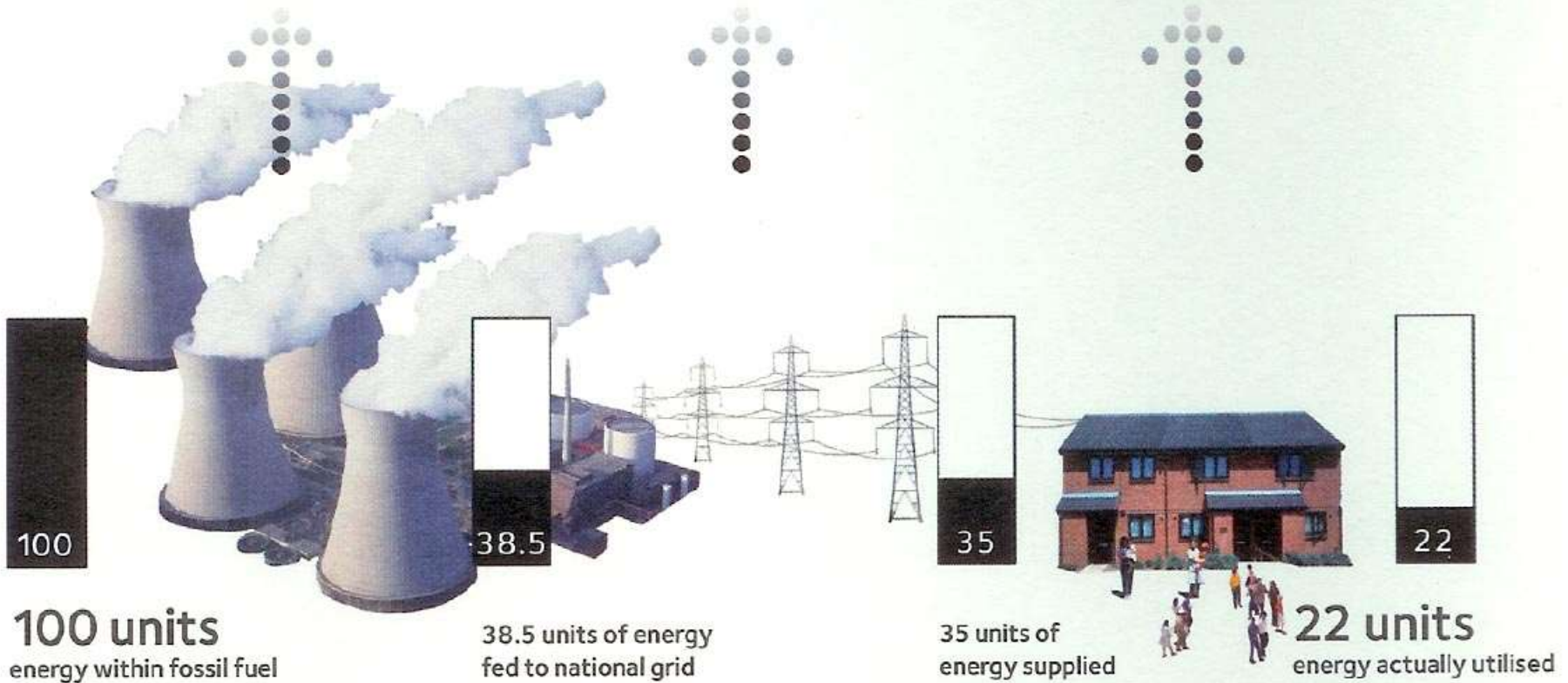
flick the switch

energy excess

61.5 units
lost through inefficient
generation and heat wastage

3.5 units
lost through transmission
and distribution

13 units
wasted through
inefficient end use





fracking salvation



the nuclear renaissance

Finnish new build: 3.2 billion euros > estimated cost 8.5 billion euros

Subsidy for 1 new nuclear power station in UK could be £17Bn

Estimated clean up cost of existing UK power stations £80-220Bn

3 billion

energy poverty

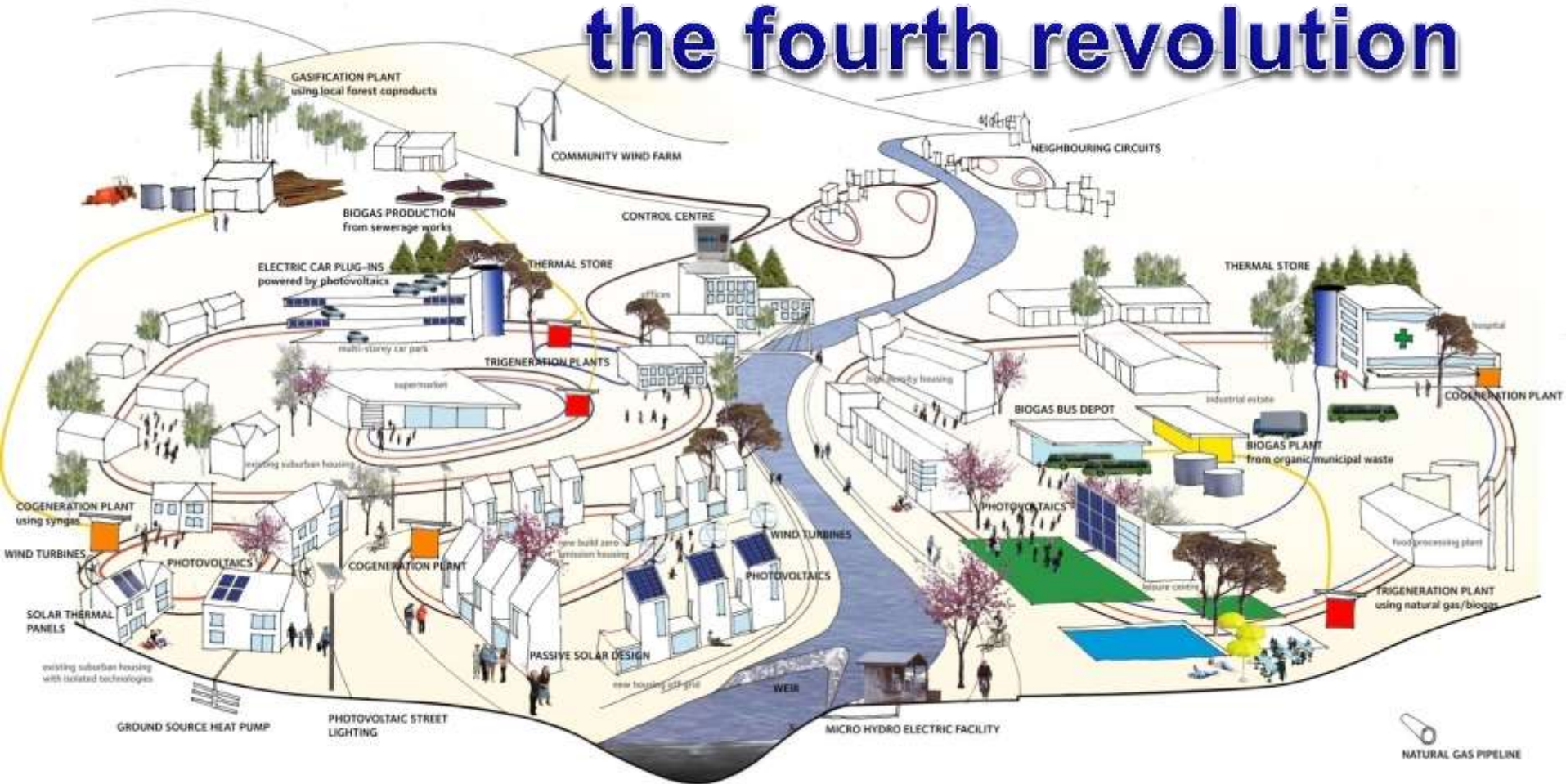




the third revolution

the solution

the fourth revolution



the energy revolution

UK

offshore wind



14% renewable electricity 2014

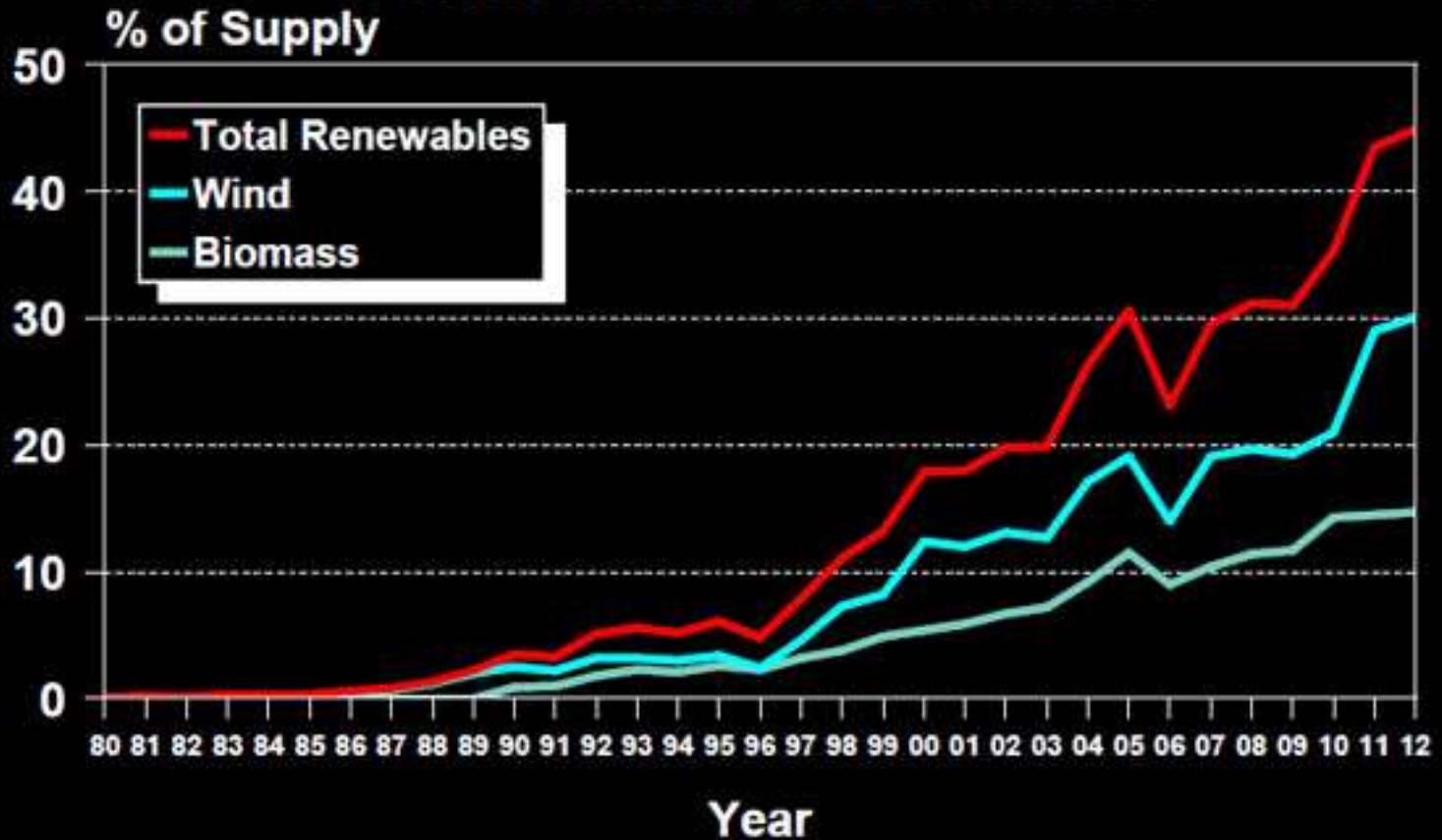
UK



First mover communities

Denmark

Denmark Total & Non-Hydro Renewable Generation 1980-2012



2014 - 40% of Electricity from Wind power

Denmark

Samsø



Denmark

Samso



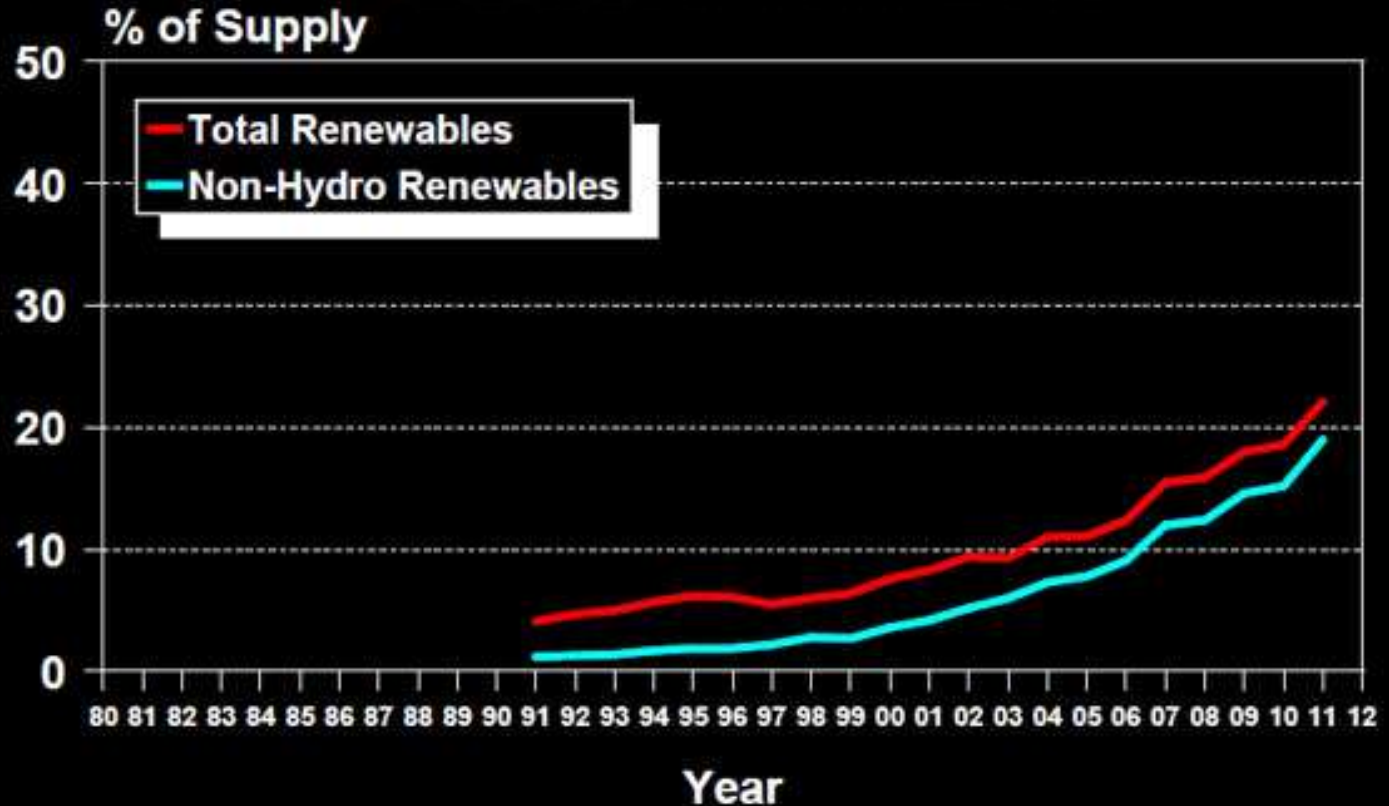
Denmark

district heating



Germany

Germany Total & Non-Hydro Renewable Generation 1980-2011



2014 - 28% of Electricity from Renewable Energy

Germany

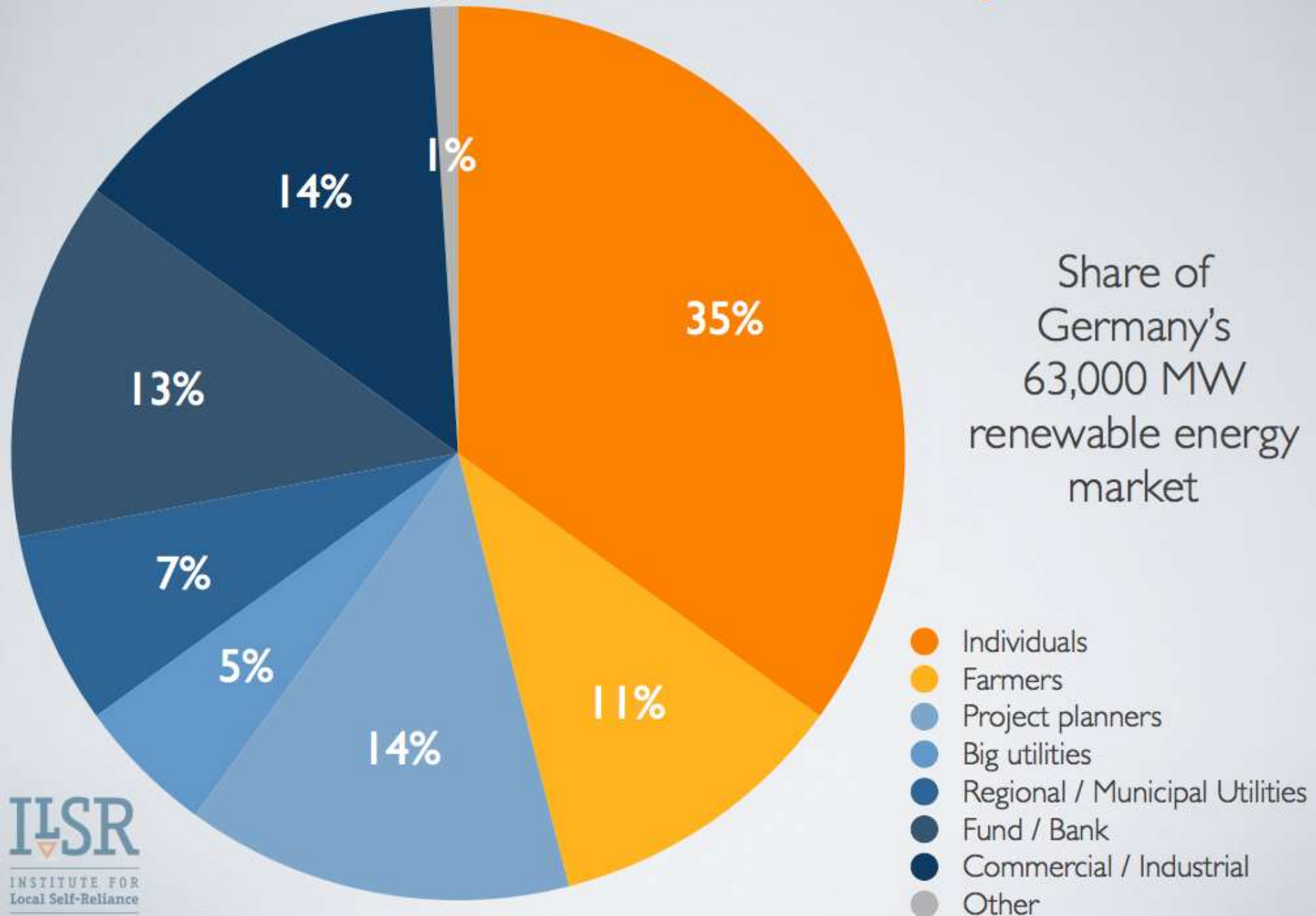


EWS

ElektrizitätsWerke
Schönau



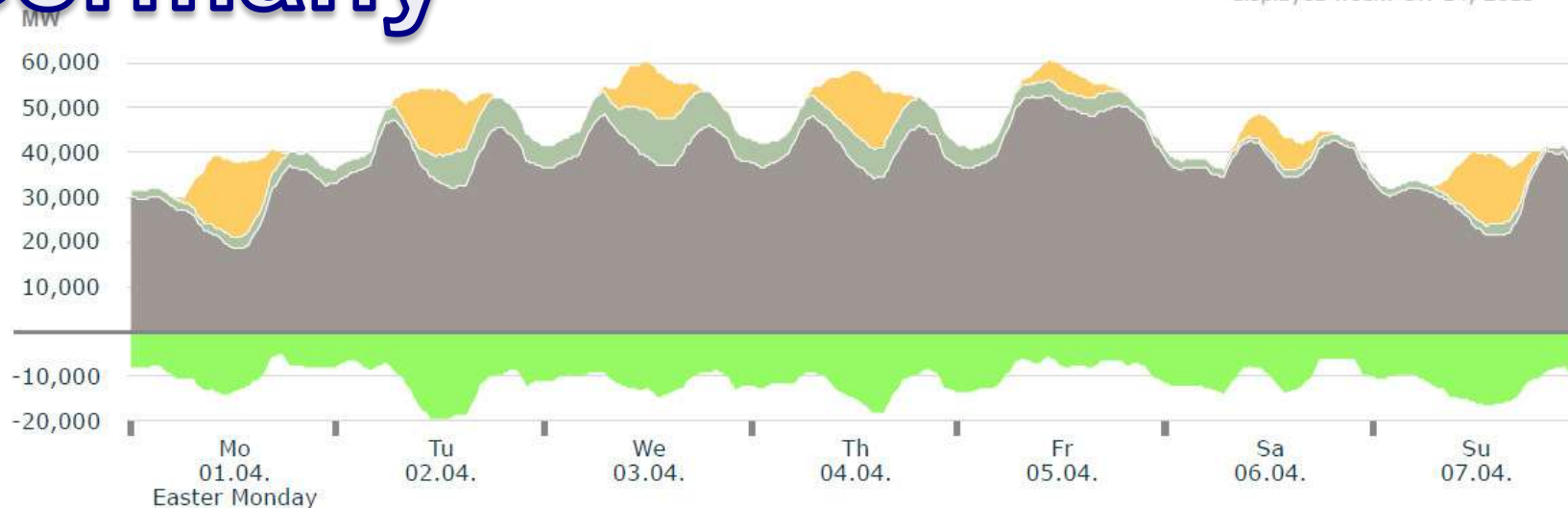
Germany's Energy Revolution Still **People Powered**



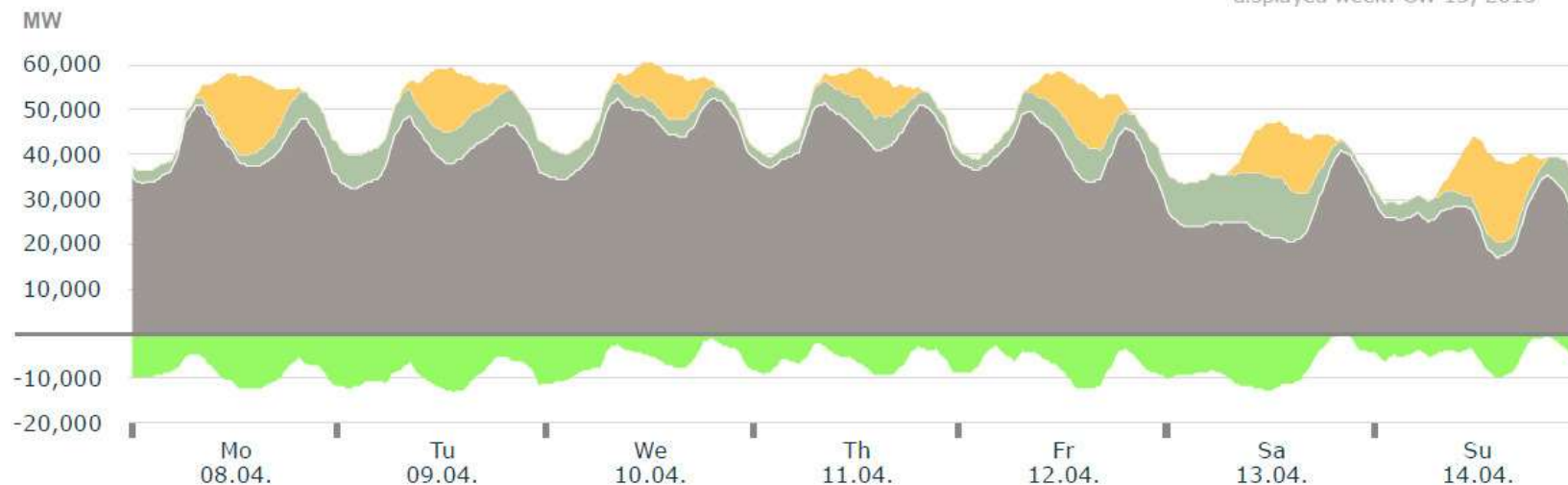
Germany

Actual production

displayed week: CW 14; 2013

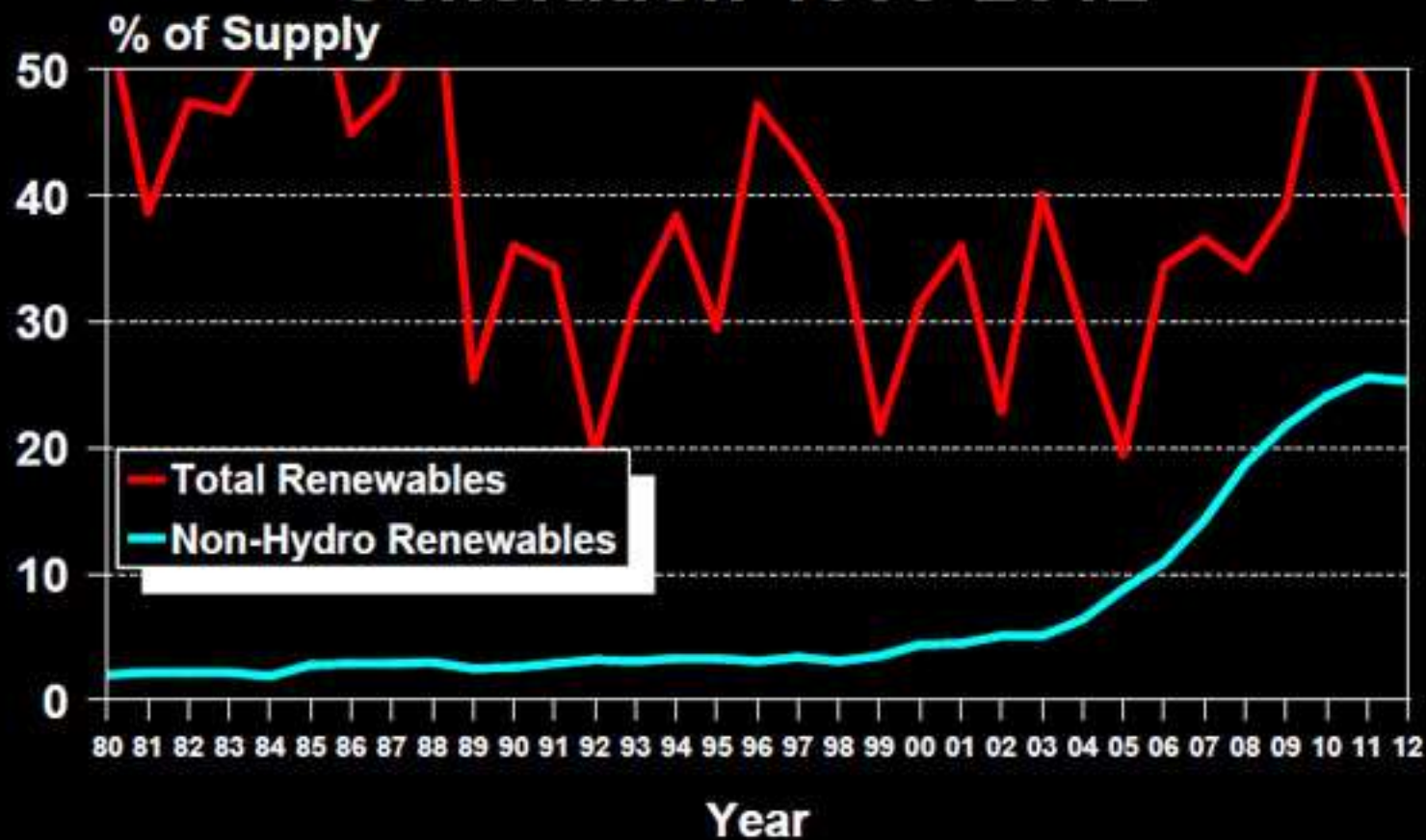


displayed week: CW 15; 2013



Legend: Export Import Conventional > 100 MW Wind Solar

Portugal Total & Non-Hydro Renewable Generation 1980-2012



Japan



Japan



U.S.A.



U.S.A.
100% renewable



U.S.A.

Community Choice Aggregation (CCA) in the USA

2

Boulder

671

250

4

26

37

Fossil Fuels

Mixed Sources

Green Energy

States with CCA
California
Illinois
Ohio
New Jersey
Rhode Island
Massachusetts

the million dollar question

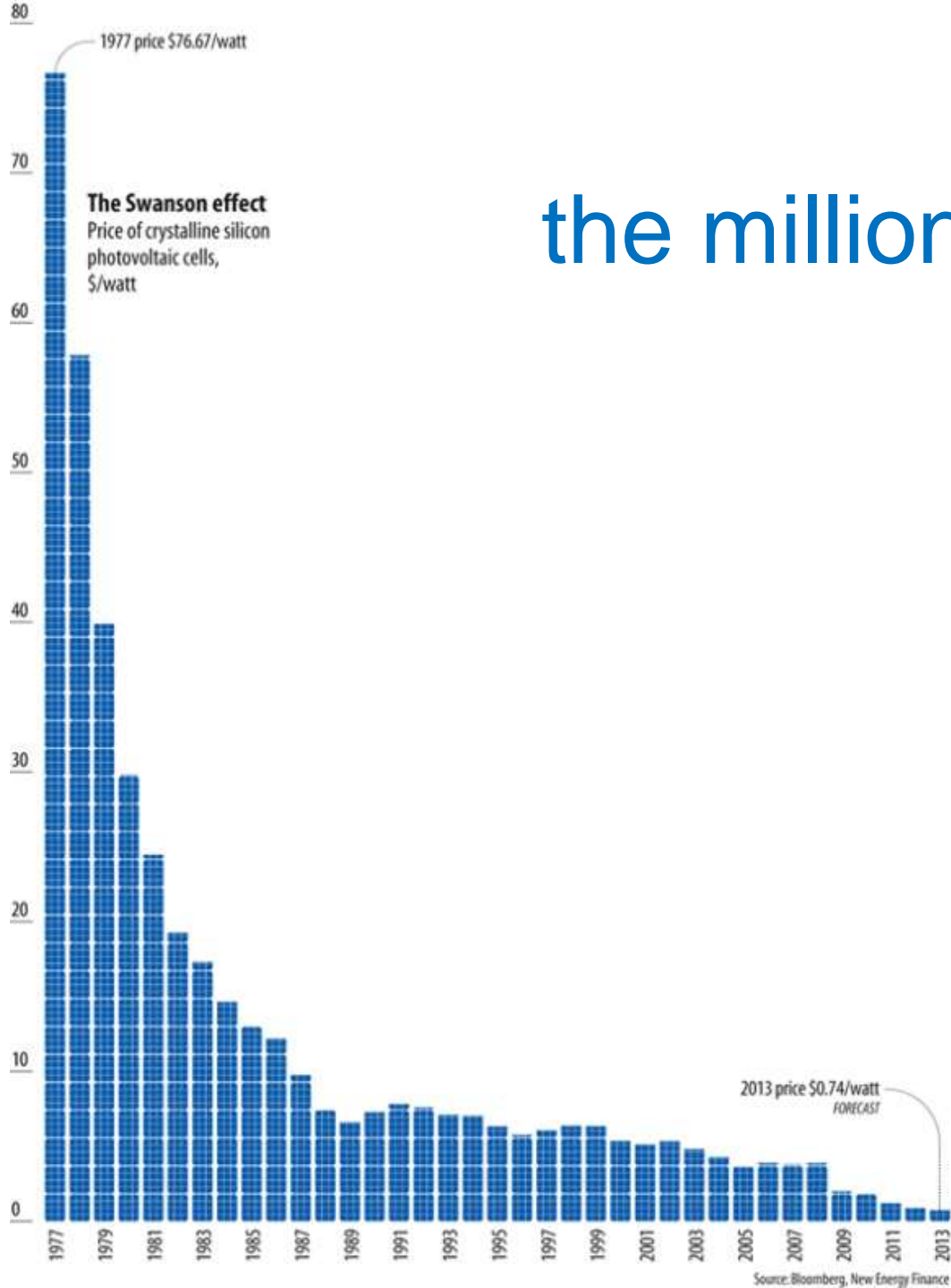
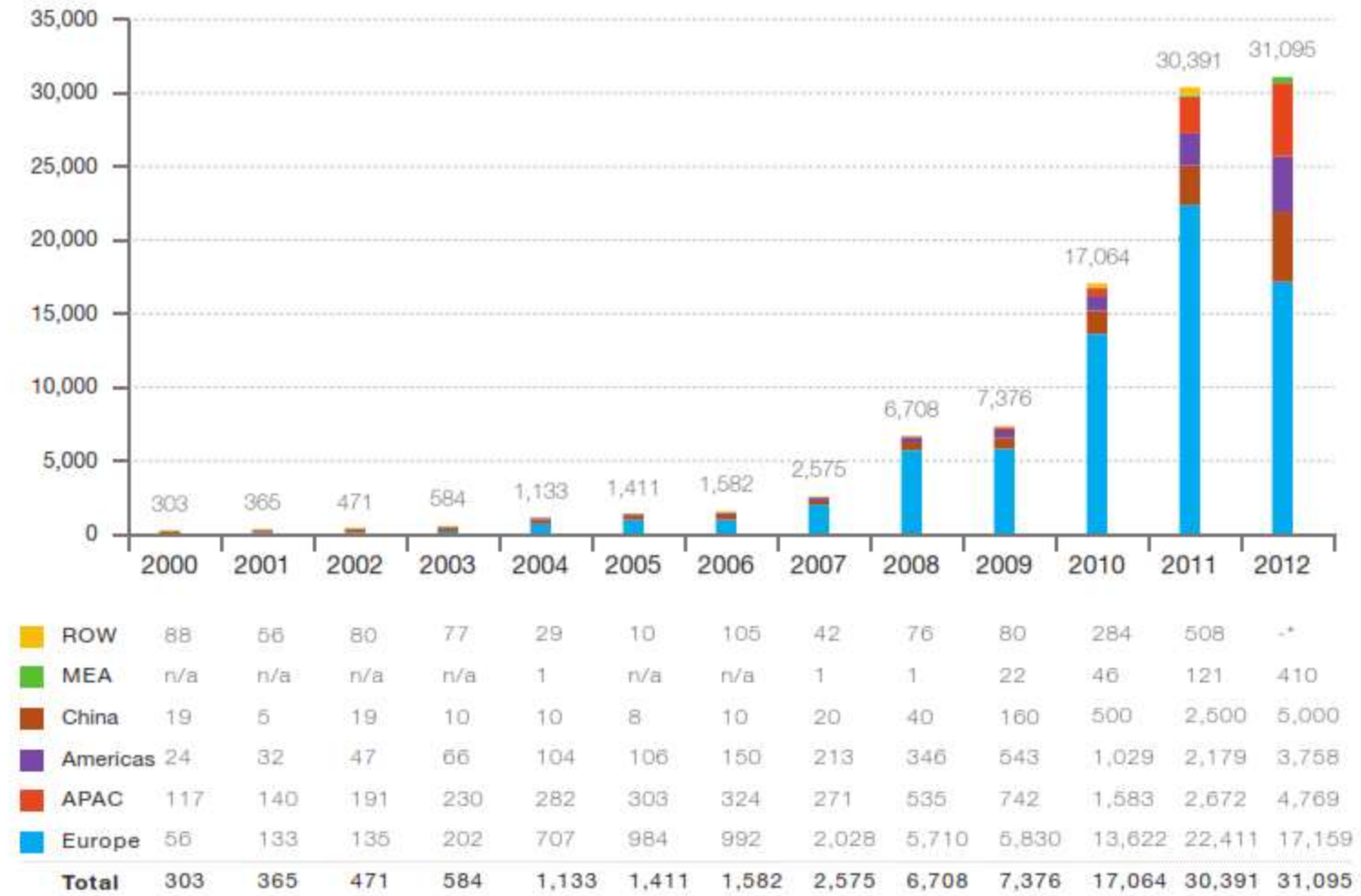
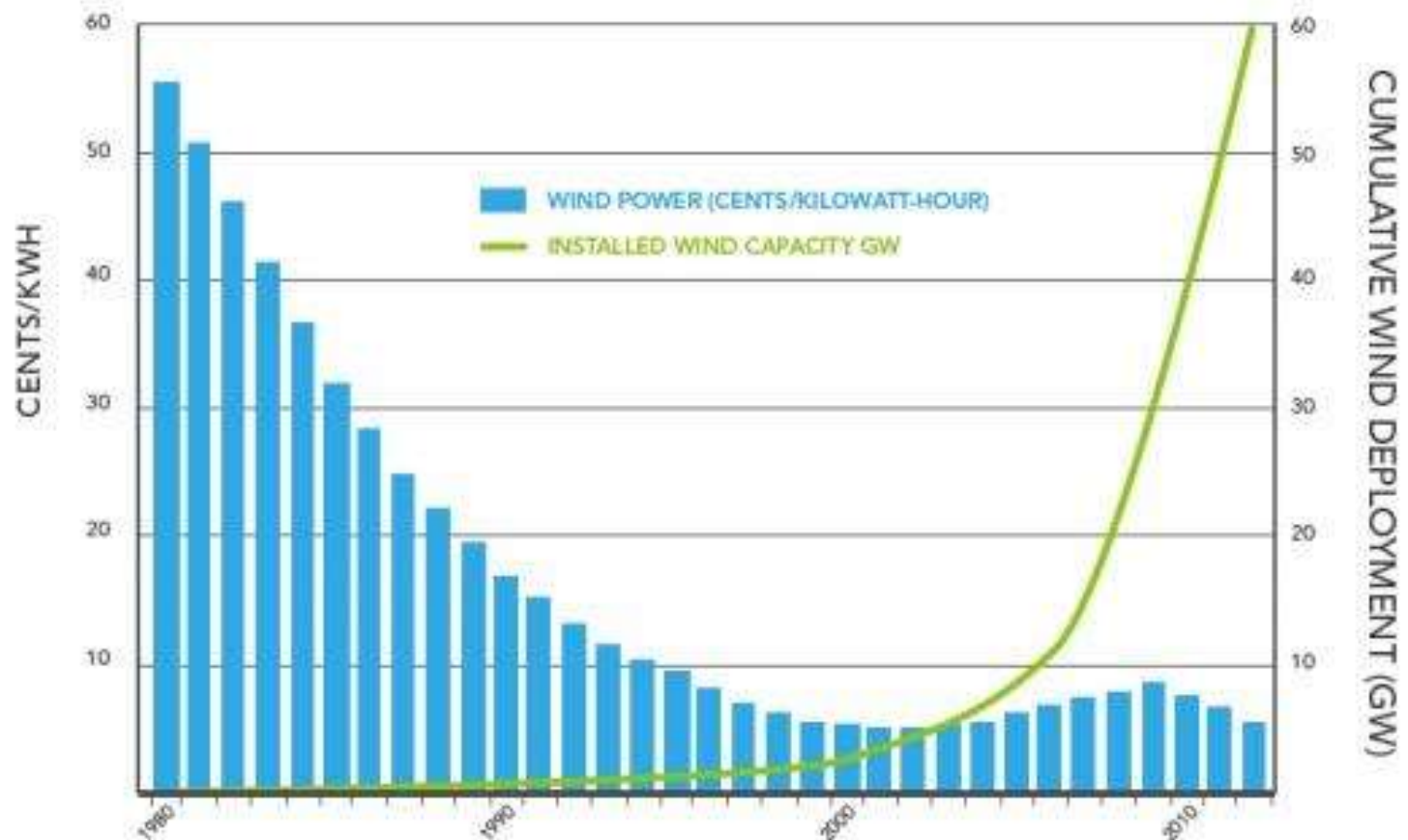


Figure 2 - Evolution of global PV annual installations 2000-2012 (MW)

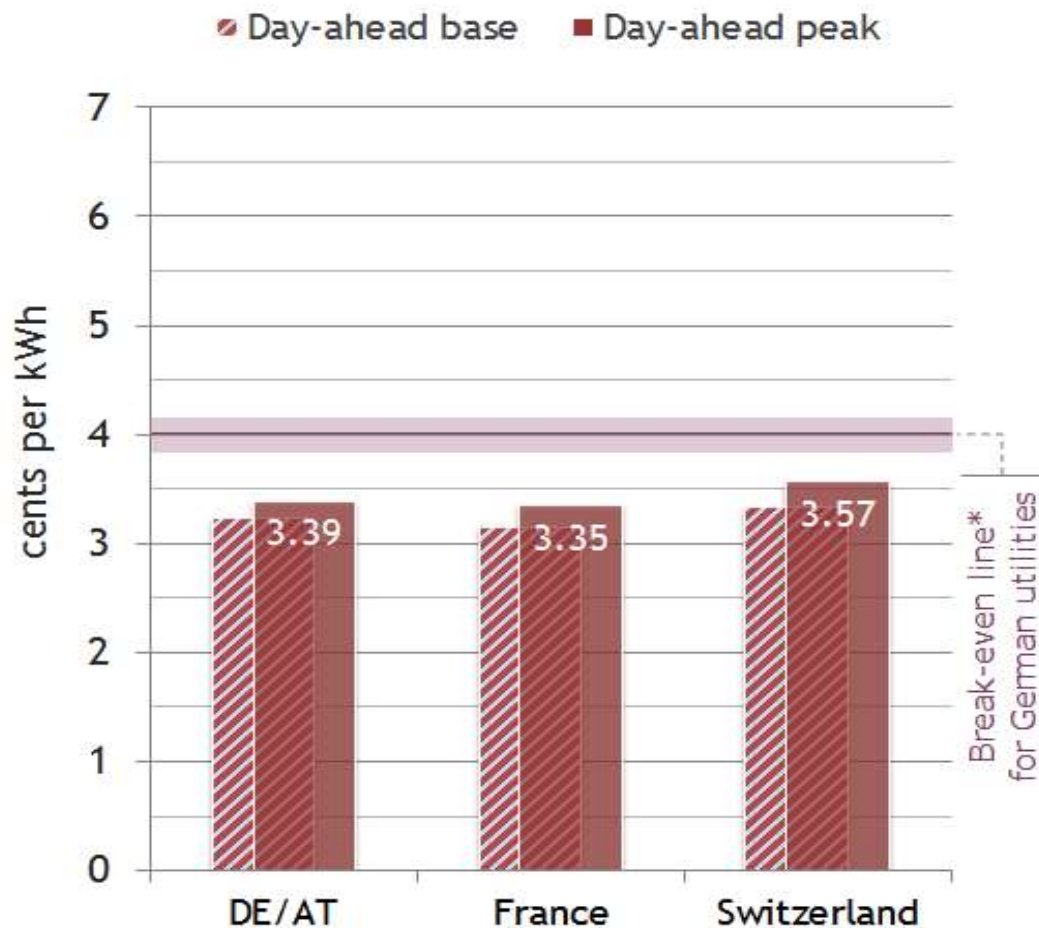


Deployment and Cost for U.S. Land-Based Wind 2008-2012



DISRUPTIVE RENEWABLES

Day-ahead wholesale power prices for 06 May 14



German conventional power crisis counter

30 / 37 : 7

Days below break-even Days since 1 April 2014 Consecutive days



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SEARCH

THE WALL STREET JOURNAL.

U.S. EDITION

Monday, March 25, 2013 As of 4:34 AM EDT

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1 of 12

Beware a Poison Pill at Elan

2 of 12

The End of the Affair for Dividends

3 of 12

Chill Wind Blows Over Turkey



Let Me Not See Old Age in China

MARKETS | March 25, 2013, 4:34 a.m. ET

Utilities Facing a 'Mortal Threat' From Solar

Article

Video

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A

A

By YULIYA CHERNOVA

Traditional transmission and distribution utilities will have to deal with distributed solar power, and it won't be a pretty fight, according to David Crane, president and chief executive of [NRG Energy](#) NRG -1.96% NRG +0.19%, a large independent power producer.



Utilities "do realize that distributed solar is a mortal threat to their business," said Mr. Crane, speaking at The Wall Street Journal's ECO:nomics conference on Thursday in Santa Barbara, Calif.

"They can't cut costs, so they will try to distribute costs over power and power

Time to Take
STOCKTM
of Investor Behavior

Watch Video



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Africa



Africa



Africa



Bangladesh



100% renewable

The first island to become completely energy self-sufficient in 10 years?

11 ONSHORE WIND TURBINES

1 turbine generates enough electricity to power **630 houses**.

The turbines transmit electricity to the mainland when more electricity than the island can consume is generated.



OFFSHORE WIND TURBINES

10 103m high offshore wind turbines constructed in 2003 produce more energy than the island uses for transport

3 x STRAW FIRED PLANTS

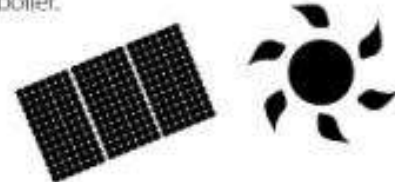
-  Iranebjerg
Heats **263** households
-  Ballen / Brundy
Heats **232** households
-  Onsbjerg
Heats **76** households

SAMSO: ISLAND FACTS

Area:	114 km ²
Population:	4,000
Investment:	DKK 368 million

SOLAR PLANT

One of the heating plants receives heat from **2500 m²** of solar panels. This is combined with a **900 KW** wood chip fired boiler.



EXCESS ENERGY

Excess electricity produced from offshore wind farms is invested in new energy projects.



11 1MW onshore wind turbines

generate 28,000 MWh, that's more electricity than the island's total consumption and the equivalent of 690,000 gallons of oil.



SURFACE AREA REQUIRED TO POWER THE WORLD

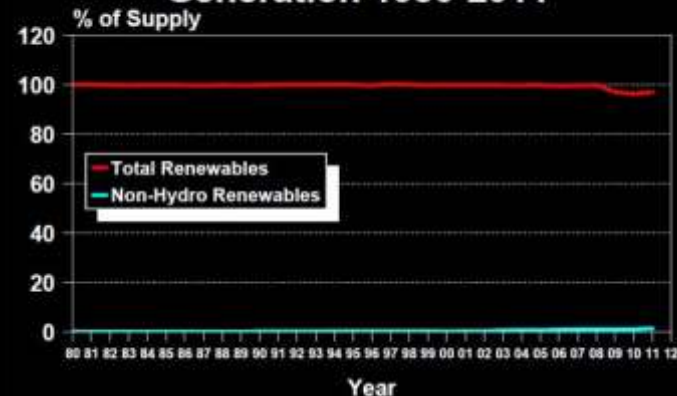
WITH ZERO CARBON EMISSIONS AND WITH SOLAR ALONE

➔ www.landartgenerator.org



Norway - 100% renewable

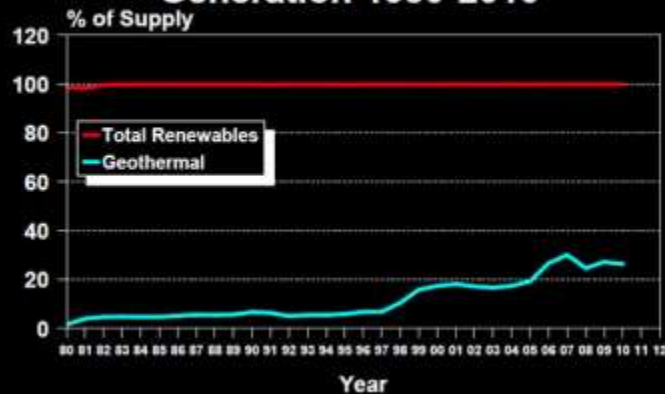
**Norway Total & Non-Hydro Renewable
Generation 1980-2011**



Iceland – 100% renewable



**Iceland Total & Non-Hydro Renewable
Generation 1980-2010**



opportunity - the new story





new businesses for

BOB

Four business models:

- Generation business
- Supply Business
- ESCO Business
- Collective Purchasing
or “Aggregation”

location, location, location

it starts in your town

it starts with people



technology – what's your business?



business planning

legal and permissions



marketing and promotion



THE PAPER FOR LEWES • RINGMER • CHAILEY • NEWICK

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For the best jobs in the area

Harvey's depot could become a community-owned solar power station making it one of the first in the entire country. A solar panel would be installed on the roof of the building.



Solar power station plans for brewery

by AMIE MORRELL
amie.morrell@sussexexpress.co.uk

REMARKABLE plans are in the pipeline to make Harvey's Brewery a community-owned solar power station.

Electricity would be generated from the roof of the Doves Lane Depot in Lewes, the brewery's main storage and distribution warehouse.

The feasibility of the project is being discussed by Harveys and Lewes-based specialist OVESCO Limited and a planning application has been submitted to Lewes District Council.

The proposed solar installation would turn the building into one of the first solar power stations in the country – and continue to build on Harvey's reputation as an environmentally responsible company.

Technically, the scheme would involve installing a 95kW solar photovoltaic array on the roof of the Doves Lane building. The solar panels would generate around 100,000 hours of "green electricity" from its National Grid each year – enough to save more than 50 tonnes of CO2 annually.

Mike Jenner, Head Brewer at Harvey's, said: "OVESCO are pioneers and experts in the field and as a Lewes company we wanted to be part of such an innovative

project. There's a lot to explore it thoroughly and meet our shared objectives. It's very much a consultation process at the moment but there's excellent enthusiasm for the scheme."

The planning application for the 544 PV modules includes internally installed inverters, wiring, switch gear control and surge protection devices.

The two companies are now in discussion about the potential benefits to both organisations and the local community.

A spokesman for OVESCO, of Station Street, said: "The system, once completed, would have virtually no visual impact on the surroundings, but would silently make green electricity for Lewes."

Under the proposal being explored, individuals would be able to invest in the project through OVESCO, which is an Industrial and Provident Society – as an IFS it is a not-for-profit organisation for community benefit.

If the discussions between the two parties conclude positively, an invitation to invest will be distributed shortly, listing out the details of the offer. The first-in tariff paid for each unit of electricity generated and currently guaranteed by government for 25 years, will enable OVESCO to pay dividends to investors. Anyone interested in the investment scheme should email the company at info@ovesco.co.uk.

HARVEYS

OVESCO
www.ovesco.co.uk


fundraising

**INVEST IN
LOCAL POWER.**

THE UK'S FIRST COMMUNITY-OWNED
SOLAR POWER STATION
SHARE LAUNCH LEWES TOWN HALL
TUESDAY APRIL 19TH 7-9PM

Speakers: Huw Irranca-Davies (Shadow Energy Minister)
Jeremy Leggett (Solar Century)
Sara Parkin (Forum for the Future)



 **OVESCO**
www.ovesco.co.uk

Let's make it happen

construction



manage



start again



"Another world is not only possible, she is on her way. On a quiet day, I can hear her breathing." - Arundhati Roy

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howard@southernsolar.co.uk

www.southernsolar.co.uk

www.ovesco.co.uk

energy revolution

Out 2015

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The triple spiral or triskele is a Celtic and pre-Celtic symbol found on a number of Irish Megalithic and Neolithic sites, most notably inside the Newgrange passage tomb, on the entrance stone, and on some of the curbstones surrounding the mound.