Energy Revolts
The Crisis of Europe’s Green Energy Agenda

Dr Benny Peiser
Director, Global Warming Policy Foundation

Amsterdam – 7 March 2019
What Crisis?

The EU’s Green energy policies have
- increased energy prices significantly
- reduced competitiveness of European industries
- failed to solve the technological Achilles’ heel of intermittent renewables
- increased energy insecurity and dependence on Russian energy imports
- increased division between Western Europe and Central & Eastern Europe
- given rise to widespread public discontent and the rise of populist parties opposed to the green energy agenda
Original EU Climate & Renewables Agenda

After the fall of the Berlin Wall & the rise of green parties, the EU’s climate & green energy agenda was founded on three key assumptions & one goal:

1. global warming is an urgent threat that needs to be prevented without delay and at all costs

2. the world is running out of fossil fuels, i.e. oil and gas prices can only rise, thus renewable energy will very soon become cost competitive

3. the UN will agree a legally binding agreement on CO2 reductions creating a global market into which EU companies can sell their low-carbon technology & knowhow.

4. Europe will become "the most competitive and dynamic knowledge-based economy in the world" (Lisbon Strategy).
The Lisbon agenda vs The Green Agenda

The Lisbon strategy

Lisbon objective: To transform the EU into the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion

HOW?

By implementing a comprehensive strategy of structural reform aiming at promoting growth and employment, creating a KBE and maintaining social cohesion.
1. Rise in average global surface temperature has been half (0.17°C per decade) of what the IPCC predicted in 1990.

2. The shale revolution is producing abundant fossil fuel resources that can meet the world’s needs for most of the 21st century.

3. The EU has failed to bring about an international climate agreement that is legally binding on all parties.

4. Instead of becoming a ‘the most competitive economy’, the EU’s green agenda has lead to economic stagnation and a loss of international competitiveness.
Europe’s Comparative Decline

Key projections

Emerging markets will dominate the world’s top 10 economies in 2050 (GDP at PPPs)

<table>
<thead>
<tr>
<th>Country</th>
<th>2016</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>US</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>India</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>US</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Japan</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Germany</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Russia</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Brazil</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Indonesia</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>UK</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Japan</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Germany</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>UK</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

Sources: IMF for 2016 estimates, PwC analysis for projections to 2050
The EU’s CO2 emissions since 2014 have been going up in 14 out of the 19 larger EU member states. These countries include Germany, France, Poland, Spain, and the Netherlands.

For the EU as a whole CO2 emissions increased by 2.5 percent in 2017. --BP Statistical Review of World Energy 2018
All EU countries are missing the Paris Agreement targets, as assessed by CAN Europe (2018).

“No single EU country is performing sufficiently in both ambition and progress in reducing carbon emissions.”

“Most countries that advocate for more ambitious policies for the future are currently lagging behind in achieving targets for 2020 and reducing carbon emissions.”
If renewable energy is so cheap, why is EU investment declining rapidly?

- Investment in renewables in the EU fell 50 percent between 2011 and 2017, to $57 billion (€46 billion). --Bloomberg New Energy Finance

Renewables investment in UK will fall 95% over next three years - study

Analysis reveals extent of decline because of subsidy cuts and raises concerns about Britain meeting emissions targets.
Renewable Subsidy Cuts

Wind energy suffers tough year in Europe with 12 nations failing to install a single turbine

Renewables investment in UK will fall 95% over next three years - study

Analysis reveals extent of decline because of subsidy cuts and raises concerns about Britain meeting emissions targets

UK solar deployment halved in 2017 following government’s ‘solar exit’
The Technological Achilles’ Heel of Renewables

Wind energy in Europe
Status, potentials and challenges for baseload application

Thomas Linnemann, Guido S. Vallana

German renewable share sets annual record above 40%
Huge Capacity -- Little Output When The Wind Doesn’t Blow

Source: Thomas Linnemann and Guido S. Vallana: Wind energy in Europe Status, potentials and challenges for baseload application, presentation 2018 -- Windenergie in Deutschland und Europa, VGB PowerTech 10/2018

In Germany the installed capacity of all wind turbines has increased twelvefold over the last 18 years to 56,000 MW today.

The mean production is around 12,000 MW.

Despite the twelvefold increase in capacity, the minimum capacity has remained extremely minimal.
Can European Wind Power Help?

Germany: Wind power production since 2010

Europe: Wind power production in 2016

Could European wind power help?

18 countries

AT Austria
BE Belgium
CZ Czech Republic
DE Germany
DK Denmark
ES Spain
FI Finland
FR France
GR Greek
IE Ireland
IT Italy
NL Netherlands
NO Norway
PL Poland
PT Portugal
RO Romania
SE Sweden
UK United Kingdom
Wind Production In European Countries Is Correlated & Can’t Fill Gap

- Highly intermittent wind fleet power output shows significant peaks and minima and is observed not only for a single country, but also for the whole of the 18 European countries.
- Between 2015 and 2017 the European wind fleet’s power utilization factor resulted in annual mean values between 22% to 24% and continuously available (secured) annual minima between 4% and 5% of its capacity despite tens of thousands of wind turbines distributed throughout Europe.
- Wind energy therefore requires a practically 100% backup.
Conclusions

1) Wind power production is fluctuating and intermittent throughout Europe.
2) Wind power production in numerous European countries is correlated.
3) Enforced electricity exchange with neighbour countries can hardly help.
4) Smoothing is only observed to a minor extent for distant country pairs.
5) Increasing grid losses with enforced European electricity exchange.
6) Wind power practically does not contribute to security of supply.
7) Wind power practically requires 100 % dispatchable systems.
EU Commission Study: Competitive Disadvantage of EU Green Policies

- EU 28 household electricity prices are now more than double those in the G20, while industrial electricity prices are now nearly 50% higher.

- Study on energy prices, costs and subsidies and their impact on industry and households (2018)

![Graphs showing EU28 and G20 electricity and natural gas prices.](image)

Figure 1. EU28 weighted average electricity and natural gas prices compared to G20 weighted (by trade with EU) average prices, 2017 €/MWh. Source: Trinomics for DG Energy, Study on energy prices, costs and subsidies and their impact on industry and households (2019), 17.
Jim Ratcliffe’s Open Letter to the European Commission president Jean-Claude Juncker

Dear President Juncker,

Nobody but nobody in my business seriously invests in Europe. They haven’t for a generation. Europe is no longer competitive. It has the world’s most expensive energy and labour laws that are uninviting for employers. Worst of all, it has green taxes that, at best, can be described as foolish as they are having the opposite effect to how they were intended. –Sir Jim Ratcliffe, Open Letter to the European Commission President Jean-Claude Juncker, 12 February 2019
Carbon Tax Revolts

France raises carbon taxes, to repay EDF renewables debt

Bart Felix, Geert De Clercq

PARIS (Reuters) - France plans to increase carbon taxes to boost support for renewable energy and will repay a longstanding renewables-related debt to utility EDF, the government said on Wednesday.
Governments Increasingly Divided As Costs & Opposition Grow

Holland

Climate Minister: The green transition has become too expensive

The climate and energy minister raises the idea of looking at the green transition. No, the opposition says.

Germany

Climate policies threaten to blow apart Germany’s ruling coalition

An effort to cut emissions includes a heavy dose of politics.

By KALINA OROSCHAKOFF | 2/28/19, 8:32 PM CET | Updated 2/28/19, 4:38 PM CET

IRISH PRIME MINISTER DELAYS CARBON TAX AFTER ‘LEARNING LESSON’ OF YELLOW VESTS PROTESTS

Date: 06/01/19 | The Times

The government needs to develop a “package of measures” to meet Ireland’s climate change targets without bringing protesters out on the streets, the taoiseach has said.
"As the share of climate sceptics in European institutions increases, progress and ambition regarding climate policy are increasingly at risk. **One of the main threats to the implementation of the Paris Agreement is the danger that centrist parties will pander to climate-sceptic priorities or nationalistic rhetoric, and shift from progressive towards reactionary positions.**" Stella Schaller and Alexander Carius (2019)
Climate Changed

Europe's Populist Right Threatens to Erode Climate Consensus

By William Wilkes
25 February 2019, 23:01 GMT  Updated on 26 February 2019, 07:23 GMT

Shrinking Climate Consensus
The percentage of European members of parliament voting in favor of climate and renewable energy policies will probably shrink further after elections in May.

- Votes for climate policies
- Against
- Abstentions

Previous term:
- Votes: 86%
- Against: 10
- Abstentions: 4

Current term:
- Votes: 75%
- Against: 17
- Abstentions: 8

Next term based on polling:
- Votes: 71%
- Against: 19
- Abstentions: 9

Source: Adelphi based on VoteWatch.EU figures
Centre-Right Already Shifting Against Green ‘Consensus’?

In July 2018, the European Parliament backed a non-binding resolution to “make ratification and implementation of the Paris Agreement a condition for future trade agreements”. In a complete U-turn, a committee of the European Parliament last month endorsed opening trade talks between the EU and the US. Left-wing parties opposed the trade talks, but the conservative party group won the battle.