

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



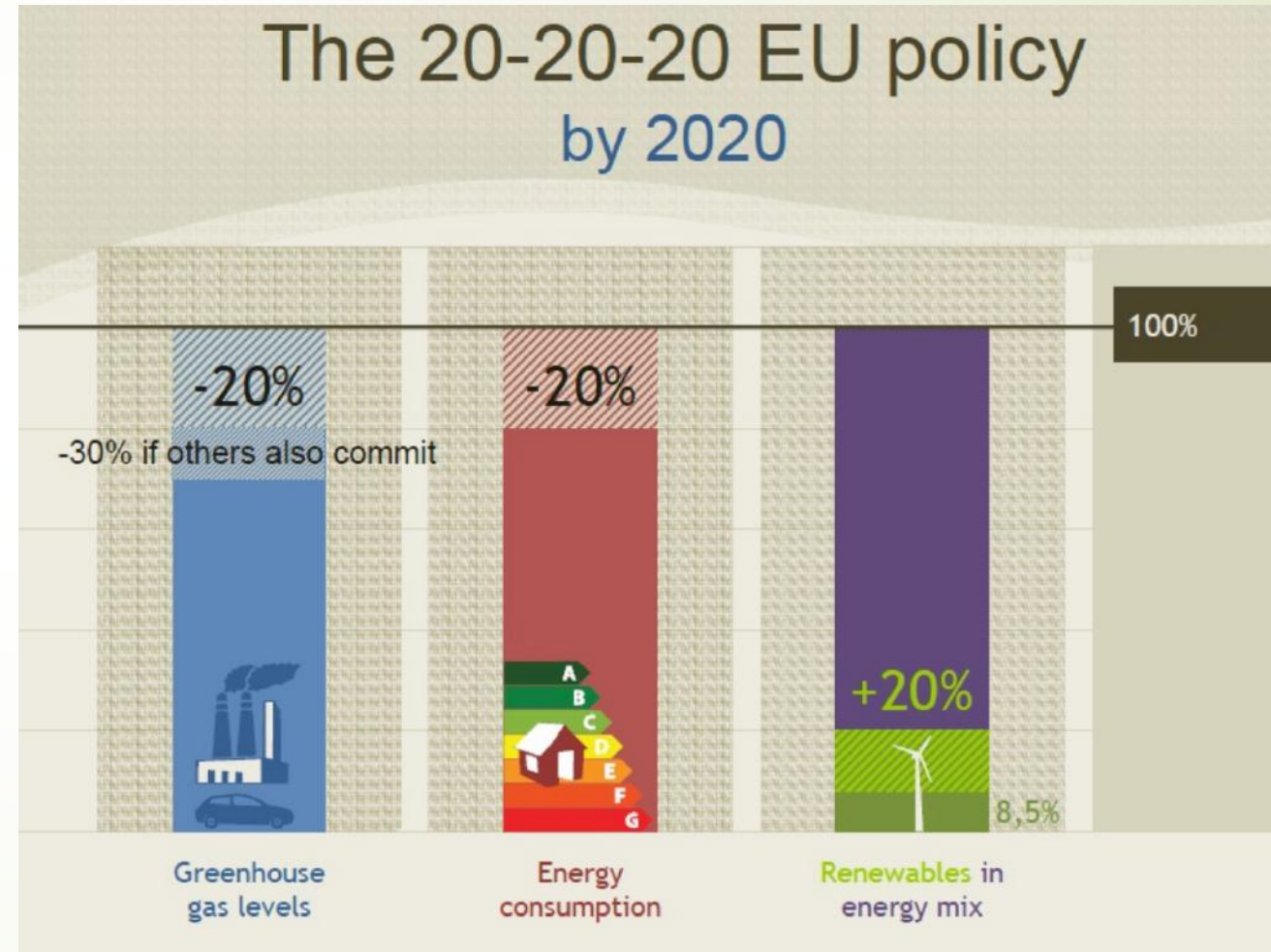
DG ECFIN

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?

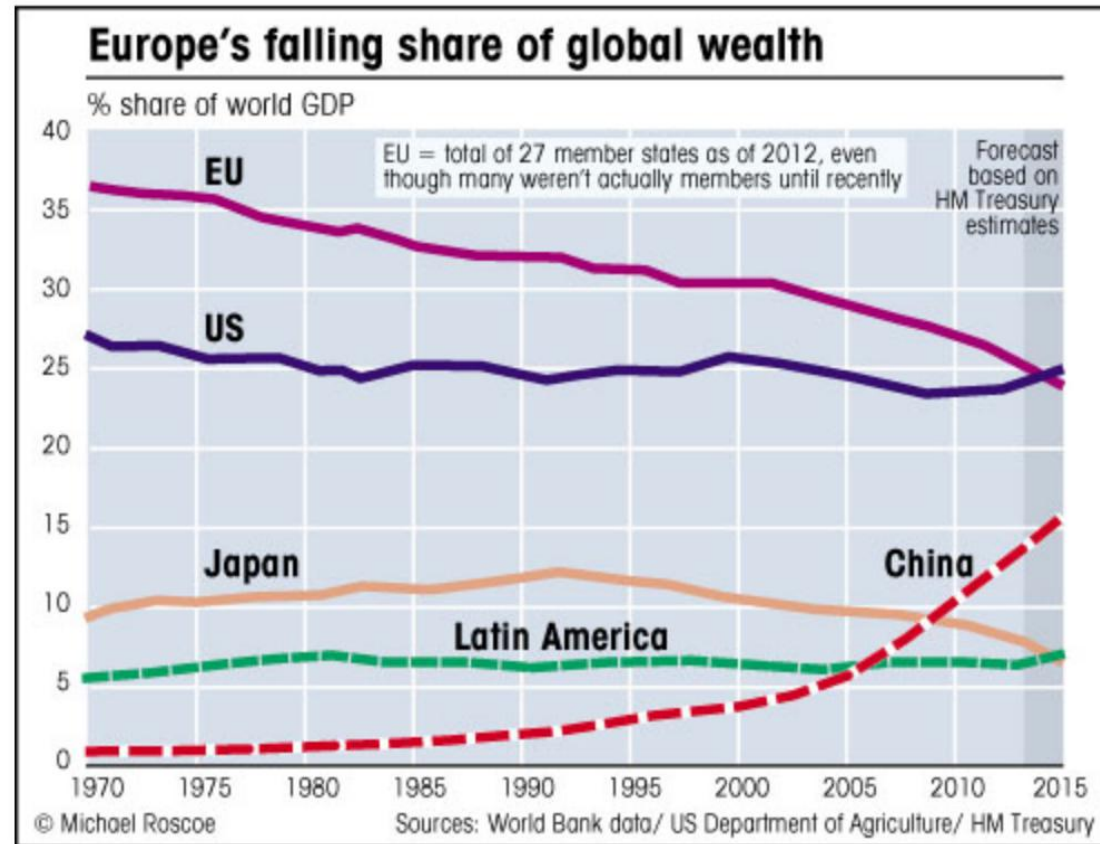
By implementing a comprehensive strategy of structural reform aiming at promoting growth and employment, creating a KBE and maintaining social cohesion



Failure of EU Assumptions

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

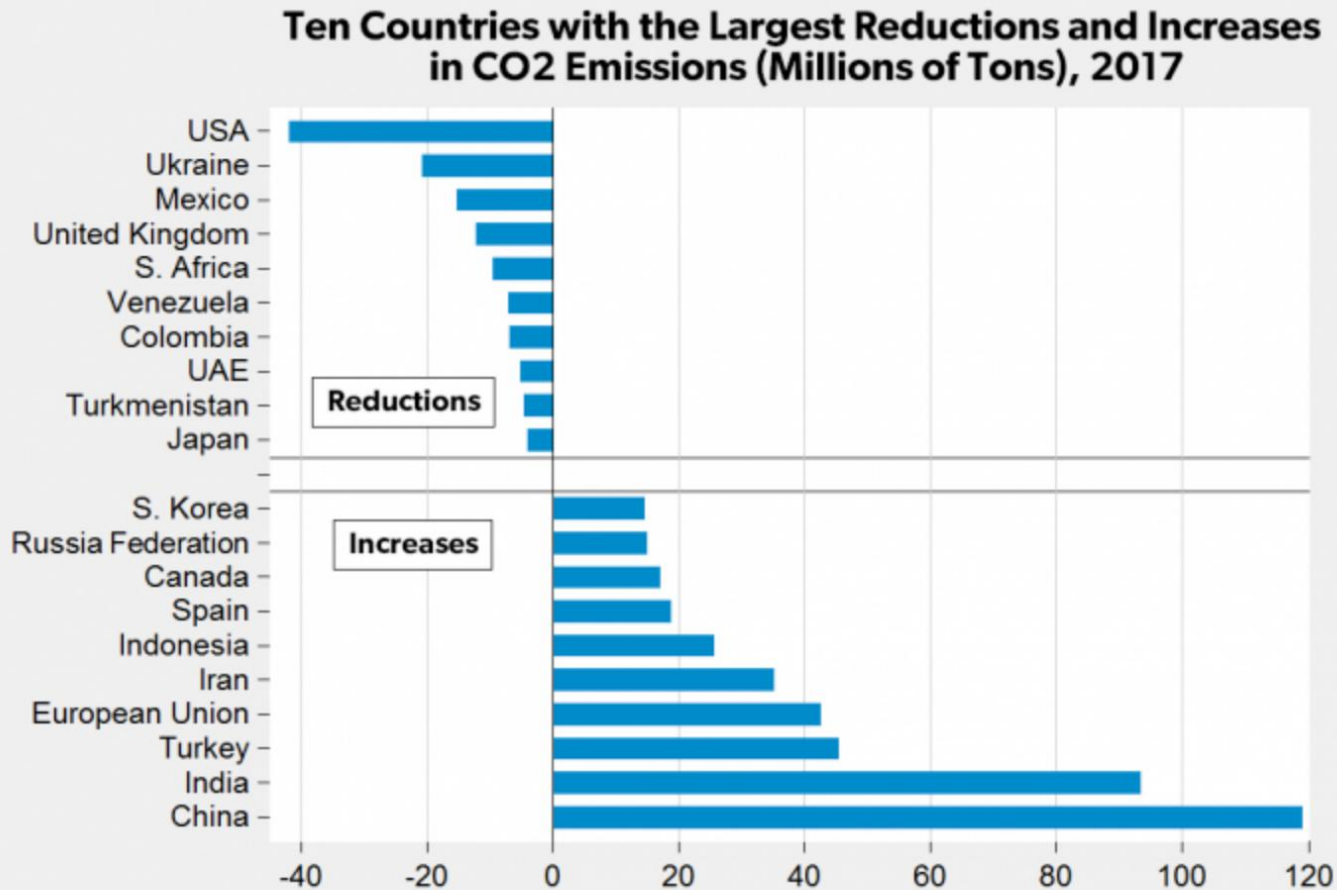
Emerging markets will dominate the world's top 10 economies in 2050 (GDP at PPPs)

	2016	2050	
China	1	1	China
US	2	2	India
India	3	3	US
Japan	4	4	Indonesia
Germany	5	5	Brazil
Russia	6	6	Russia
Brazil	7	7	Mexico
Indonesia	8	8	Japan
UK	9	9	Germany
France	10	10	UK

E7 economies
 G7 economies

Sources: IMF for 2016 estimates, PwC analysis for projections to 2050

CO2 emissions rising



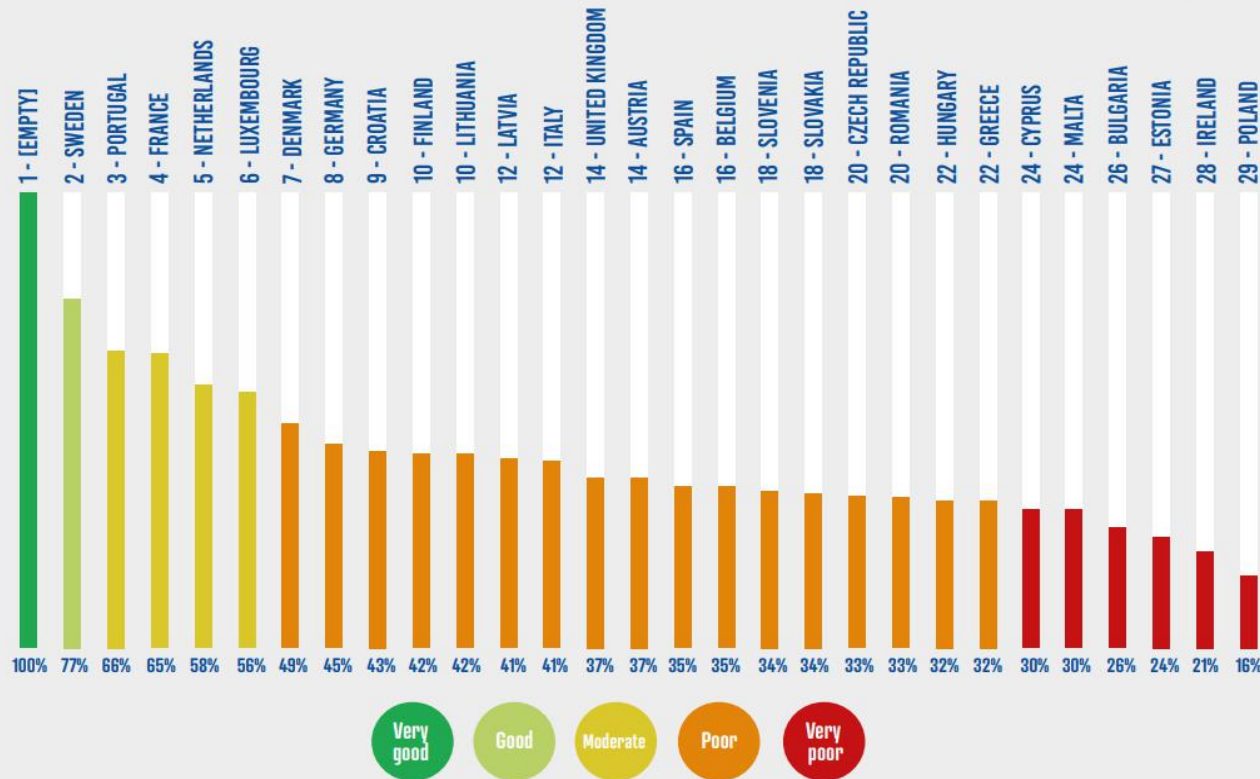
Source: BP Statistical Review of World Energy June 2018

Carpe Diem 

- 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*

EU Failing Its Climate Targets

Where do EU countries stand on fighting climate change?



All EU countries are missing the Paris Agreement targets, as assessed by CAN Europe (2018).

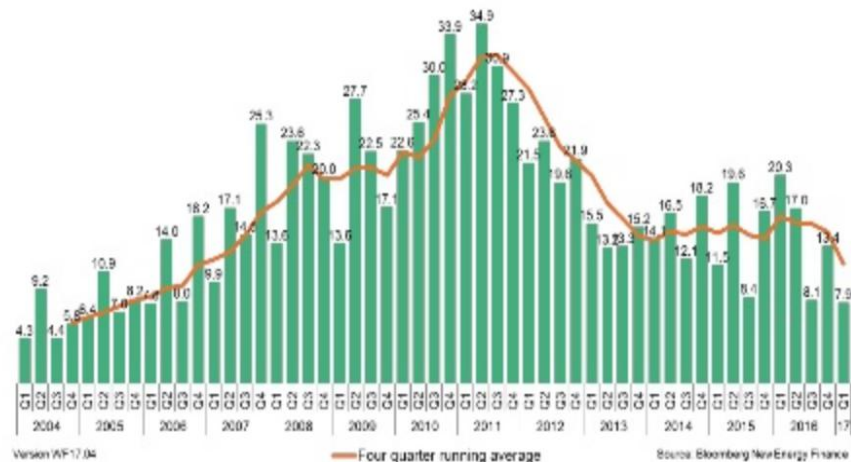
“No single EU country is performing sufficiently in both ambition and progress in reducing carbon emissions.”

“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*

Europe new investment in clean energy
(\$ billion)



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



▲ More than £1bn of future investment in green energy projects disappeared during 2016, thinktank finds.

Renewable Subsidy Cuts

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

PUBLISHED THU, FEB 21 2019 • 4:07 AM EST | UPDATED THU, FEB 21 2019 • 5:02 AM EST

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

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Photograph: Bloomberg via Getty Images

UK solar deployment halved in 2017 following government's 'solar exit'



The Technological Achilles' Heel of Renewables



Wind energy in Europe

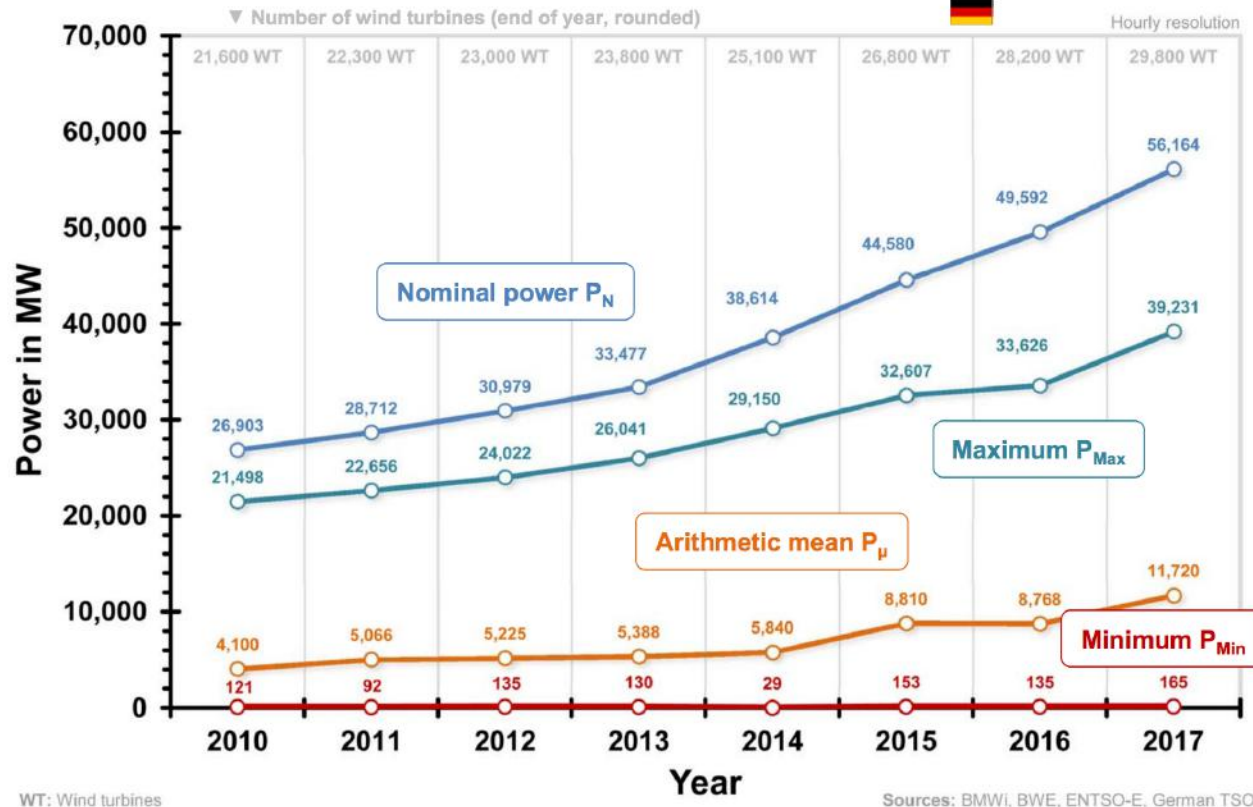
Status, potentials and challenges for baseload application

Thomas Linnemann, Guido S. Vallana

**German renewable
share sets annual record
above 40%**

Huge Capacity -- Little Output When The Wind Doesn't Blow

Germany: Wind power production since 2010



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

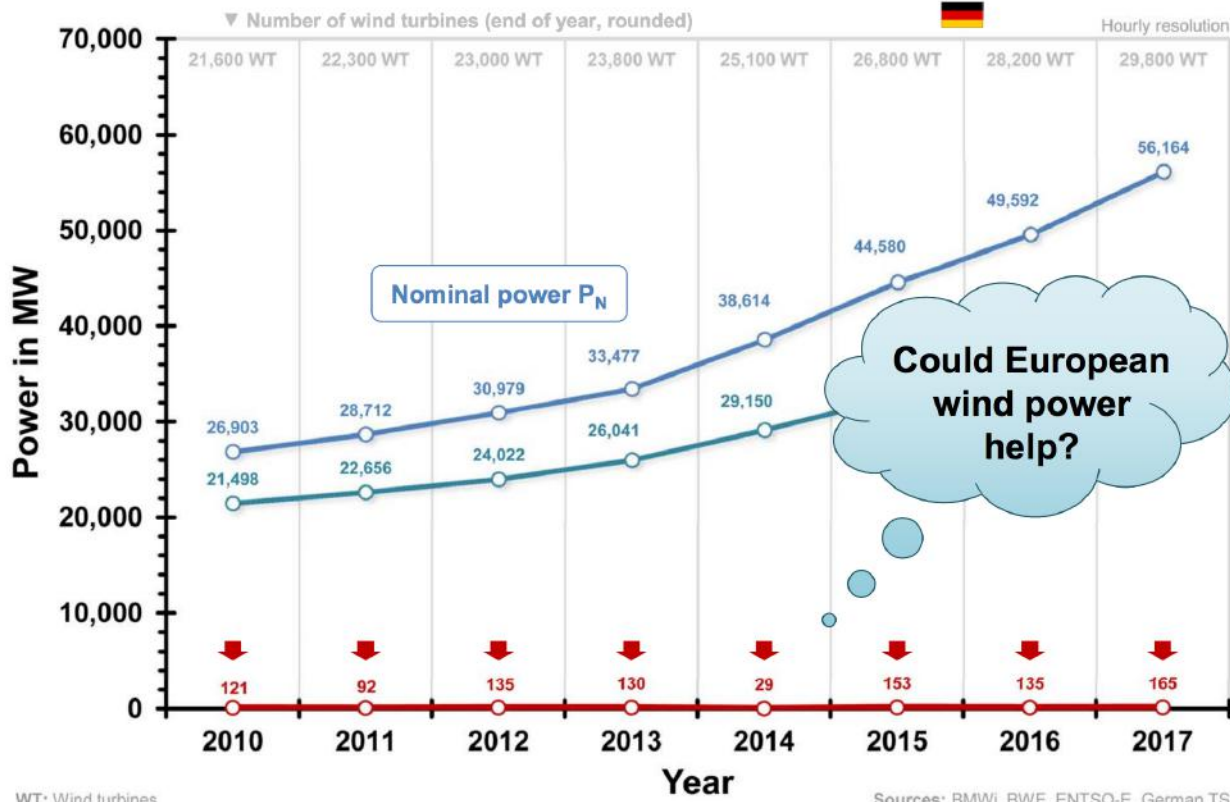
In Germany the installed capacity of all wind turbines has increased twelvefold over the last 18 years to 56,000 MW today.

The mean production is around 12,000 MW.

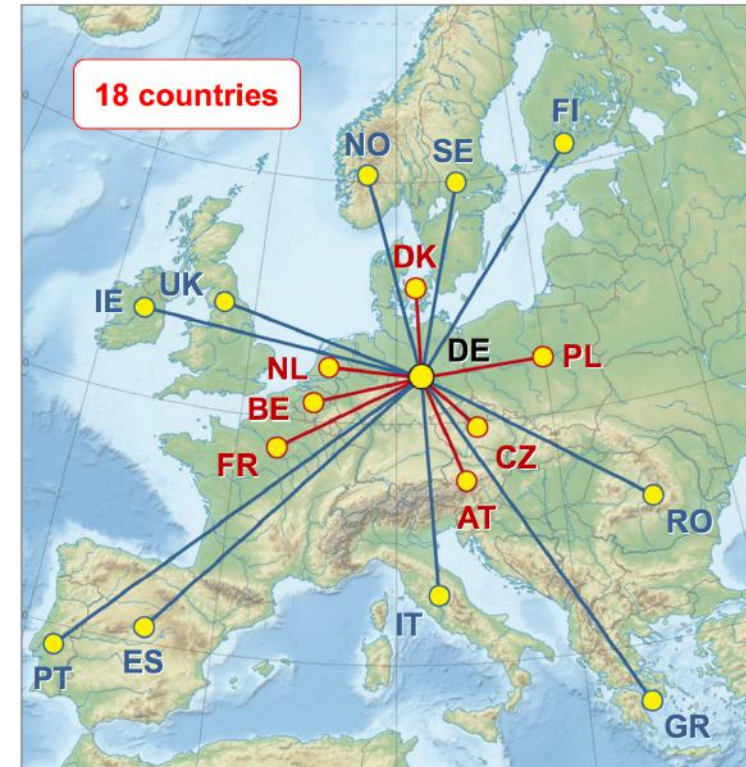
Despite the twelvefold increase in capacity, the minimum capacity has remained extremely minimal.

Can European Wind Power Help?

Germany: Wind power production since 2010



Europe: Wind power production in 2016

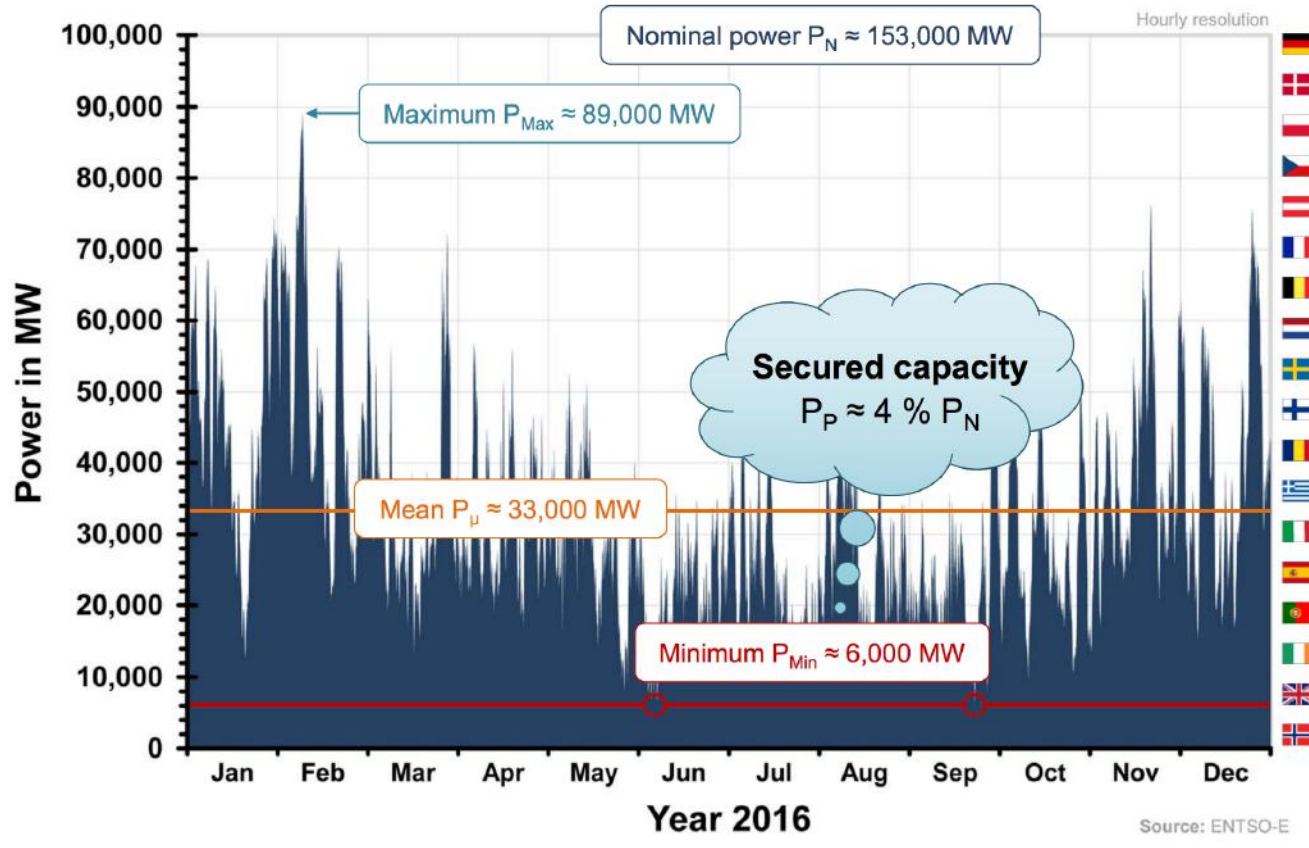


- AT Austria
- BE Belgium
- CZ Czech Republic
- DE Germany
- DK Denmark
- ES Spain
- FI Finland
- FR France
- GR Greek
- IE Ireland
- IT Italy
- NL Netherlands
- NO Norway
- PL Poland
- PT Portugal
- RO Romania
- SE Sweden
- UK United Kingdom

Wind Production In European Countries Is Correlated & Can't Fill Gap

Europe: Wind power production in 2016

VGB
POWERTECH



- 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.**

Thomas Linnemann & Guido S. Vallana (2018) Conclusions

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)*

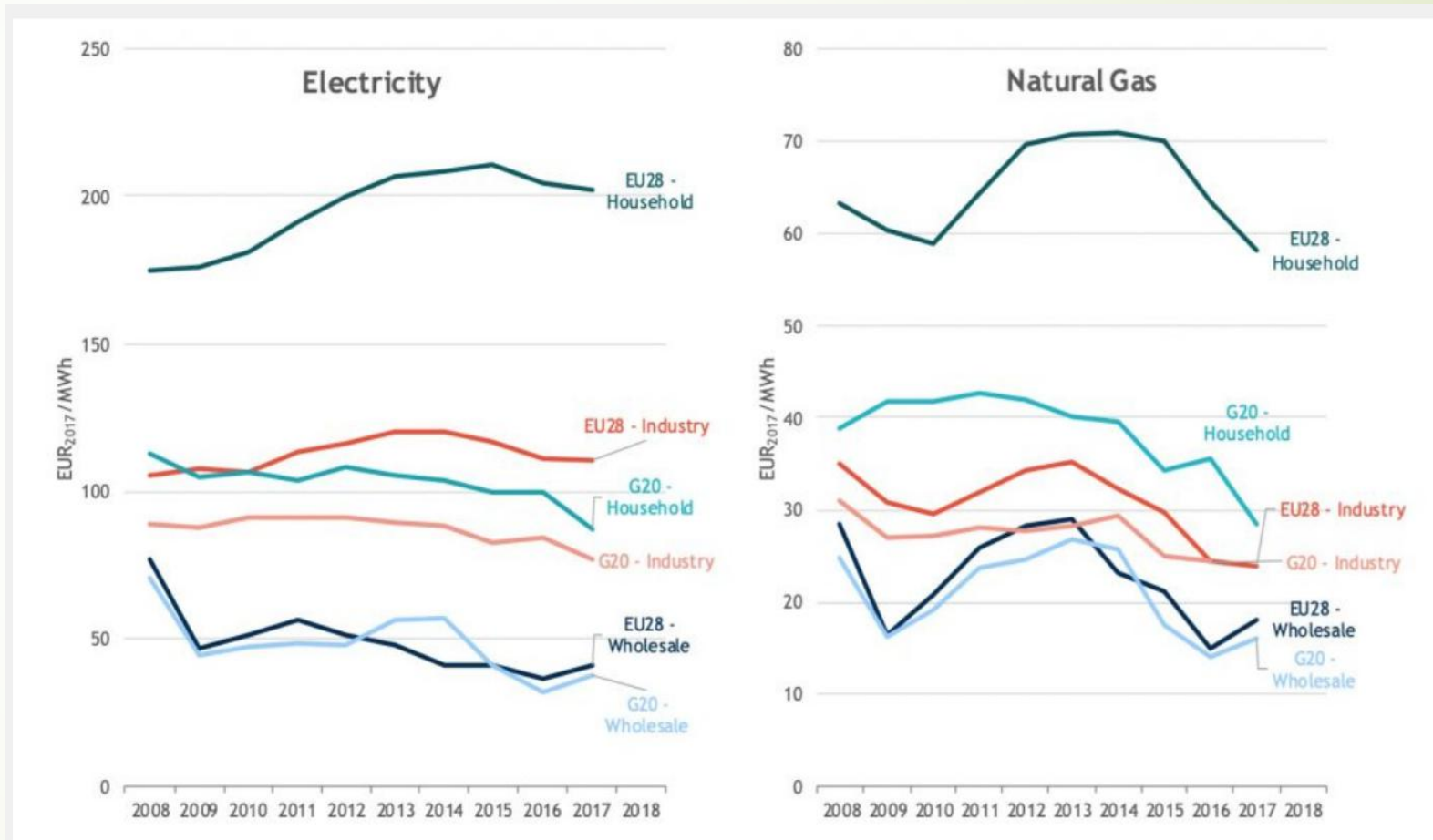


Figure 1. EU28 weighted average electricity and natural gas prices compared to G20 weighted (by trade with EU) average prices, 2017 €/MWh. Source: Trinomics for DG Energy, Study on energy prices, costs and subsidies and their impact on industry and households(2019), 17.



Jim Ratcliffe's Open Letter to the European Commission president Jean-Claude Juncker

Tuesday 12 February 2019 11:37pm

Green taxes are killing European investment, says Ineos boss Ratcliffe

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 worlds 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

BUSINESS NEWS SEPTEMBER 27, 2017 / 12:23 PM / A YEAR AGO

France raises carbon taxes, to repay EDF renewables debt

Bate Felix, Geert De Clercq

4 MIN READ



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.

OPINION | REVIEW & OUTLOOK

The Global Carbon Tax Revolt

The French are the latest to refuse to sacrifice growth for green piety.

By The Editorial Board
Dec. 3, 2018 6:41 p.m. ET



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WORLD

MACRON DECLARES DRAMATIC U-TURN ON CARBON TAX AMID WEEKEND OF RIOTS AND PLUMMETING POPULARITY

BY SAM EARLE ON 12/4/18 AT 10:14 AM

Governments Increasingly Divided As Costs & Opposition Grow

Holland

POLITICS

RULING PARTY DOES NOT WANT TO IMPLEMENT CLIMATE AGREEMENT

By Janene Pieters on January 14, 2019 - 09:15



Klaas Dijkhoff (Photo: Rijksoverheid.nl/Wikimedia Commons), Klaas Dijkhoff (Photo: Rijksoverheid.nl)

22.04.2016 KL. 22:04

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.



Denmark

Germany

Climate policies threaten to blow apart Germany's ruling coalition

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

By KALINA OROSHAKOFF | 2/26/19, 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: 08/01/19 | 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.



Campaigners from Yellow Vest Ireland in Dublin (Brain Lawless/PA)

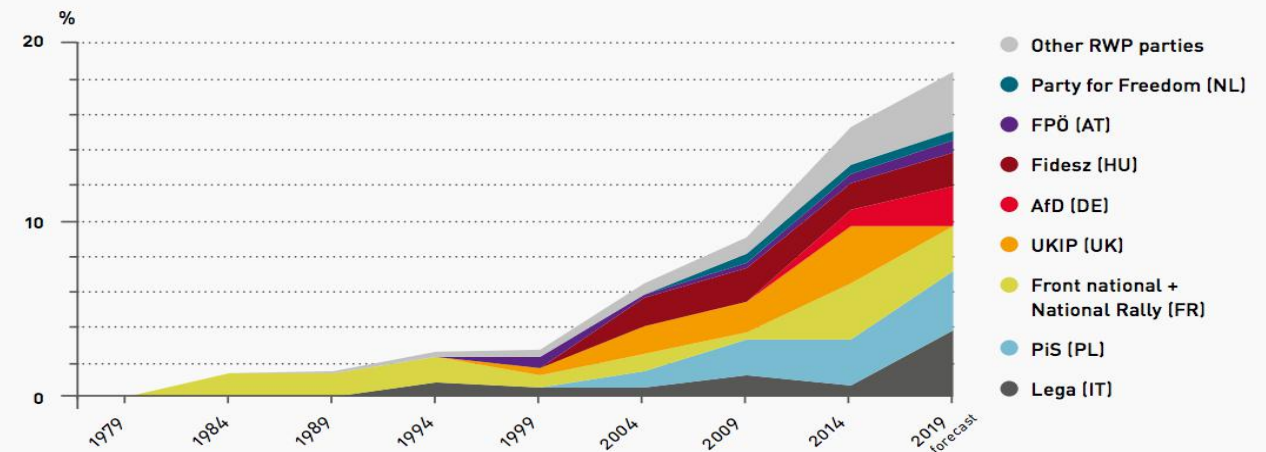
Ireland

The Rise of Populist Climate Scepticism



"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)

Evolution of today's strongest right-wing populist parties in Europe
The chart shows the percentage of seats in the European Parliament, assigned to 19 right-wing populist parties



The chart does not consider parties relevant in the past or populists' overall share. The forecast 2019 is based on polls in which Europeans are asked how they would vote in a hypothetical national election.

© adelphi 2019 Based on national poll data from Polls of Europe 2018 and historical data from Europe Politique 2018

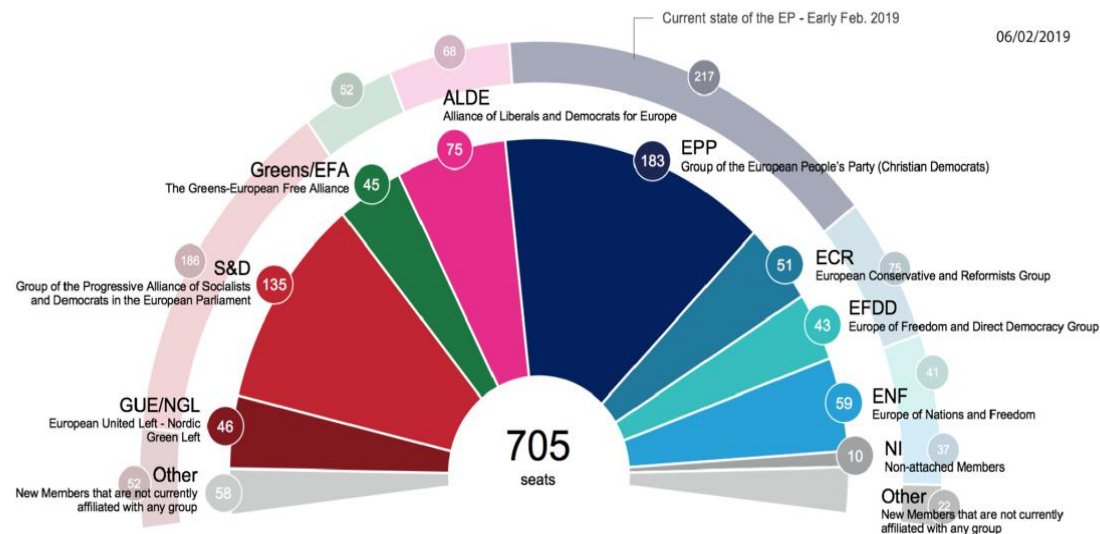
Climate Changed

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

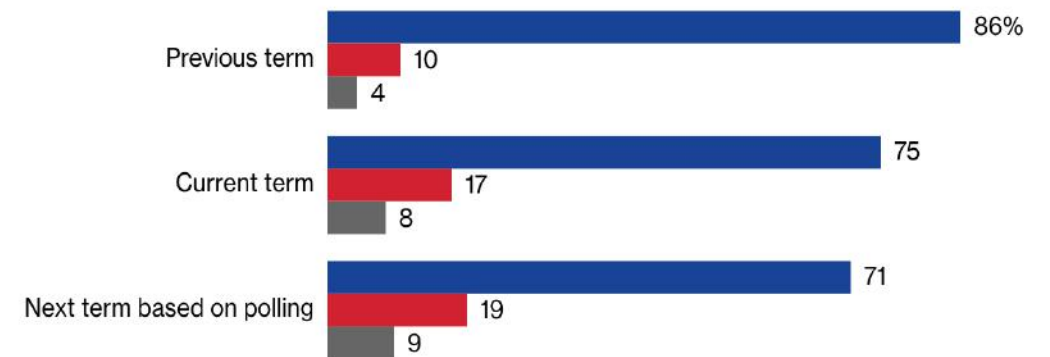
Overall early-February seat projections



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



Source: Adelphi based on VoteWatch.EU figures

Centre-Right Already Shifting Against Green 'Consensus'?

EU to refuse to sign trade deals with countries that don't ratify Paris climate change accord

Trade chief Cecilia Malmstrom says Paris clause 'needed in all EU trade agreements'

Jon Stone Brussels | @joncstone | Monday 12 February 2018 15:00 | 2.3K shares | 107 comments



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EU committee shelves climate concerns to open US trade talks

Published on 20/02/2019, 11:11am

Amid US threats to slap import tariffs on European cars, the EU is wavering on its commitment to uphold the Paris Agreement through trade negotiations



The EU is mulling two trade deals with the US, despite climate concerns (Pic: NOAA/Captain Albert E. Theberge)

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.