European Commission

The clean energy potential of coal regions in transition

Coal regions in transition virtual week

2 July 2020

Platform for coal regions in transition

A few rules before we begin

Participants are muted at all times

Questions are asked in the Q&A section

For social media: #CoalRegionsEU

INTRODUCTION

Investing in the Recovery and Transition of Europe's Coal Regions

Katherine Poseidon

Policy Analyst, Bloomberg New Energy Finance

Investing in the Recovery and Transition of Europe's Coal Regions

Coal Regions in Transition Platform

Katherine Poseidon

2 July 2020

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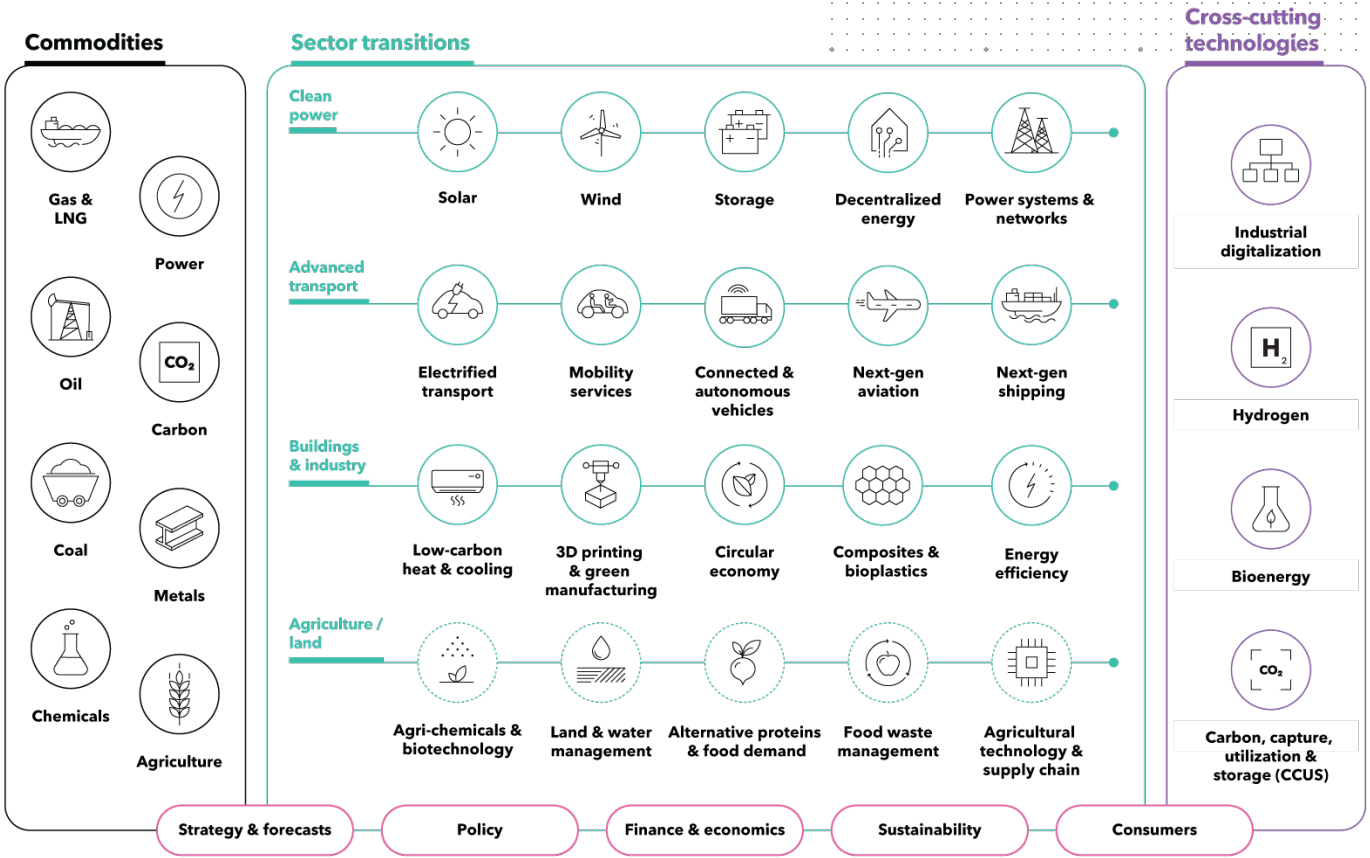
250

BNEF professionals in 17 locations*

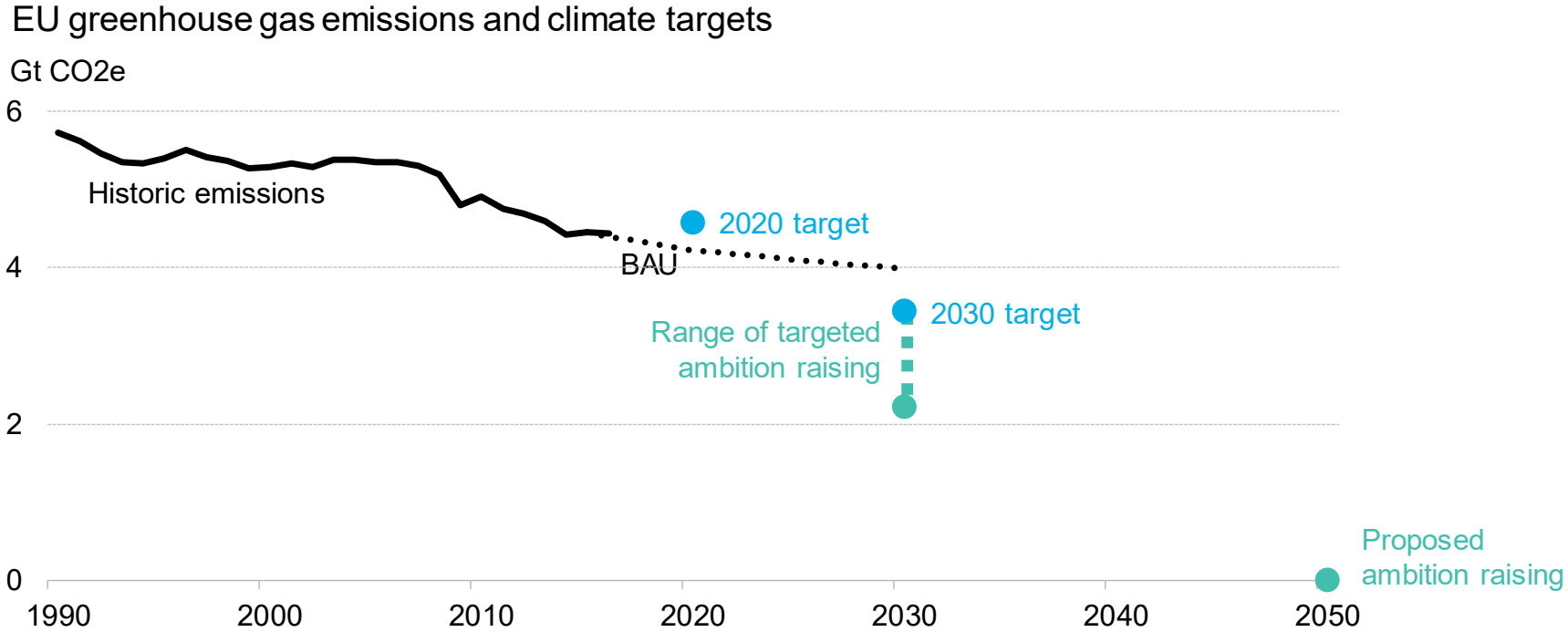
* Part of the Bloomberg LP network of 19,000 employees in 176 locations.

BNEF coverage

Strategies for a cleaner, more competitive future



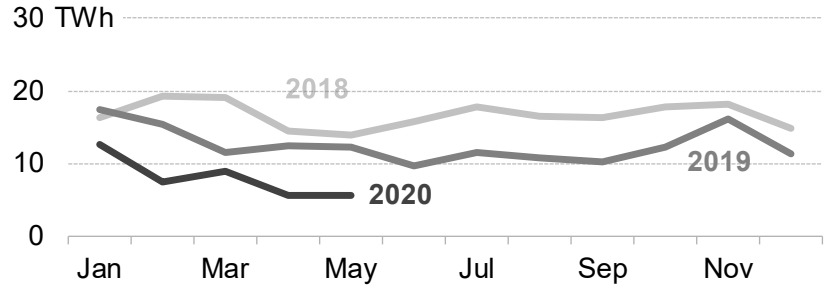
EU policy targets will bring in a step change in ambition



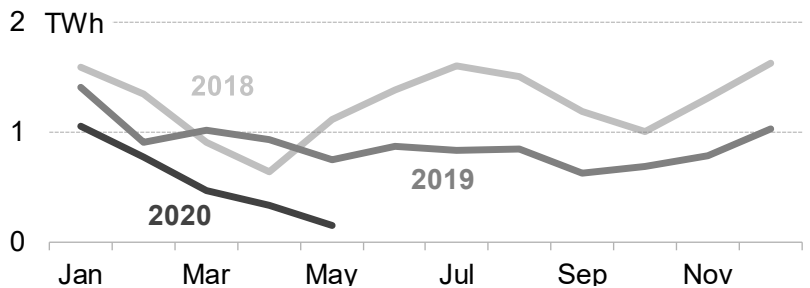
Source: European Environment Agency, European Commission BloombergNEF

Coal generation is feeling pressure from all sides, accelerated by Covid-19

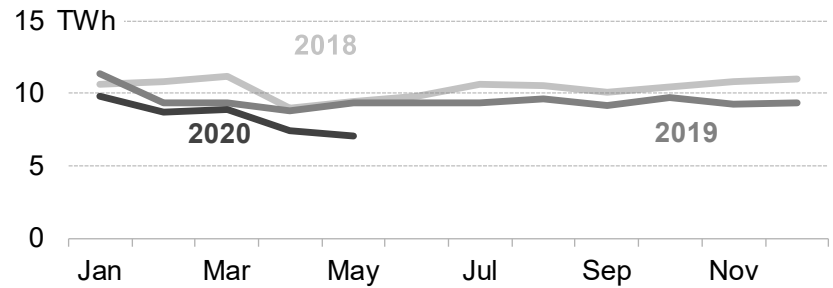
Germany



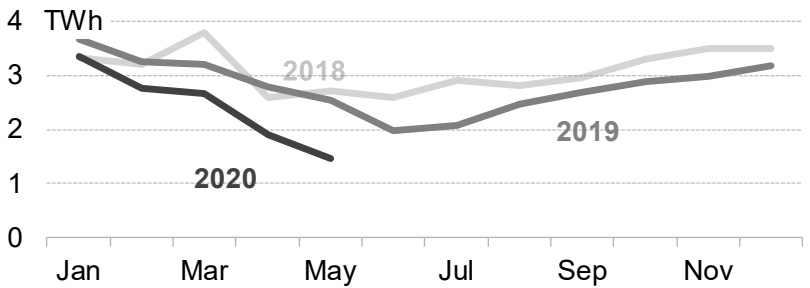
Greece



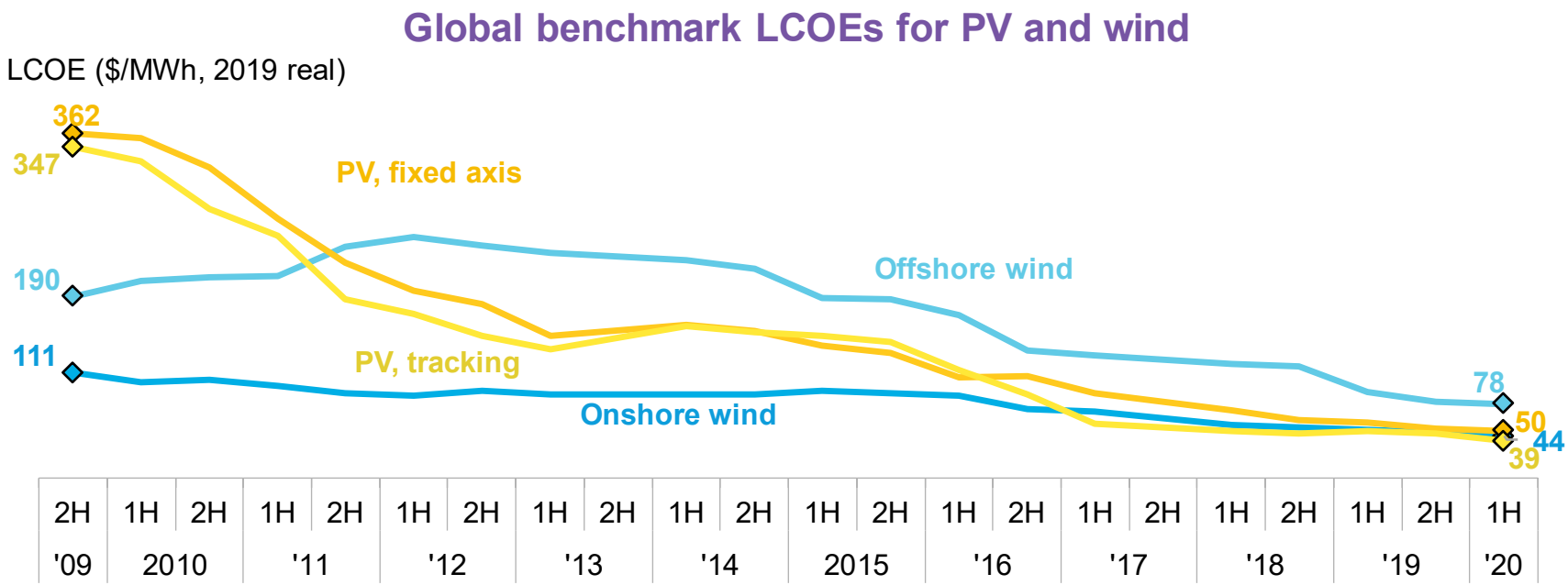
Poland



Czechia

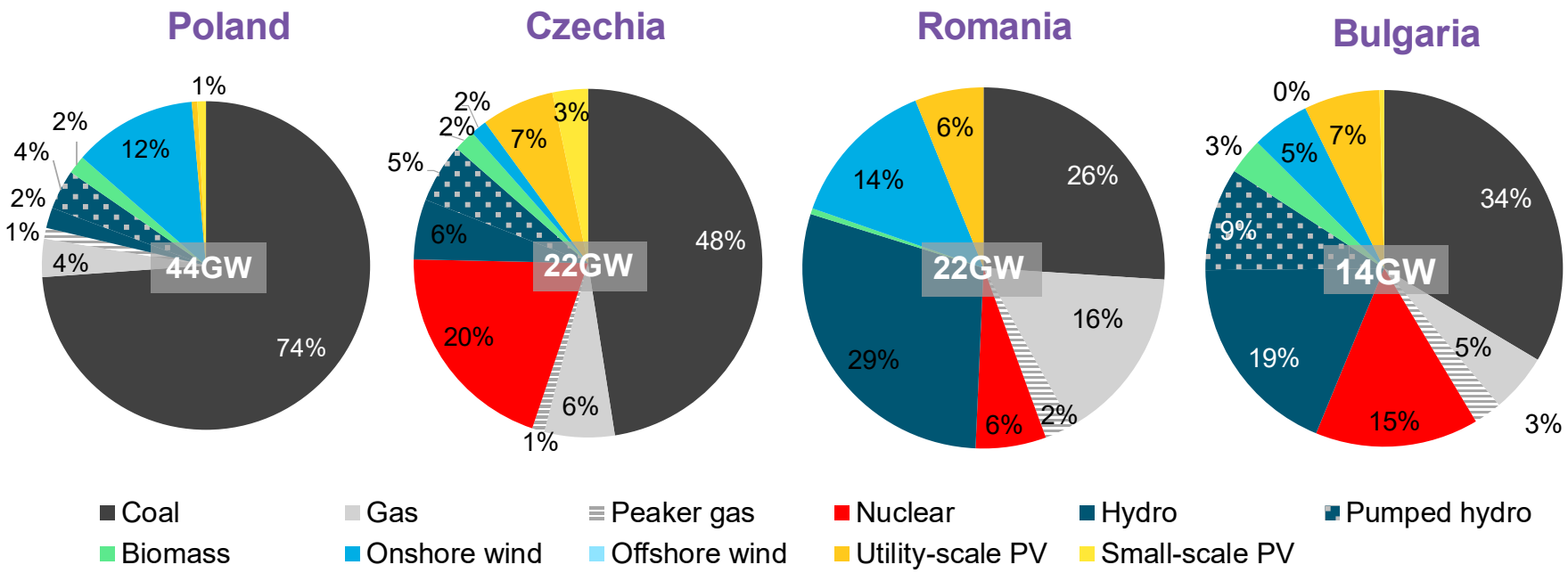


Renewables offer the cheapest source of new baseload electricity



Source: BloombergNEF

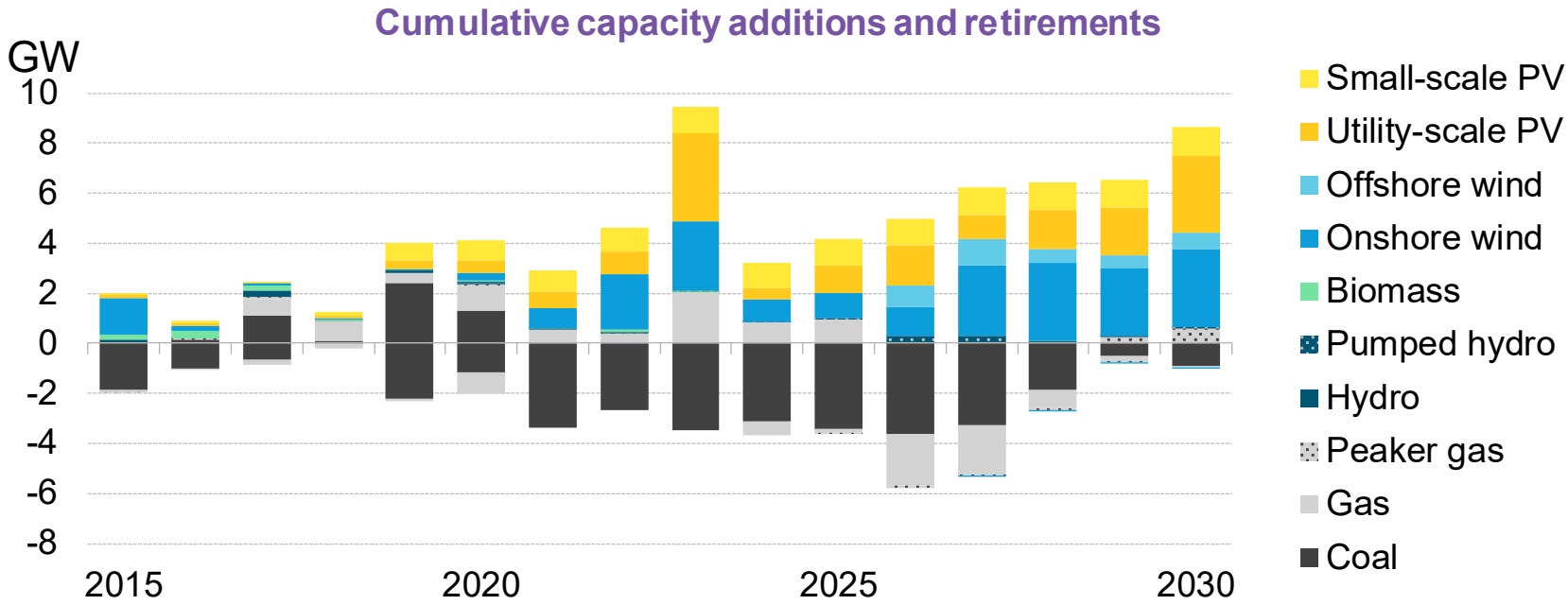
Methodology and scope



Source: BloombergNEF

Unpublished data

Some 53GW of new renewables added in the next decade

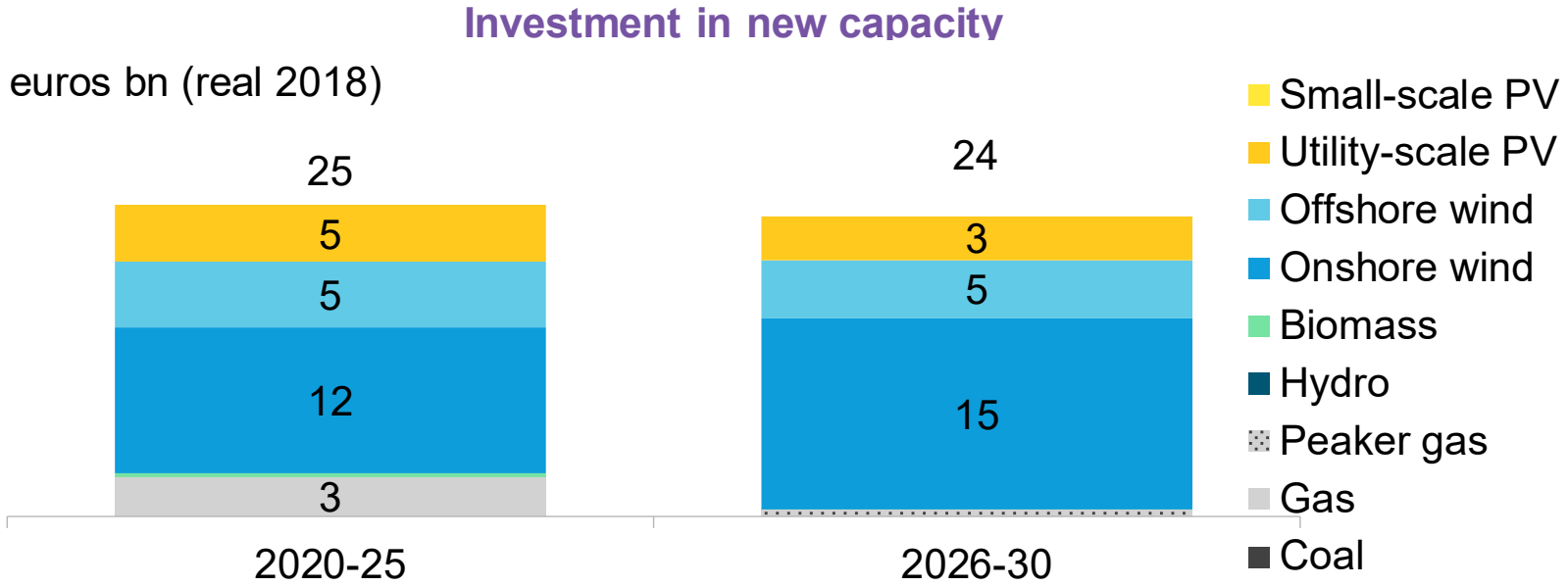


Source: BloombergNEF. Note: additions and retirements represent Poland, Czechia, Romania and Bulgaria.

BloombergNEF

Unpublished data

45 billion euros in clean energy investment is unlocked

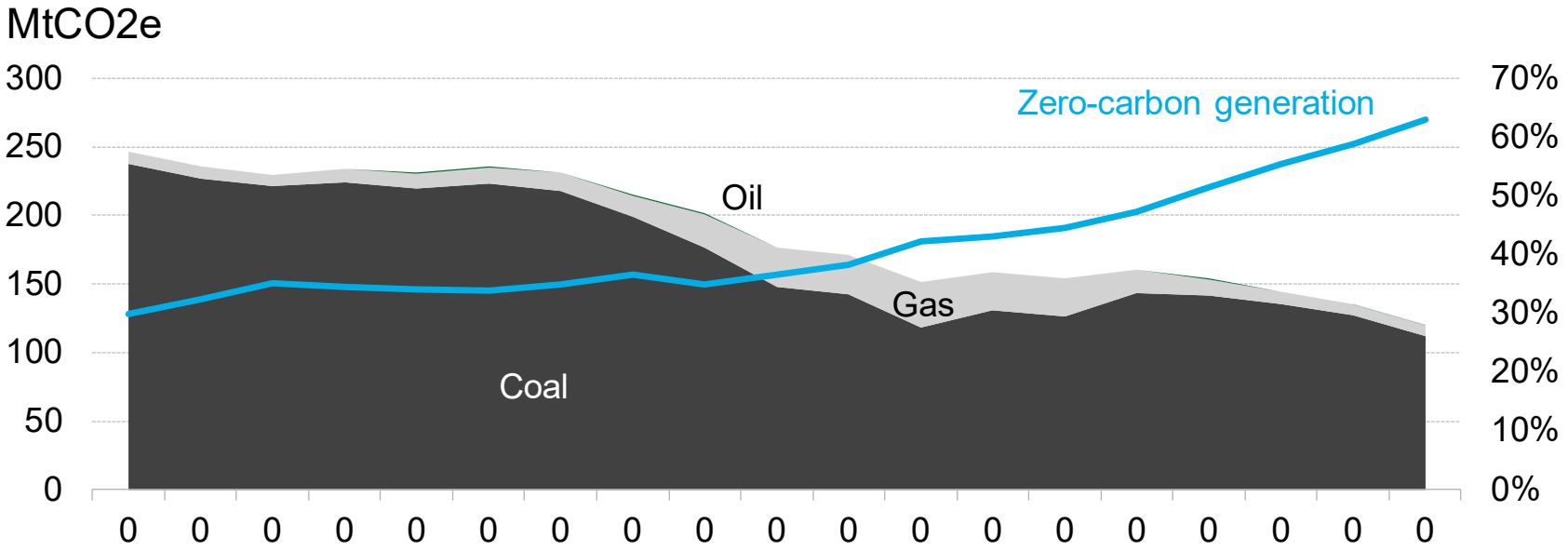


Source: BloombergNEF. Note: investments are measured at the time of investment, accounting for construction lead times. Small-scale PV is not included. Data refers to Poland, Czechia, Romania and Bulgaria in aggregate.

BloombergNEF

Unpublished data

Emissions fall 48% from 2018 levels by 2030, in the least-cost scenario



Source: BloombergNEF. Note: Data refers to Poland, Czechia, Romania and Bulgaria in aggregate.

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Join us for the launch of the full study!

Bloomberg Philanthropies and BNEF Present:

Investing in the Clean Recovery and Transition of Europe's Coal Regions

July 6, 2020 at 3.15PM CET

With remarks from:

Michael R. Bloomberg, Founder of Bloomberg LP and Bloomberg Philanthropies

Frans Timmermans, Executive Vice-President of the European Commission for the European Green Deal

Michal Kurtyka, Minister of Climate of Poland and President of COP24

Followed by a presentation and discussion on the least-cost power sector transition pathways of Poland, Czechia, Romania and Bulgaria.

Register by scanning this code:

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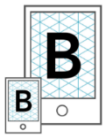

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Presentation

Study “RES potential in Coal Regions”, JRC

Zoe Kapetaki

Project Officer, Knowledge management, Fossil power generation in transition, JRC - Petten

Pablo Ruiz-Castello

Project Officer, Knowledge management, Energy scenarios Analyst, JRC - Petten

Clean energy technologies in coal regions: Opportunities for jobs and growth

Coal Regions in Transition (CRiT) Platform

7th Working Group

July 2020

Zoe Kapetaki, Pablo Ruiz

Joint Research Centre

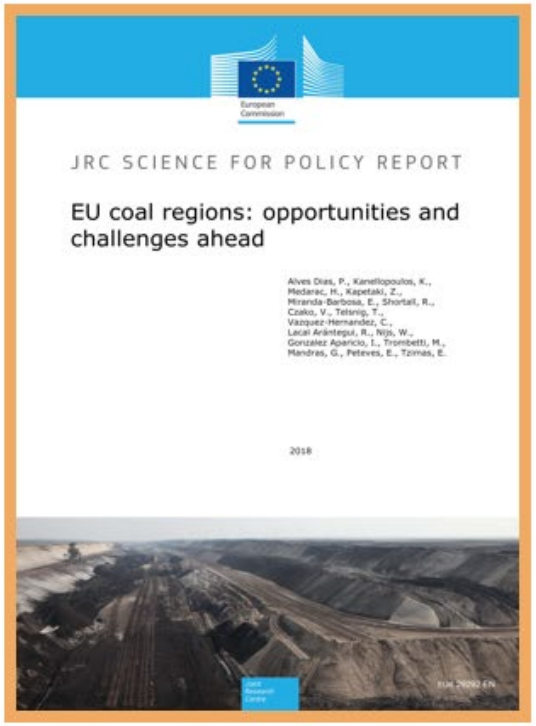
JRC support to the Coal Regions in Transition

1.Challenges — **Challenges for the coal regions**

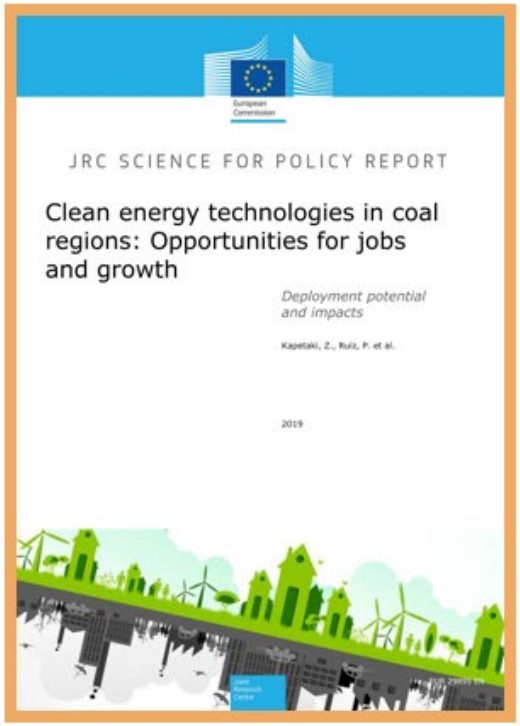
2.Opportunities — Regional potential and available options

3.Transition — Decarbonisation employment implications

JRC support to the Coal Regions in Transition



JRC 2018 CRiT Report



JRC 2019 CRiT Report

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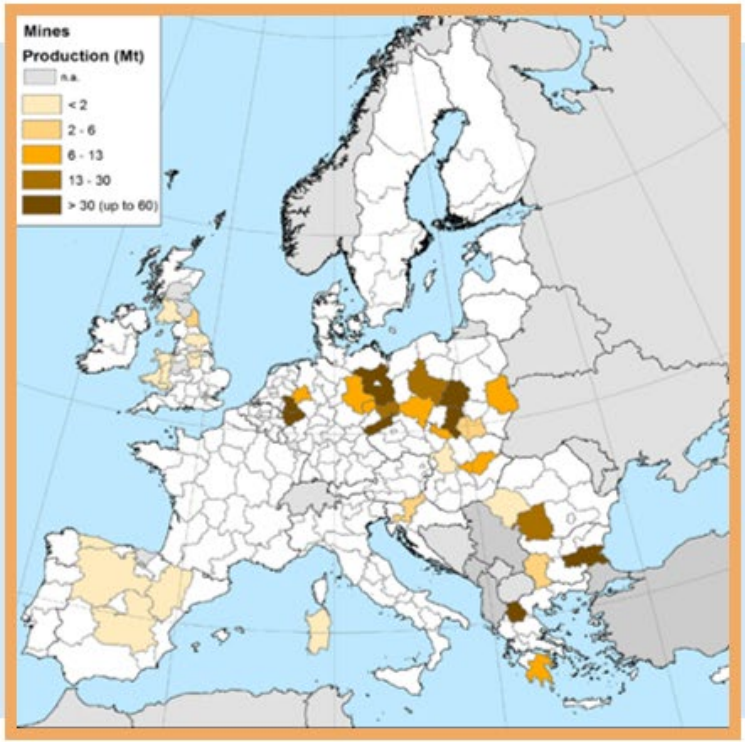
Challenges of Coal Regions in Transition



- Coal related activities in the EU28 regions:
  - **128 coal mines** in 12 Member States (500 Mt of hard coal and lignite, 72% of EU consumption).
  - **207 coal-fired power plants** in 21 Member States (150GW, 35% of fossil fuel power generation).
- Foreseen capacity drop(1) from 150 GW in 2016 to:
  - 105 GW in 2025.
  - around 55 GW in 2030.

Source: JRC (2018). EU coal regions: opportunities and challenges ahead.
(1) Own estimations based on 2016 ENTSO-E's mid-term adequacy forecast

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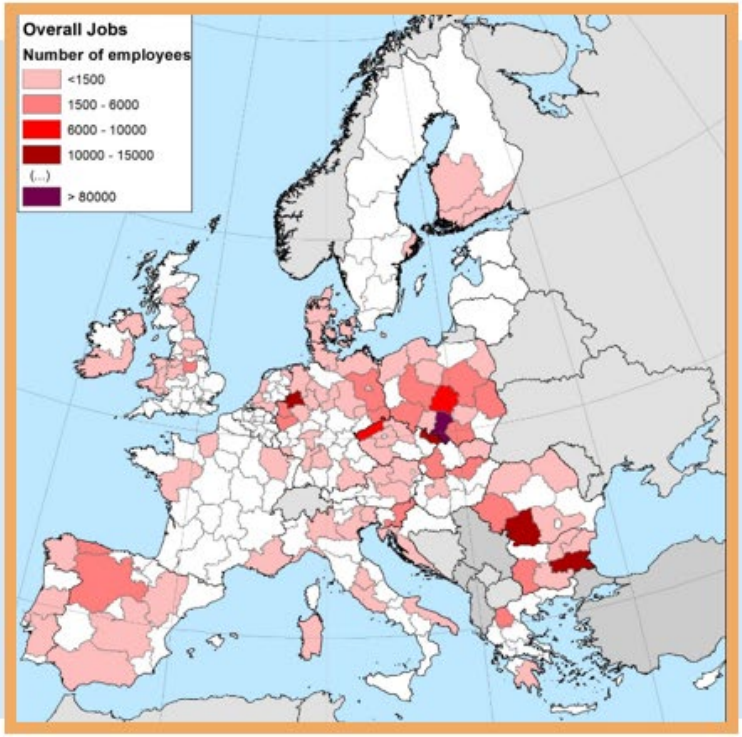
Employment in the Coal Sector



- Direct employment in the EU:
  - 52 700 in coal power plants
  - 185 000 in coal mining
  - Ranges per Member State:
    - Plants: 100 (SE) to 13 500 (PL)
    - Mining: 300 (IT) to 99 500 (PL)
- Estimated EU indirect employment:
  - 215 000 indirect jobs

Source: JRC (2018). EU coal regions: opportunities and challenges ahead.

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JRC support to the Coal Regions in Transition

1. Challenges — Challenges for the coal regions

2. **Opportunities** — **Regional potential and available options**

3. Transition — Decarbonisation employment implications

Employment transition

ONGOING

Hindsight

- Mine reclamation
- Batteries

POTENTIAL

Foresight

- Residential
- Wind
- PV
- Biomass

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The transition is already happening

Source: IBC Solar

Solar PV

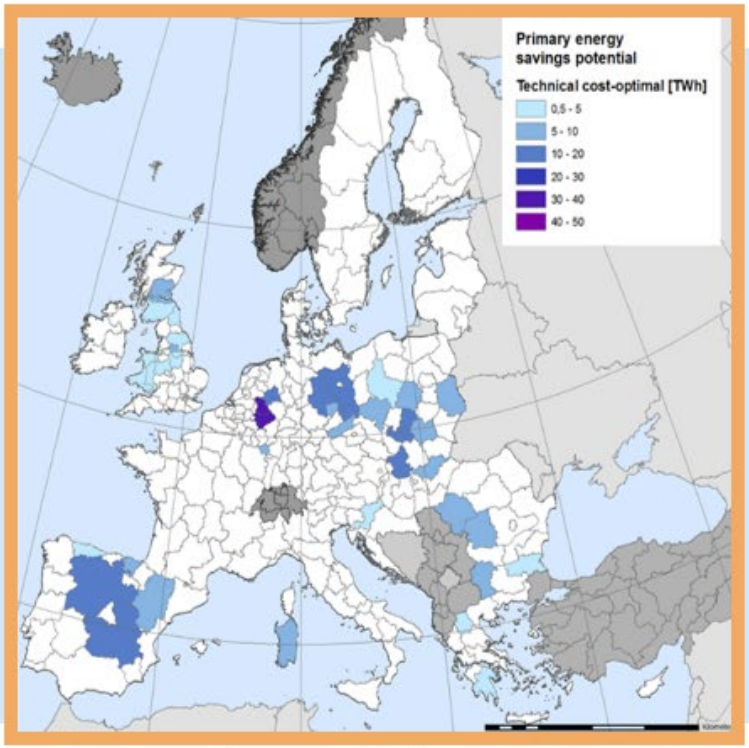
- Plant in Visonta (HU)
- 16 MW, 72 500 panels

Source: Deshaies, M. (2018)

Wind energy

- Wind farms in Klettwitz (DE)
- 145.5 MW, 5 wind farms

Residential energy savings potential in the CRiT



Energy savings

Source: JRC (2020). Clean energy technologies in coal regions: Opportunities for jobs and growth.

- Most of the existing buildings do not comply with current energy performance requirements.
- At current rates (~1% per year), more than 100 years to renovate the stock.
- The biggest cities concentrate the potential savings across the CRiT: Düsseldorf (up to 49.02 TWh), Köln (DEA2 up to 44.02) and Brandenburg (DE40 up to 26.72 TWh)
- **The maximum energy saving potential for DE equals 5.9% of the 2017 national primary energy consumption.**

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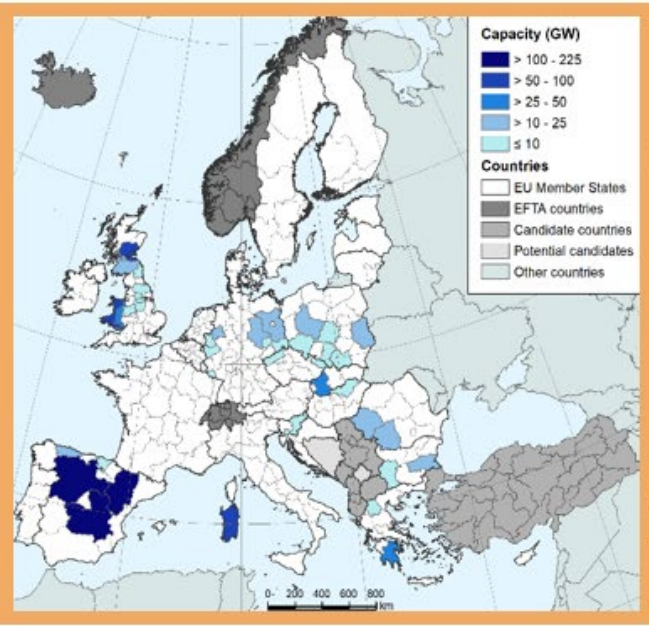
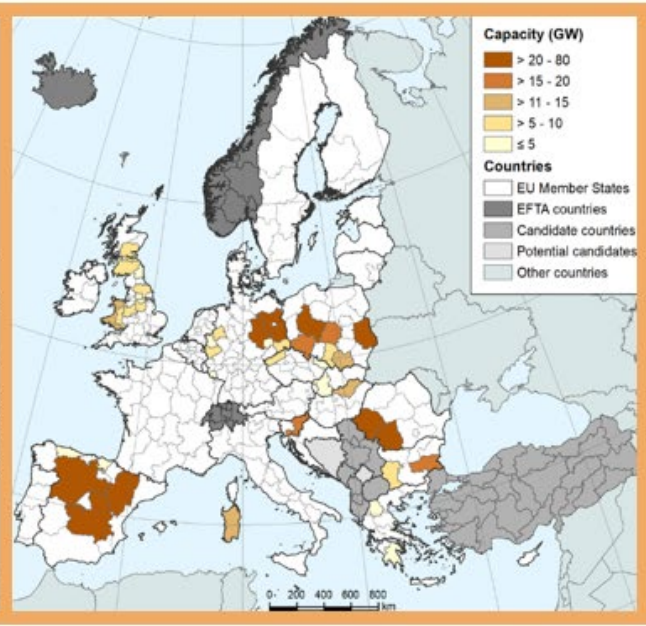
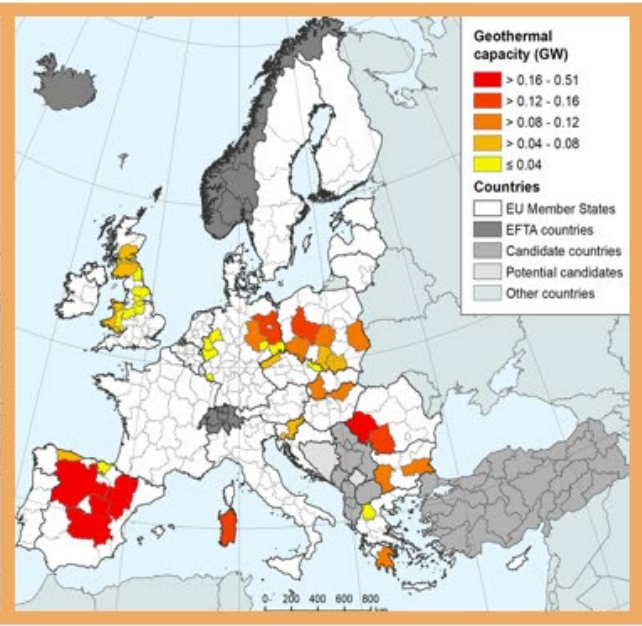
Clean energy technical potential in coal regions



Wind



Solar PV



Geothermal

Source: JRC (2020). Clean energy technologies in coal regions: Opportunities for jobs and growth.

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JRC support to the Coal Regions in Transition

1. Challenges — Challenges for the coal regions

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3. Transition — **Decarbonisation employment implications**

Employment Assessment

Regionally-induced, plausible employment scenario

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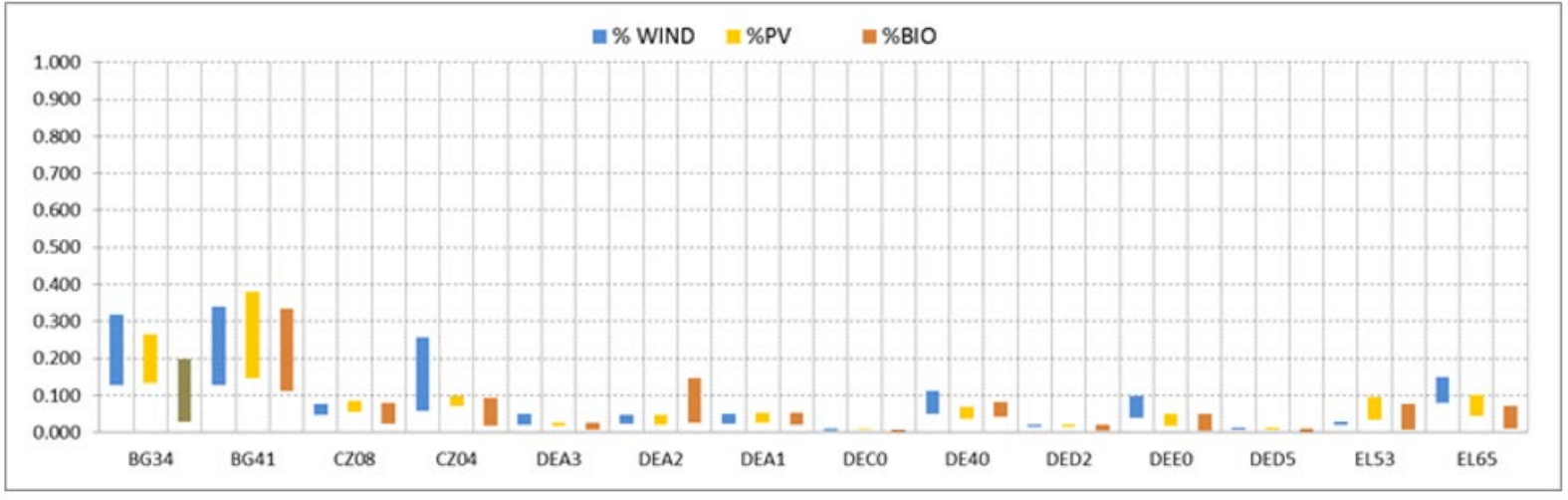
NUTS2 capacity scenario

EU27+UK Scenario → **Regional distribution** → Induced employment assessment

- How much of the EUCO3232.5 new national capacity will be likely installed in each NUTS2? : Plausible maximun and minimun ranges



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CRiT Induced Employment

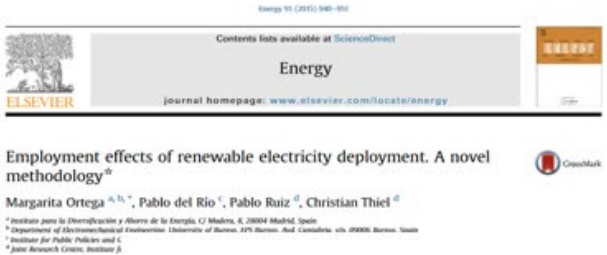
EU27+UK Scenario → Regional distribution → Induced employment assessment

"JRC extended JOB FACTOR":

- WIND
- PV
- value chain analysis
- national & EU technology trade
- technology learning

Simplified "Trace the investment" for:

- Diffuse value chain
- Investment/jobs ranking
  - Biomass
  - Energy Efficiency
  - Geothermal


Contents lists available at ScienceDirect

Energy

journal homepage: www.elsevier.com/locate/energy

Employment effects of renewable electricity deployment. A novel methodology*

Margarita Ortega [a, b, *], Pablo del Río [c], Pablo Ruiz [d], Christian Thiel [d]


Contents lists available at ScienceDirect

Renewable and Sustainable Energy Reviews

journal homepage: http://www.elsevier.com/locate/rser

Analysing the influence of trade, technology learning and policy on the employment prospects of wind and solar energy deployment: The EU case*

Margarita Ortega [a,b,c], Pablo del Río [d,*], Pablo Ruiz [a], Wouter Nijs [a], Savvas Politis [a]

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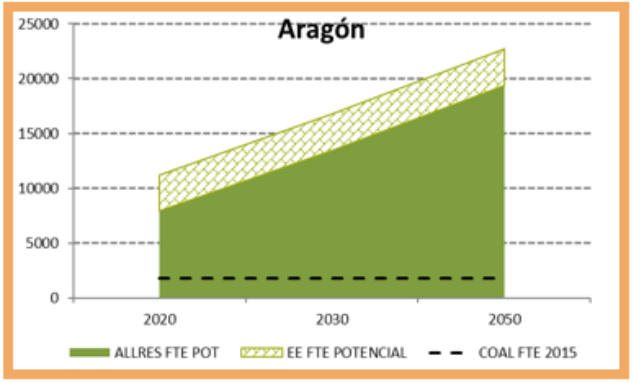
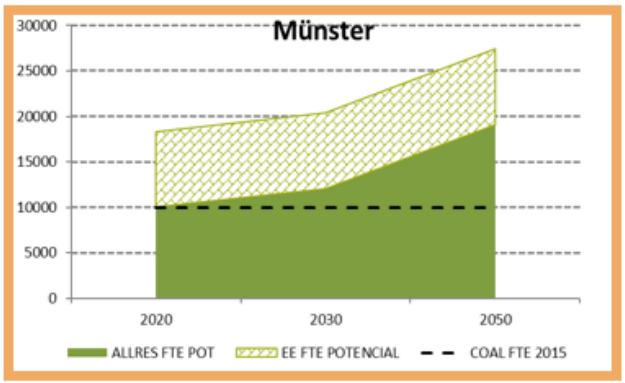
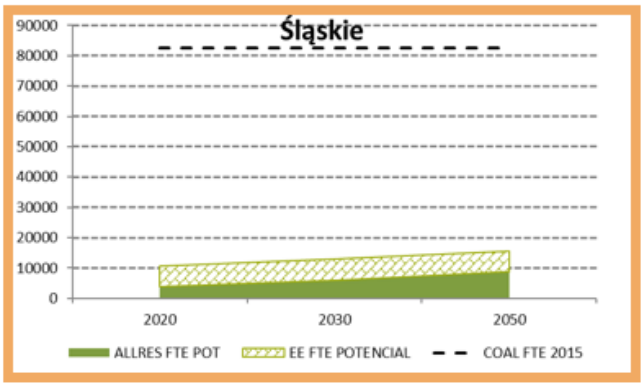
Different regions, different available potentials







High potential for the deployment of additional clean energy technologies.

- 28 CRiT Regions
- Ensure exploitation of available potential

Medium potential for the deployment of additional clean energy technologies

- 7 CRiT regions
- Support faster transition

Low potential for the deployment of additional clean energy technologies

- 7 CRiT regions
- Identify and develop alternatives

Source: JRC (2020). Clean energy technologies in coal regions: Opportunities for jobs and growth.

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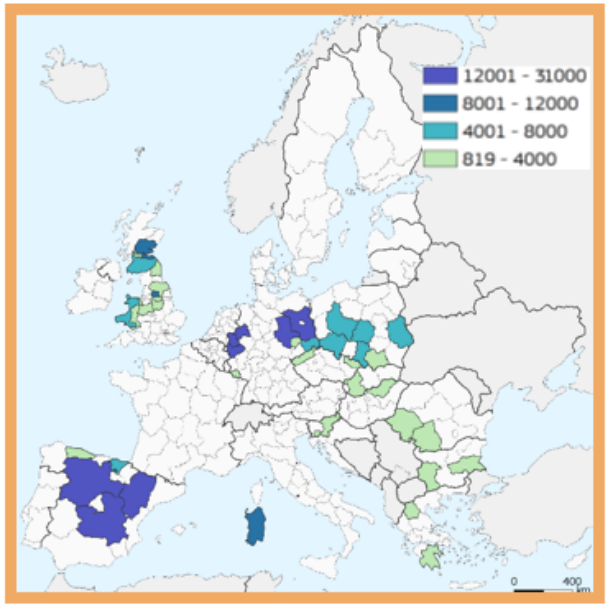
RES Employment potential in CRiT by 2030



CRiT total RES induced employment 2030 scenario

Source: JRC (2020). Clean energy technologies in coal regions: Opportunities for jobs and growth.

- By 2030, up to 315 000 jobs can be created by deploying renewable energy technologies in line with the EUCO3232.5 scenario.
- This is comparable to nearly 200 000 direct jobs currently in the coal-related activities of the coal regions.
- Regions will need different adaptation strategies to cope with a coal phase out.

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Key messages

- The deployment of RES in CRiT can facilitate the energy transition and support post-mining communities with induced jobs.
- The development of such projects benefits from the availability of infra-structure, land, skills and industrial heritage.
- Close cooperation between companies, regulators, investors and local communities and authorities is essential to maximize socio-economic development.
- Support must be tailored to mobilize, further develop or identify additional available potential, depending on the starting point of the region.
- By 2030, up to 315 000 jobs can be created in the coal regions by deploying renewable energy technologies as projected in the EUCO3232.5 energy scenario. There are nearly 200 000 direct jobs related to coal activities.

Thank you

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Online questionnaire

Do you believe that Europe will succeed in using the Covid-19 crises to truly boost the clean energy transition?

Where do you identify the major roadblocks to fully realise the post-Covid green energy transition? (you can pick up to three answers)

How are you feeling in this moment about the clean energy transition of Europe? (Pick one)

ROUNDTABLE

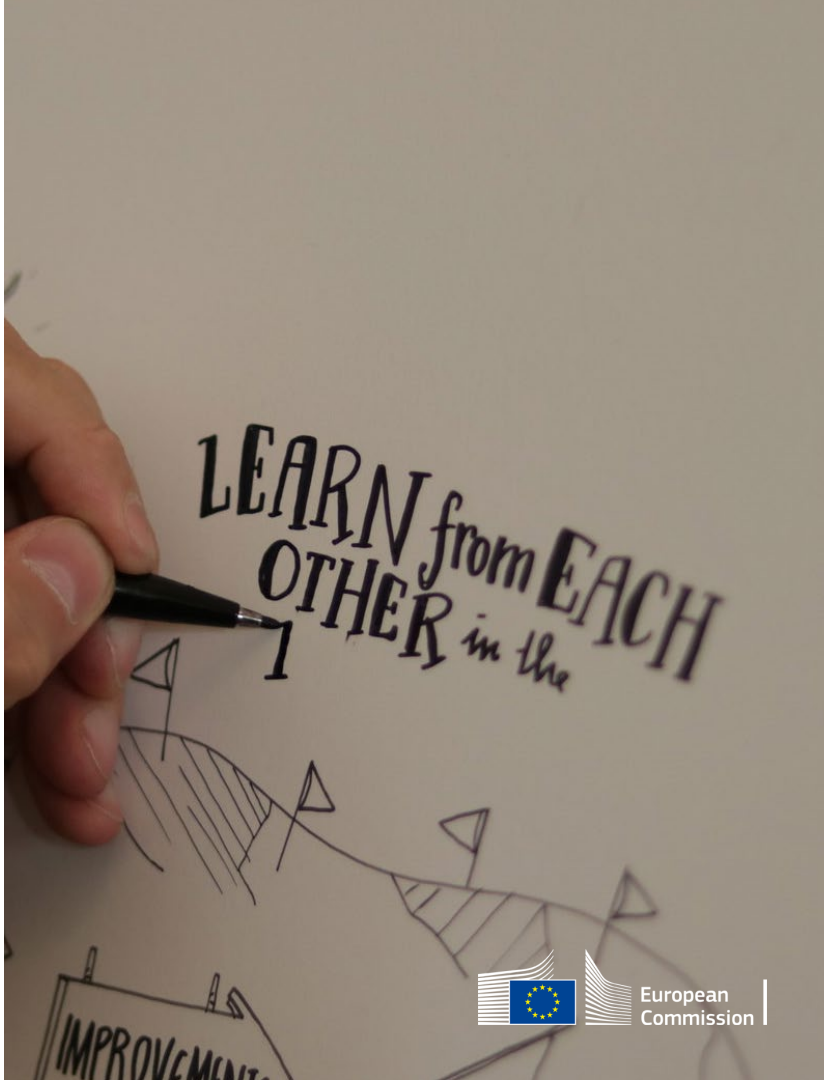
Policy and industry talk on the green recovery

Michaela Holl
Policy Analyst, Renewables and CSS policy, DG ENER

Viktoriya Kerelska
Head of Advocacy & Messaging, WindEurope

Naomi Chevillard
Policy Advisor, SolarPower Europe

Katherine Poseidon
Policy Analyst, Bloomberg New Energy Finance



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Q&A

Thank you

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