

Just Transition in Eastern Wielkopolska

Outlook on employment - reduction pathways and job creation potential

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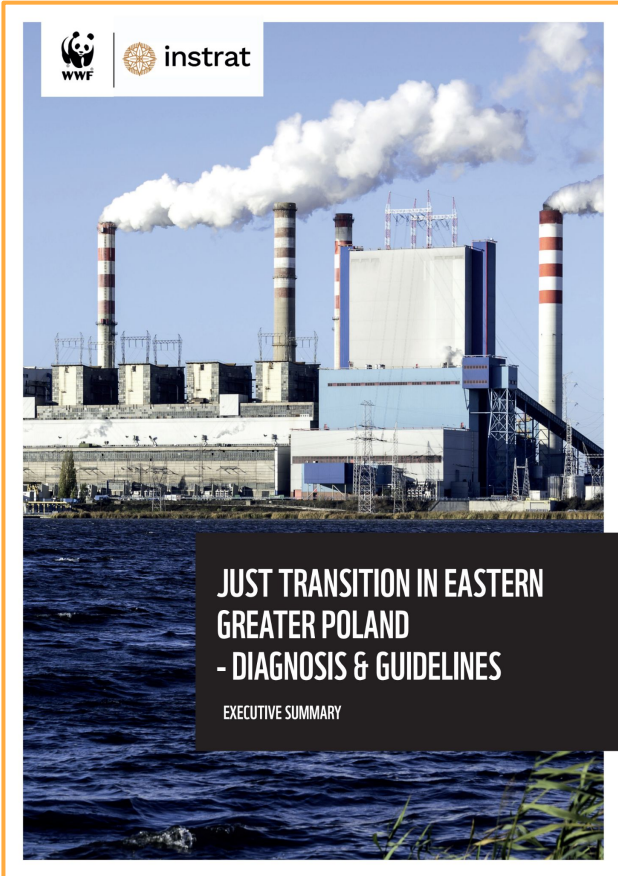
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Coal Regions in Transition Virtual Week



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Just Transition in Eastern Wielkopolska

Main report and two complementary
publications under project of WWF Poland
Regions Beyond Coal

Paweł Czyżak, Damian Iwanowski

Instrat Working Paper 01/2021:

Employment reduction pathways
and support for employees in the lignite industry
- case study ZE PAK Group

Michał Hetmański, Daniel Kiewra, Damian Iwanowski

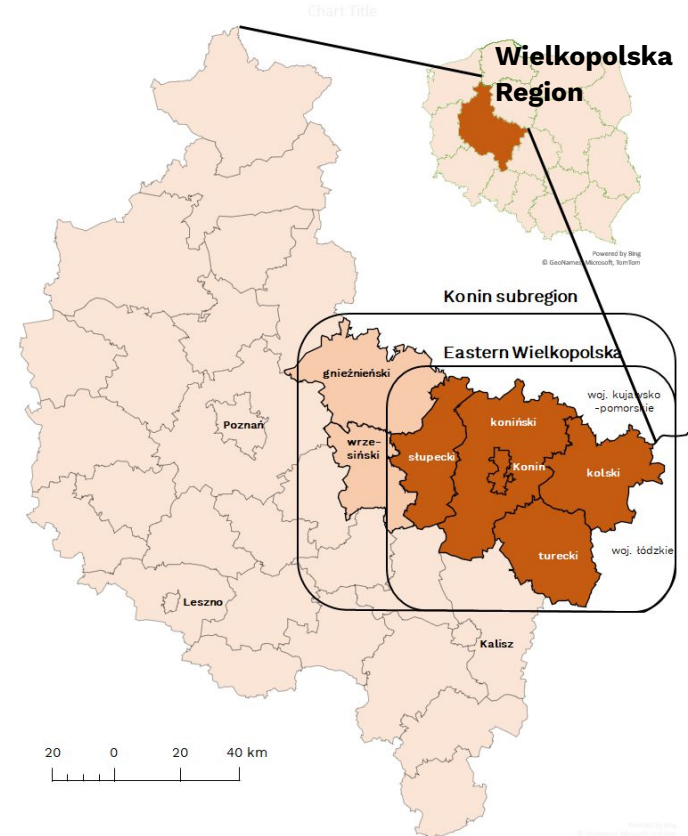
Instrat Working Paper 02/2021:

Energy transition and jobs
- scenarios for Eastern Wielkopolska

Read more on the project website of WWF [here](#), or at Instrat's
website - [full report in Polish here](#) and [executive summary in
English here](#).

Eastern Wielkopolska in transition

- Eastern Wielkopolska is the only coal region in Poland with clear commitment to phase-out coal - by 2030 the latest.** Wielkopolska Region is one of **six** voivodeships with active coal mining and one of **three** with lignite mining in Poland.
- Region selected for support under the Just Transition Mechanism and Fund.
- Other coal regions in Poland have no phase-out plan at all or have versions which are not Paris Agreement compatible** - in Lower Silesia by 2044 (Turów) and in Upper Silesia by 2049.
- Regional authorities announced a declaration to **achieve climate neutrality by 2040** - 10 years earlier than the target for the entire EU.
- Decade of (successful?) transition** - coal capacity halved within last 5 years, 1 of 2 coal mines already closed. No clear (statistical) signs of the consequences in social terms.
- October 2020: ZEPAK's strategy to replace coal with renewables within 5-10 years.** Closure of most lignite activity by 2024/2025 and only last power plant & mine left until 2030. Will miners find jobs in new green business? No clear answer!



Main figures - employment

approx.
2 times

higher unemployment rate is noticed in the Eastern Wielkopolska region compared to the whole voivodeship - substantial disparities within the regions

55%

employees of the
ZE PAK Group

will acquire retirement rights by 2030
- this creates the need to support for the remaining 45% of employees,
i.e. approx. 1.8 thousand people

approx. **2/3**
employees of the
ZE PAK Group

live in only five communes: Konin, Turek, Kazimierz Biskupi, Kleczew and Ślesin,
which proves the significant spatial concentration of social challenges

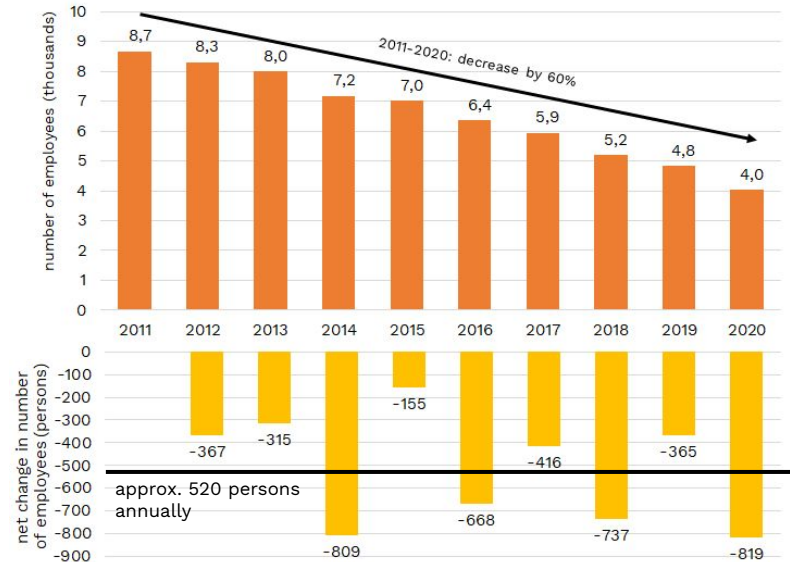
from **12 k** up to **22 k**

jobs can be created through investments in the energy sector in Eastern Wielkopolska
(according to Instrat's modelling based on JRC methodology)

ZE PAK Group: largest employer in the region

1. **Employment in the ZE PAK Group has decreased by 60% over the last 9 years, reaching 4,000 people at the end of 2020.**
2. **We anticipate decommissioning schedule faster than announced by the company last year.** ZE PAK assumes closure of two from total three mining sites by 2023 and one of two remaining coal power plants by 2024 (**reference**). We construct an **alternative scenario** where the whole lignite activity is closed by 2024/2025.
3. By 2025, only 38% of the ZE PAK's employees will acquire pension rights and 55% by 2030. This creates need for support to the remaining 1,800-2,500 people within the next 5-10 years.
4. Implementation of the strategy would mean **maintaining current path of labor force reduction** (approx. 520 persons annually) in the reference scenario, or **acceleration by 30% in the alternative scenario**.
5. High vertical integration of the value chain of ZE PAK - small number of jobs in the supplier sector.

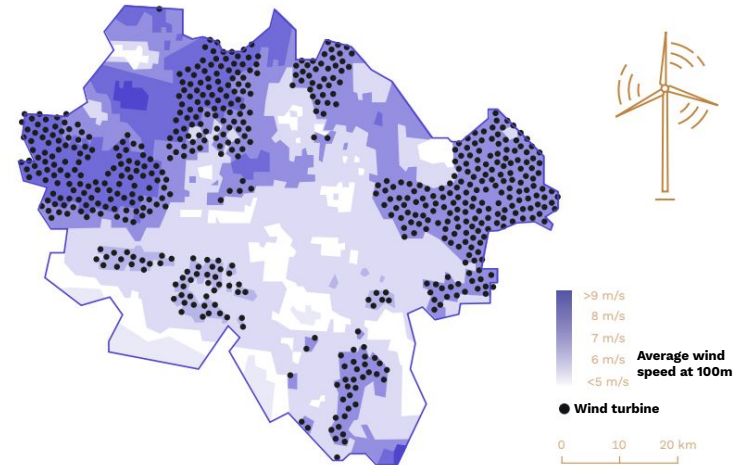
Chart. Employment in ZE PAK in the years 2011-2020.



Alternatives to coal - renewables potential

- Pilot project of 70 MW PV farm in construction in Brudzew - less than 10% of labor force employed are former mine/PP employees.** Re-orientation of the company's value chain from servicing power plants to construction and O&M operations in onshore & PV business needed.
- Instrat's energy and I-O modelling.** We replicate and adapt the JRC methodology from the EU-JRC studies on coal regions in transition and renewables potential (ENSPRESO - Ruiz et al., 2019; Kapetaki et al., 2020).
- Based on assumptions from JRC studies, Instrat's renewables spatial potential model and PyPSA-PL modelling, we estimate the **socio-economic potential for onshore wind farms to reach 2,5 GW in Eastern Wielkopolska** alone - 470 MW in 2025 and 940 MW in 2030 in the alternative scenario.
- Market benchmark: ZE PAK intends to build 440 MW in onshore wind and 630 MW in PV installations.
- We calibrate our model under assumption to replace the capacity (MW) and generation (MWh) from coal with renewables.

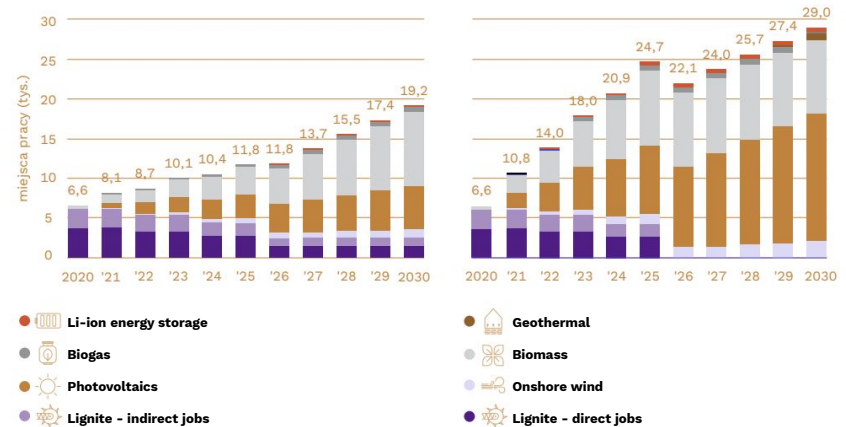
Chart. Onshore wind farm allocation potential in Eastern Wielkopolska



Alternatives to coal - employment potential

1. **Based on multiplier employment effects calibrated to Poland's landscape, we project that earlier closure of ZE PAK (in 2025 instead of 2030) would generate up to 22,000 direct & indirect jobs.** It's almost 2x more than in the reference scenario, assuming longer lignite extraction and slower expansion of renewables.
2. Share of direct jobs located in the region - hard to forecast in this approach.
3. Small-scale PV installations and biomass/biogas investments are up to 6x more labor intensive than coal in the long run.
4. In the short-term, earlier closure means a decrease in tax income for local communities, but in the long-run (after 2030) generates more value added for the local economy.
5. **Challenging re-orientation of the current business model from coal to renewables** → rationale for intervention under the Territorial and National Just Transition Plans.
6. Energy sector jobs only? No → economic diversification needed as well.

Chart. Employment potential in reference (left) and alternative (right) scenarios from investment in the energy sector based on PyPSA-PL and I-O modelling by Instrat.





Thank you for your attention

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The report was prepared as part of the Regions and Municipalities for a Just Transition project as the first of three parts of the publication as part of the European Climate Initiative (EUKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). The overriding goal of the European Climate Initiative is to support cooperation within the European Union (EU) to protect the climate and reduce greenhouse gas emissions. The views expressed in this report are the sole responsibility of the authors and do not necessarily reflect the views of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)