Welcome to the CoalExit Newsletter. In it you will find a summary of our interdisciplinary research published in 2019 as well as a sneak peak into 2020 on: #CoalPhaseOut #RenewablePhaseIn examining #Scenarios and #PastExperiences. More detailed abstracts and news will be presented towards the end of the letter.

Thank you for your interest !

Peer-Reviewed Publications 2019 :

Bartholdsen, H.-K. / Eidens, A. / Löffler, K. / Seehaus, F. / Wejda, F. / Burandt, T. / Oei, P. / Kemfert, C. / von Hirschhausen, C.: *Pathways for Germany's Low-Carbon Energy Transformation Towards 2050*. **Energies** 12(15), 2988. DOI: 10.3390/en12152988

Burandt, T. / Löffler, K. / Xiong, B. / Oei, P.: *Decarbonization pathways for the Chinese energy system*. **Applied Energy** 255. DOI: 10.1016/j.apenergy.2019.113820

Czempinski, V. / Wegel, S. / Oei, P. / Wealer, B.: *Transporting and Storing high-level nuclear waste in the U.S. – insights from a mathematical Model*. **Applied Sciences** 9(12), 2437. DOI: 10.3390/app9122437

Gerbaulet, C. / von Hirschhausen, C. / Kemfert, C. / Lorenz, C. / Oei, P.: *European electricity sector decarbonization under different levels of foresight*. **Renewable Energy**. DOI: 10.1016/j.renene.2019.02.099.

Löffler, K. / Burandt, T. / Hainsch, K. / Oei, P.: *Modeling the Low-Carbon Transition of the European Energy System – A Quantitative Assessment of the Stranded Assets Problem*. **Energy Strategy Reviews**. DOI: 10.1016/j.esr.2019.100422.

Mendelevitch, R. / Hauenstein, C. / Holz, F.: *The death spiral of coal in the U.S.: will changes in U.S. Policy turn the tide?* **Climate Policy**. DOI: 10.1080/14693062.2019.1641462

Oei, P. / Brauers, H. / Herpich, P.: *Lessons from Germany's Hard Coal Mining Phase-out - Policies and Transition from 1950 to 2018*. **Climate Policy**.
DOI: https://doi.org/10.1080/14693062.2019.1688636

Oei, P. / Mendelevitch, R.: "*Prospects for Steam Coal Exporters in the Era of Climate Policies - The Colombian Case*" in **Climate Policy**. DOI: 10.1080/14693062.2018.1449094.

Ruíz, A. / Krumm, A. / Schattenhofer, L. / Burandt, T. / Corral, F. / Oberländer, N. / Oei, P.: *Potential of Solar Power Generation in Colombia – A qualitative and quantitative approach to analyze the solar energy market in Colombia.* **Renewable Energy**.
DOI: 10.1016/j.renene.2019.10.066

Sarmiento, A. / Löffler, K. / Burandt, T. / Oei, P.: *Decarbonizing the Mexican Energy Sector*. **Energies** 12(17), 3270. DOI: 10.3390/en12173270

Stognief, N. / Walk, P. / Schöttker, O. / Oei, P.: *The Economic Resilience of German Lignite Regions in Transition.* **Sustainability.** DOI: 10.3390/su11215911

Studies / Grey Literature 2019 :

Braunger, I. / Walk, P. / Corral Montoya, F. / Riever, C. / Oei, P. (2019): *Das Braunkohlerevier Leipziger Land. Aktuelle Zahlen, Daten und Fakten zur Energiewende*. **CoalExit.** Berlin. https://coaltransitions.org/publications/das-braunkohlerevier-leipziger-land-aktuelle/

Dudău, R. et al. (2019): *Transformation Experiences of Coal Regions: Recommendations for Ukraine and other European countries*. **Center for Environmental Initiatives Ecoaction**. K: ALT Company, 2019. https://www.germanwatch.org/sites/germanwatch.org/files/Transformation%20Experiences%20of%20Coal%20Regions.%20Recommendations%20for%20Ukraine%20and%20other%20European%20countries.pdf

Fitzgerald, L. M. / Braunger, I. / Brauers, I.: Destabilisation of Sustainable Energy Transformations: Analysing Natural Gas Lock-in in the case of Germany. **STEPS Working Paper** 106 https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/14499/WP%20106%20Fitzgerald%20et.al.%20final%20with%20cover.pdf?sequence=1&isAllowed=y

Mendelevitch, R. / Hauenstein, C. / Holz, F.: The Death Spiral of Coal in the USA: Will New U.S. Energy Policy Change the Tide? **DIW Discussion Papers** 1790 https://www.econstor.eu/bitstream/10419/193166/1/1049495950.pdf

Oei, P. et al. (2019): *Klimaschutz und Kohleausstieg: Politische Strategien und Maßnahmen bis 2030 und darüber hinaus*. On behalf of the **German Environment Agency** (GEA), Dessau-Roßlau. https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2019-06-25_climate-change_27-2019_kohleausstieg_v2.pdf

Oei, P. et al. (2019): „*Phasing out Coal in the German Energy Sector. Interdependencies, Challenges and Potential Solutions.*" On behalf of the **Federal Ministry for the Environment, Nature Conservation and Nuclear Safety**. Berlin. https://www.ecologic.eu/sites/files/publication/2019/3537-kohlereader_englisch-final.pdf

Oei, P. / Göke, L. / Kemfert, C. / Kendziorski, M. / von Hirschhausen, C. (2019): *Erneuerbare Energien als Schlüssel für das Erreichen der Klimaschutzziele im Stromsektor*. **DIW Berlin Politikberatung kompakt**133, On behalf of **Bundestagsfraktion Bündnis 90/Die Grünen**. Berlin. https://www.gruene-bundestag.de/fileadmin/media/gruenebundestag_de/themen_az/energie/PDF/diw-studie-erneuerbare-energien.pdf

Oei, P. / Hainsch, K. / Löffler, K. / von Hirschhausen, C. / Holz, F. / Kemfert, C. (2019): „*A New Climate for Europe: 2030 Climate Targets Must Be More Ambitious*". **DIW Weekly Report** 40/41 / 2019, S. 365-372 https://doi.org/10.18723/diw_dwr:2019-40-1

Oei, P. / Hainsch, K. / Löffler, K. / von Hirschhausen, C. / Holz, F. / Kemfert, C. (2019): „*Neues Klima für Europa: Klimaschutzziele für 2030 sollten angehoben werden*". **DIW Wochenbericht** 41 / 2019, S. 753-760. https://doi.org/10.18723/diw_wb:2019-41-1

Oei, P. / Kendziorski, M. / Walk, P. / Kemfert, C. / von Hirschhausen, C. (2019): *Wann Deutschland sein Klimaziel für 2020 tatsächlich erreicht*. **DIW Berlin Politikberatung kompakt** 143, On behalf of **Greenpeace**. Berlin.
https://www.diw.de/documents/publikationen/73/diw_01.c.694689.de/diwkompakt_2019-143.pdf

Oei, P. / Rieve, C. / Kemfert, C. / von Hirschhausen, C. (2019): *Ergebnis vom Kohlekompromiss: Der Hambacher Wald und alle Dörfer können erhalten bleiben*. **DIW Berlin Politikberatung kompakt** 132, Berlin.
https://www.diw.de/de/diw_01.c.612929.de/publikationen/politikberatung_kompakt/2019_0132/ergebnis_vom_kohlekompromiss_der_hambacher_wald_und_alle_doerfer_koennen_erhalten_bleiben.html

Oei, P. / Rieve, C. / Kemfert, C. / von Hirschhausen, C. (2019): *Weichenstellung Kohlekonsens: Kohlevorräte ermöglichen den Erhalt des Hambacher Waldes und aller noch bedrohten Dörfer.* **DIW Berlin Politikberatung kompakt** 131, Berlin.
https://www.diw.de/de/diw_01.c.612245.de/publikationen/politikberatung_kompakt/2019_0131/weichenstellung_kohlekonsens_kohlevorraete_ermoeglichen_den_erhalt_des_hambacher_waldes_und_aller_....html

Preview peer-reviewed papers in 2020:

Braunger, I. / Hauenstein, C. (2020) *How Incumbent Cultural and Cognitive Path Dependencies Constrain the 'Scenario Cone': Reliance on Carbon Dioxide Removal due to Techno-bias*. **Economics of Energy & Environmental Policy**. Volume 9, Number 1.

Oei, P. / Burandt, T. / Hainsch, K. / Löffler, K. / Kemfert, C. (2020) *Lessons from Modeling 100% Renewable Scenarios Using GENeSYS-MOD*. **Economics of Energy & Environmental Policy.** Volume 9, Number 1.

Abstracts of all peer-reviewed publications:

Bartholdsen, H.-K. / Eidens, A. / Löffler, K. / Seehaus, F. / Wejda, F. / Burandt, T. / Oei, P.-Y. / Kemfert, C. / von Hirschhausen, C.: *Pathways for Germany's Low-Carbon Energy Transformation Towards 2050*. Energies 12(15), 2988. DOI: 10.3390/en12152988

Like many other countries, Germany has defined goals to reduce its CO_2-emissions following the Paris Agreement of the 21st Conference of the Parties (COP). The first successes in decarbonizing the electricity sector were already achieved under the German Energiewende. However, further steps in this direction, also concerning the heat and transport sectors, have stalled. This paper describes three possible pathways for the transformation of the German energy system until 2050. The scenarios take into account current climate politics on a global, European, and German level and also include different demand projections, technological trends and resource prices. The model includes the sectors power, heat, and transportation and works on a Federal State level. For the analysis, the linear cost-optimizing Global Energy System Model (GENeSYS-MOD) is used to calculate the cost-efficient paths and technology mixes. We find that a reduction of CO_2 of more than 80% in the less ambitious scenario can be welfare enhancing compared to a scenario without any climate mitigating policies. Even higher decarbonization rates of 95% are feasible and needed to comply with international climate targets, yet related to high effort in transforming the subsector of process heat. The different pathways depicted in this paper render chances and risks of transforming the German energy system under various external influences.

#Germany #Modelling #EnergySystem

Braugner, I. / Hauenstein, C.: ***How Incumbent Cultural and Cognitive Path Dependencies Constrain the 'Scenario Cone': Reliance on Carbon Dioxide Removal due to Techno-bias.*** **Economics of Energy & Environmental Policy. Volume 9, Number 1. Forthcoming in 2020.**

Scenario analysis is widely used to assess long-term development necessary to reach climate targets. Mitigation measures in these scenarios concentrate on (supply-side) technology solutions, while little attention has been paid to demand side solutions. One suite of included technologies are carbon dioxide removal technologies (CDR). Most scenarios rely heavily on CDR to limit global warming to 1.5–2°C. Yet, the reliance on CDR is highly controversial, as most CDR technologies remain unproven to date and dramatic adverse side effects seem likely. Using an interdisciplinary approach, we assess why the selection of prominently represented scenarios is narrowed down on such a confined, CDR dependent scenario cone. After critically assessing CDR, based on existing techno-economic literature, we perform a theoretical analysis of the underlying scientific processes and then transfer the resulting insights into the process of scenario development. We base our analysis on various approaches of feminist theory. These approaches allow a reflection and critique of common scientific practice as well as a contextualization of underlying values and norms. We argue that the focus on technological solutions is not an outcome of an open scientific competition of ideas, but due to underlying assumptions based on thought patterns prevalent in western societies. Thus, to provide the chance of a more open and objective debate about possible climate change mitigation measures and pathways we need to reconsider underlying assumptions and biases influencing the scenario building process.

#Carbon Dioxide Removal (CDR) #Techno-bias #Feminist Theory

Burandt, T. / Löffler, K. / Xiong, B. / Oei, P.: ***Decarbonization pathways for the Chinese energy system*****. Applied Energy 255.**

DOI: 10.1016/j.apenergy.2019.113820

Growing prosperity among its population and an inherent increasing demand for energy complicate China's target of combating climate change, while maintaining its economic growth. This paper, therefore, describes three potential decarbonization pathways to analyze different effects for the electricity, transport, heating, and industrial sectors until 2050. Using an enhanced version of the multi-sectoral, open-source Global Energy System Model, enables us to assess the impact of different CO2 budgets on the upcoming energy system transformation. A detailed provincial resolution allows for the implementation of regional characteristics and disparities within China. Conclusively, we complement the model-based analysis with a quantitative assessment of current barriers for the needed transformation. Results indicate that overall energy system CO2 emissions and in particular coal usage have to be reduced drastically to meet (inter-) national climate targets. Specifically, coal consumption has to decrease by around 60% in 2050 compared to 2015. The current Nationally Determined Contributions proposed by the Chinese government of peaking emissions in 2030 are, therefore, not sufficient to comply with a global CO2 budget in line with the Paris Agreement. Renewable energies, in particular photovoltaics and onshore wind, profit from decreasing costs and can provide a more sustainable and cheaper energy source. Furthermore, increased stakeholder interactions and incentives are needed to mitigate the resistance of local actors against a low-carbon transformation.

#China #Modelling #EnergySystem

Czempinski, V. / Wegel, S. / Oei, P. / Wealer, B.: ***Transporting and Storing high-level nuclear waste in the U.S. – insights from a mathematical Model.*** **Applied Sciences 9(12), 2437.**
DOI: 10.3390/app9122437

The nuclear industry in the United States of America has accumulated about 70,000 metric tons of high-level nuclear waste over the past decades; at present, this waste is temporarily stored close to the nuclear power plants. The industry and the Department of Energy are now facing two related challenges: (i) will a permanent geological repository, e.g., Yucca Mountain, become available in the future, and if yes, when?; (ii) should the high-level waste be transported to interim storage facilities in the meantime, which may be safer and more cost economic? This paper presents a mathematical transportation model that evaluates the economic challenges and costs associated with different scenarios regarding the opening of a long-term geological repository. The model results suggest that any further delay in opening a long-term storage increases cost and consolidated interim storage facilities should be built now. We show that Yucca Mountain's capacity is insufficient and additional storage is necessary. A sensitivity analysis for the reprocessing of high-level waste finds this uneconomic in all cases. This paper thus emphasizes the urgency of dealing with the high-level nuclear waste and informs the debate between the nuclear industry and policymakers on the basis of objective data and quantitative analysis.

#USA #NuclearWaste #Modelling

Gerbaulet, C. / von Hirschhausen, C. / Kemfert, C. / Lorenz, C. / Oei, P.: ***European electricity sector decarbonization under different levels of foresight.*** **Renewable Energy.**
DOI: 10.1016/j.renene.2019.02.099

The European Union has set out to reduce the carbon intensity of its electricity generation substantially, as defined in the European Roadmap 2050. This paper analyses the impact of foresight towards decarbonization targets on the investment decisions in the European electricity sector using a specific model developed by the authors called dynELMOD. Incorporating the climate targets makes the investment into any additional fossil capacity uneconomic from 2025 onwards, resulting in a coal and natural gas phase-out in the 2040s. Limited foresight thus results in stranded investments of fossil capacities in the 2020s. Using a CO_2 budgetary approach, on the other hand, leads to an even sharper emission reduction in the early periods before 2030, reducing overall costs. We also find that renewables carry the major burden of decarbonization; nuclear power (3rd or 4th generation) is unable to compete with other fuels and will, therefore, be phased out over time.

#Europe #Modelling #Electricity #StrandedAssets

Löffler, K. / Burandt, T. / Hainsch, K. / Oei, P.: Modeling the Low-Carbon Transition of the European Energy System – A Quantitative Assessment of the Stranded Assets Problem. Energy Strategy Reviews.
DOI: 10.1016/j.esr.2019.100422
In this paper, multiple pathways for the European energy system until 2050 are computed, focusing on one of the major challenges of the low-carbon transition: the issue of unused capacities and stranded assets. Three different scenarios are analyzed, utilizing the Global Energy System Model (GENeSYS-MOD) for calculations. A major feature is the introduction of limited foresight and imperfect planning to the multi-sectoral approach of the model. A swift transition towards renewable energy sources is needed in order to ensure the goal of staying below 2 °C is maintained. This leads to the underutilization of current fossil-fueled plant capacities, an effect compounded by the prioritization of short-term goals over long-term targets. In the worst case, capacities with a combined value of up to 200 billion € corresponding to 260 GW total capacity may end up stranded by 2035, with significant shares in the coal and gas sectors. Contrary, in the baseline scenario featuring perfect foresight, this amount can by reduced by as much as 75%. Thus, the need for strong, clear signals from policy makers arises in order to combat the threat of short-sighted planning and investment losses.

#Europe #Modelling #EnergySystem #StrandedAssets

Mendelevitch, R. / Hauenstein, C. / Holz, F.: *The death spiral of coal in the U.S.: will changes in U.S. Policy turn the tide?*. Climate Policy.
DOI: 10.1080/14693062.2019.1641462
The administration of U.S. President Donald Trump has promised to stop the ongoing spiralling down of the U.S. coal industry. We discuss the origins of the decline and assess the effects of policy interventions by the Trump administration. We find that, with fierce competition from natural gas and renewables, a further decrease of coal consumption must be expected by the old and inefficient U.S. coal-fired electricity generation fleet. By contrast, we consider the overly optimistic (for coal producers) view of the U.S. Energy Information Agency, and test whether the tide for the U.S. coal industry could turn as a result of three potential support measures: (i) revoking the Clean Power Plan (CPP); (ii) facilitating access to the booming Asian market; and (iii) enhanced support for Carbon Capture, Transport and Storage (CCTS) technology. We investigate the short-term and long-term effects on U.S. coal production using a comprehensive partial equilibrium model of the world steam coal market, COALMOD-World (Holz, Haftendorn, Mendelevitch, & von Hirschhausen, 2016). We find that revoking the CPP could stop the downward trend of steam coal consumption in the U.S., but even allowing for additional exports, will not lead to a return of U.S. coal production to the levels of the 2000s, that is, over 900 Mt per year. When global steam coal use is aligned with the 2°C climate target, U.S. steam coal production drops to around 100 Mt per year by 2030 and below 50 Mt by 2050, even if CCTS is available and exports via the U.S. West Coast is possible.

#USA #GlobalCoalMarket #Modelling

Oei, P. / Brauers, H. / Herpich, P.: ***Lessons from Germany's Hard Coal Mining Phase-out - Policies and Transition from 1950 to 2018.*** **Climate Policy.**
DOI: 10.1080/14693062.2019.1688636

Subsidies for German hard coal production will end in 2018, resulting in a final shutdown of domestic hard coal production. One focus of this historic case study therefore lies on the Ruhr area—Germany´s largest hard coal mining area that was hit by this economically driven transition. The second focus lies on the politically driven reduction of lignite production in Eastern Germany due to the reunification in 1990. The analysis is hereby divided into the quantitative consideration of the significance of coal for the energy system and the regional economies, as well as an evaluation of implemented political instruments accompanying the reductions in the coal sector. The political instruments on regional, national and supranational level can be differentiated between measures for the conservation of coal production, the economic reorientation in the regions as well as easing negative social impacts. Upcoming challenges for regions facing a coal phase-out in the future differ depending on various aspects e.g. the type of coal (lignite or hard coal), its usage (domestic or exported; electricity; heat; industry); regional characteristics (rural or urban); as well as the political and institutional situation (governance; ownership). This analysis of past transitions of mining areas and energy systems in Germany might, however, provide other countries and regions with valuable lessons of how to structure their upcoming coal phase-out period and therefore provides a useful addition to the existing literature.

#Germany #Transition #Coaltransition #Past Experiences

Oei, P. / Burandt, T. / Hainsch, K. / Löffler, K. / Kemfert, C.: Lessons from Modeling 100% Renewable Scenarios Using GENeSYS-MOD. Economics of Energy & Environmental Policy. Forthcoming in 2020.

The main aim of models has never been to provide numbers, but insights. Still, challenges prevail for modelers to use the best configuration of their models to provide helpful insights. This becomes even more complicated due to increasing complexity of the energy system transition through the potential and need for sector coupling. This paper therefore showcases specific char-acteristics and challenges for energy system modelling of 100% renewable scenarios. The findings are based on various applications and modifications of the framework GENeSYS-MOD examining different regional characteristics for high renewable configurations in the world, Chi-na, India, South-Africa, Mexico, Europe, Germany, and Colombia. The paper elaborates on our experiences of the last years of choosing the best, yet still computable, configuration of GENeSYS-MOD with respect to spatial and time resolution as well as sufficient detailed description of the energy system transition effects. The aim of this paper is therefore twofold, to better understand and interpret existing models as well as to improve future modeling exercises.

#EnergyTransition #Renewables #Modelling #EnergySystem

Oei, P. / Mendelevitch, R.: *"Prospects for Steam Coal Exporters in the Era of Climate Policies - The Colombian Case"*. Climate Policy.
DOI: 10.1080/14693062.2018.1449094.
Continued global action on climate change has major consequences for fossil fuel markets, especially for coal as the most carbon-intensive fuel. This article summarizes current market developments in the most important coal-producing and coal-consuming countries, resulting in a critical qualitative assessment of prospects for future coal exports. Colombia, as the world's fourth largest exporter, is strongly affected by these global trends, with more than 90% of its production being exported. Maintaining or even increasing mining volumes in Colombia should be re-evaluated, taking into account new economic realities as well as local externalities.. Key policy insights: (1) The climate policies` of most of Colombia's traditional trade partners target steam coal as the more emission-intensive fossil fuel, with many countries implementing or considering a coal phase-out. (2) Coal exporters should re-evaluate their operations and new investments taking into account this new policy environment. (3) To prevent a race to the bottom among coal producers that would favour weak regulation, climate policy makers should also consider the local social and external costs of coal mining, including on health and the local environment.

#Colombia #GlobalCoalMarket #CoalExports #JustTransition

Ruíz, A. / Krumm, A. / Schattenhofer, L. / Burandt, T. / Corral, F. / Oberländer, N. / Oei, P.: Potential of Solar Power Generation in Colombia – A qualitative and quantitative approach to analyze the solar energy market in Colombia. Renewable Energy.
DOI: 10.1016/j.renene.2019.10.066
Colombia faces several challenges to secure a reliable, affordable, and climate-friendly energy supply.Persistently low reserve-to-production ratios in oil and gas, together with advancing climate change, are putting the country's energy system at risk. Heavily relying on hydro-power, Colombia's electricity-system will become more vulnerable with extreme weather patterns such as El Nino. This paper offers a multi-method study of the role of photovoltaic (PV), specially prosumage systems, to support a slowly starting energy transition in Colombia. First, qualitative data from an expert elicitation in Colombia's energy sector is analysed. Second, a model to calculate the internal rate of revenue for households is used to identify optimal sizes for household PV or prosumage systems under the new regulatory framework.Key concerns emerging from the expert elicitation include lacking substantial financial aid, insufficient tax incentives, and high equipment prices, which raise investment and operation costs. Also, model results confirm net-metering implementation as an enabler of widespread deployment of household PV systems. Most profitable system configurations include PV systems without storage technology. Our findings show that financial instruments are still insufficient to scale-up household level PV deployment.

#Colombia #Renewables #Modelling #ExpertInterviews

Sarmiento, A. / Löffler, K. / Burandt, T. / Oei, P.: *Decarbonizing the Mexican Energy Sector*. Energies 12(17), 3270.
DOI: 10.3390/en12173270

This paper uses numerical techno-economic modelling to analyse the effect of current national renewable targets and climate goals on the cost and structural composition of the Mexican energy system. For this, we construct a scenario base analysis to compare current policies with two alternative states of the world—one without climate policies and one attaining full decarbonization. An additional iterative routine allows us to estimate the cost-optimal share of renewable technologies in the energy sector and the effect that deviating from this share has on total discounted system costs, emissions and the structure of the energy mix. In general, model results exhibit three key insights—(1) A marked dependence of the energy system on photovoltaics and natural gas; (2) The 2050 cost-optimal share of renewables for the production of electricity, transportation and industrial heating is respectively 75%, 90% and 5%; and (3) As national renewable targets for the power sector are lower than the cost-optimal share of renewables, equivalent to the shares in an scenario without climate policies and completely disconnected from national climate goals, these should be modified.

#Mexico #EnergySystem #Modelling

Stognief, N. / Walk, P. / Schöttker, O. / Oei, P.: The Economic Resilience of German Lignite Regions in Transition. Sustainability.
DOI: 10.3390/su11215911

This paper recalls the development of the German lignite regions Rhineland and Lusatia since 1945 to allow for a better understanding of their situation in 2019. We analyze their economic resilience, defined as adaptive capacity, using Holling's adaptive cycle model. We find that the Rhineland is currently in the conservation phase, while Lusatia experiences a reorganization phase following the economic shock of the German reunification. Key policy recommendations for the upcoming coal phase-out are to foster innovation within the Rhineland's infrastructures to avoid overconnection, and to expand digital and transportation infrastructure in Lusatia so that the structurally weak region can enter the exploitation phase. Future policymaking should take into consideration the differences between the two regions in order to enable a just and timely transition during which lasting adaptive capacity can be built.

#Germany #CoalTransition #PastExperiences #JustTransition

About the CoalExit Research Group:

The 20-member research group CoalExit at TU Berlin is led by Dr. Pao-Yu Oei. The research associates that are doing their Ph.D. studies in the context of the research group are Hanna Brauers, Isabell Braunger, Thorsten Burandt, Karlo Hainsch, Christian Hauenstein, and Konstantin Löffler. Four new Ph.D. candidates will join the CoalExit group in 2020 with Alexandra Krumm, Felipe Corral Montoya, Paola Yanguas Parra, and Paula Walk. Furthermore, the work is supported by the research assistants Carolin Brodtmann, Philipp Herpich, Lukas Krawielicki, Catharina Rieve, Akira Schroth, Frederik Seehaus, Josephine Semb, Nora Stognief, and Felix Wejda. Existing cooperations to various other international institutions and researchers help linking the work to other parallel research projects on similar topics.

The CoalExit group was enabled through the grant "global change" of the Federal Ministry of Education and Research (BMBF). Additional funding is derived from other research projects, mainly "open ENergy TRansition ANalyses for a low-Carbon Economy - Open-Entrance" by European Commission H2020 funding (https://openentrance.eu/), "Future of Fossil Fuels in the wake of greenhouse gas neutrality - FFF" by BMBF (https://www.diw.de/fff), "Modellexperiment zum Vergleich und der Ermittlung von Synergiepotentialen von Open-Source-Frameworks in der Energiesystemanalyse - OPEN-MODEX" by the Federal Ministry for Economic Affairs and Energy (BMWi) (https://reiner-lemoine-institut.de/open_modex/) and several projects for the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU) and the German Environment Agency (UBA). A new European Commission H2020 4-year project on "Carbon Intensive Regions in Transition - Unravelling the Challenges of Structural Change - CINTRAN" will start in May 2020.

Join the CoalTransitions Research Hub:

TU Berlin's CoalExit team took over the hosting of the website www.coaltransitions.org to establish an international research platform on coal transitions, independent from any particular funding institution or project duration. This is an open-access platform for sharing knowledge about various inter- and transdisciplinary aspects of Coal Exit Strategies, i.a. socio-political analysis, energy modelling or individual case studies.
Work of more than 40 researchers from 15 research institutions of 5 continents on coaltransitions are already made public through the research platform. We therefore openly encourage other academic scholars, institutions, or research projects to contact us if they want to be included on the website.

Safe the date:

- 19th/20th February 2020: Workshop on "fossil fuel phase-out & just transformation" at TU Berlin
- 5th May 2020: 7th Klimaforum in Berlin on "Fossil-fuel phase out and just transformation/ Ausstieg aus fossilen Energieträgern - wie gelingt eine faire Systemtransformation?" at Kalkscheune, Berlin
- 23rd/24th June 2020: Pre-EAERE Event on "Just Transformation - Political Economy of Coal Phase-out" at TU Berlin

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