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OF DENMARK

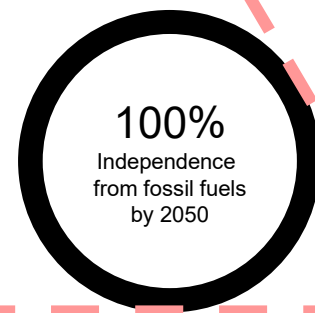
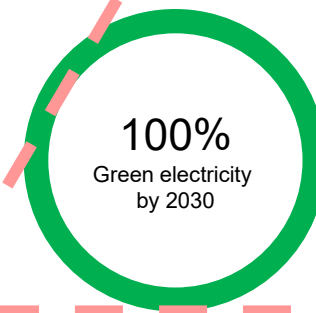
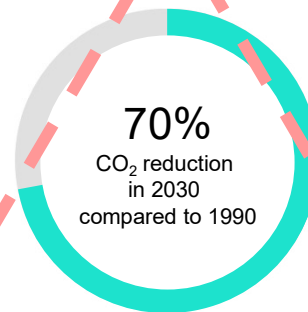
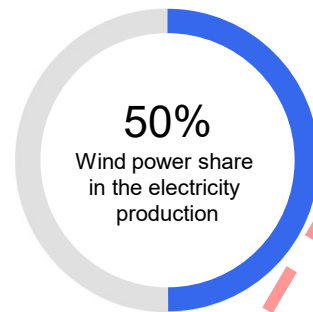


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Danish targets and investment policies?

Danish targets, tools and consequences for energy system



Initiatives in Energy Policy Agreement 2018

Tenders of support for solar and wind power on land – 215 MW expected annually

Tenders for 3 new offshore wind farms – total capacity 2,400 MW

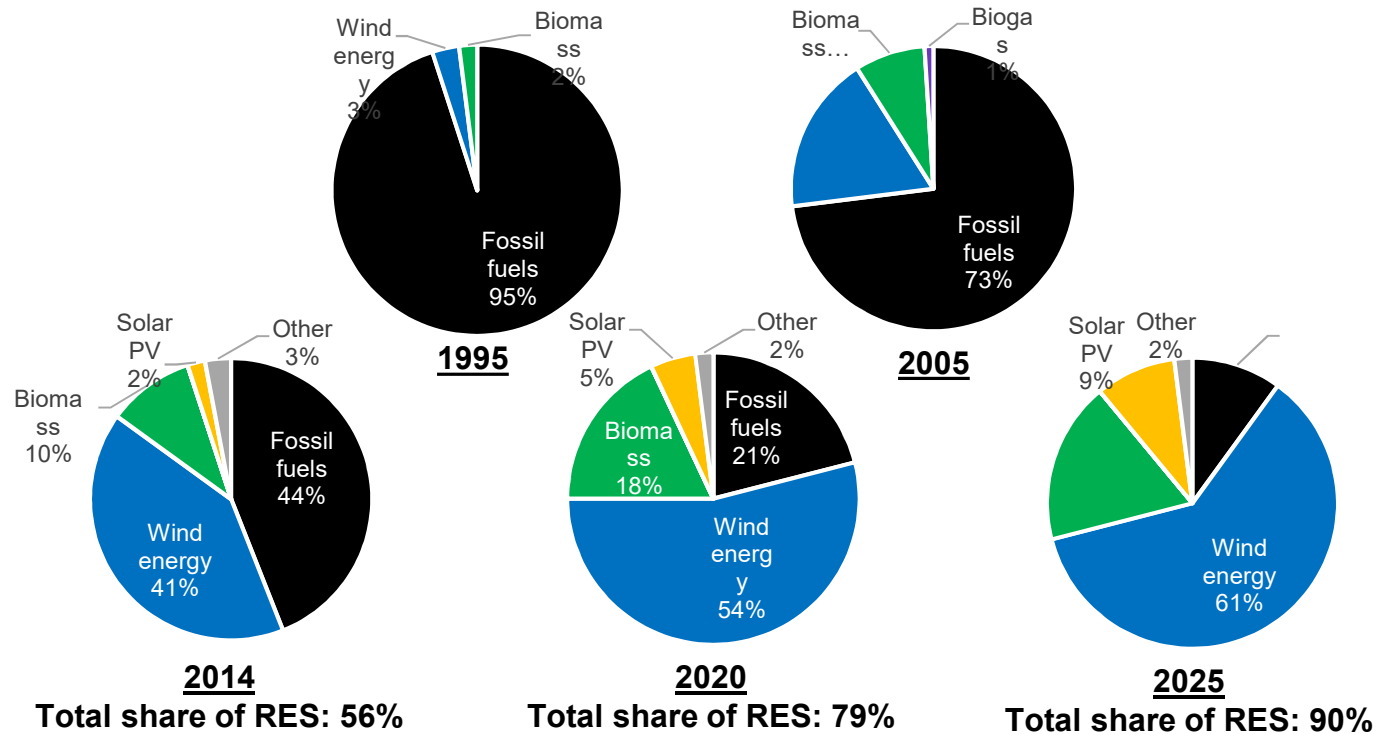
Continued financial support for bioenergy including expansion of biogas and other green gases

Total out-phase of coal before 2030; expected in 2028



Development in Denmark's Power Mix

Electricity production based on type of input (2020 and 2025 is predictions)





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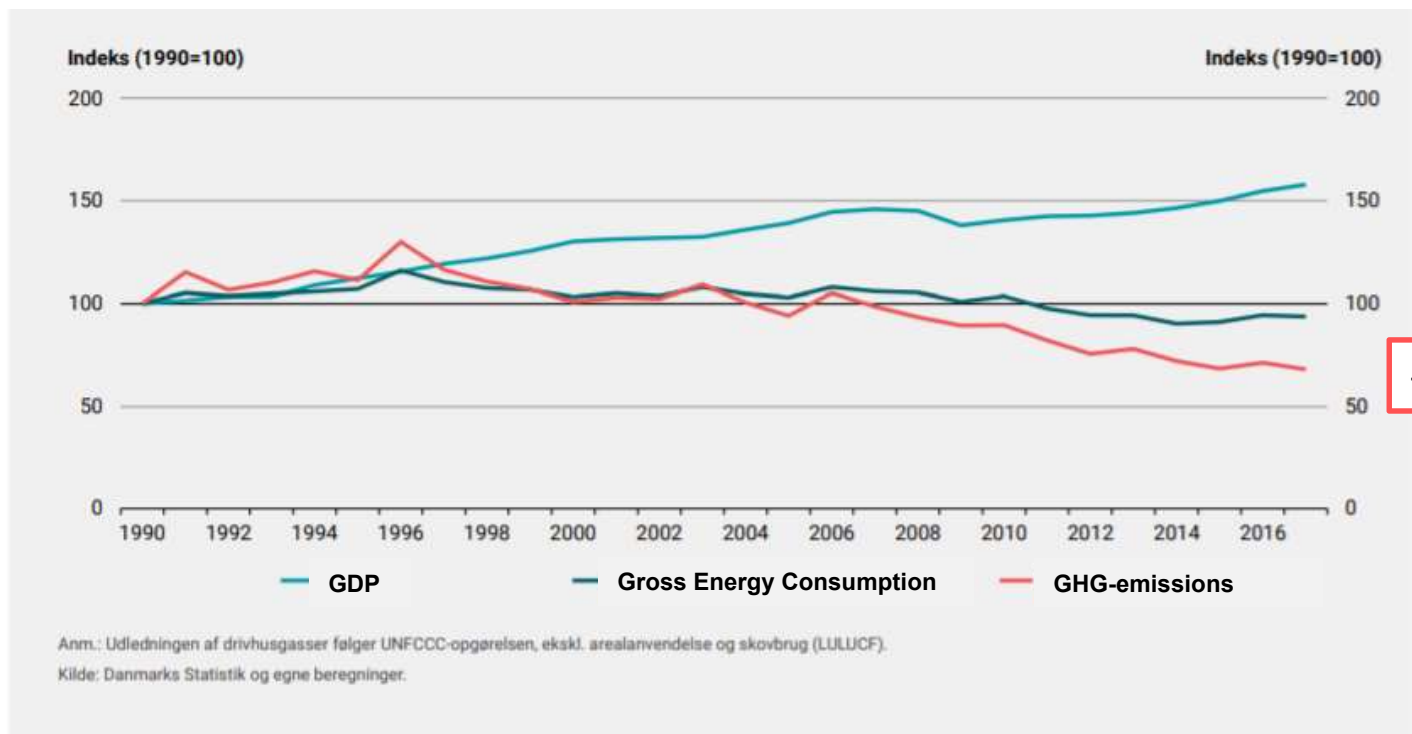


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Greenhouse gas
emissions and
economic growth?

Denmark's example of economic growth and emission reductions

Economic growth, stable energy consumption and emission reductions last 30 years

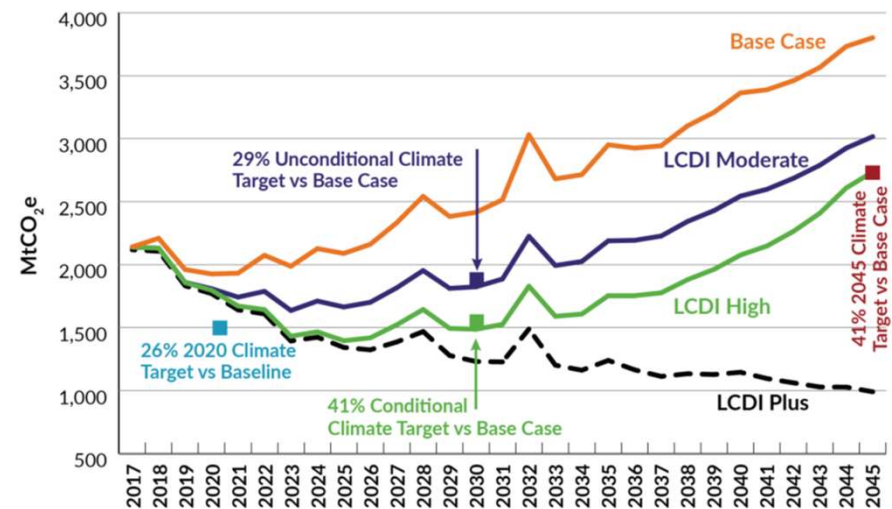
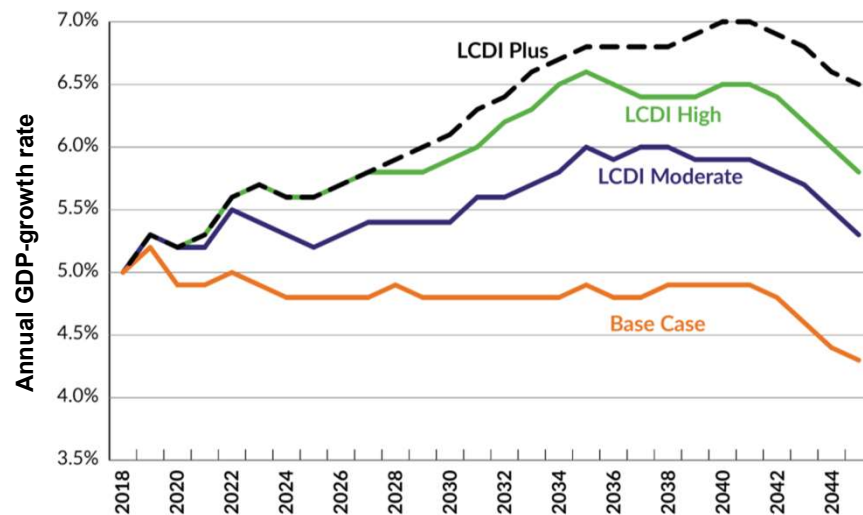


+60 pct. GDP

-40 pct. emissions

Indonesian ambitious climate action gives economic growth

BAPPENAS: Low Carbon Development scenarios gives higher economic growth than BaU



- Could Indonesia boost the economy by aiming 41 pct. reduction instead of 29 pct. in 2030?
- Would a further step-up in emission reduction lead to an even larger economic boost?



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Fossil fuels or RE?

Increasing need for power makes a choice in energy supply

Investment in energy capacity is needed – go green or fossil?

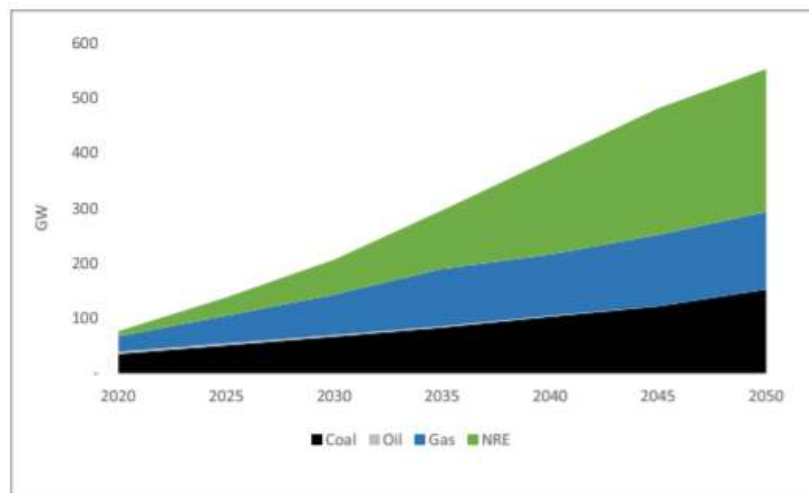


Figure 4.6 Power Plant Capacity Share by BaU Scenario

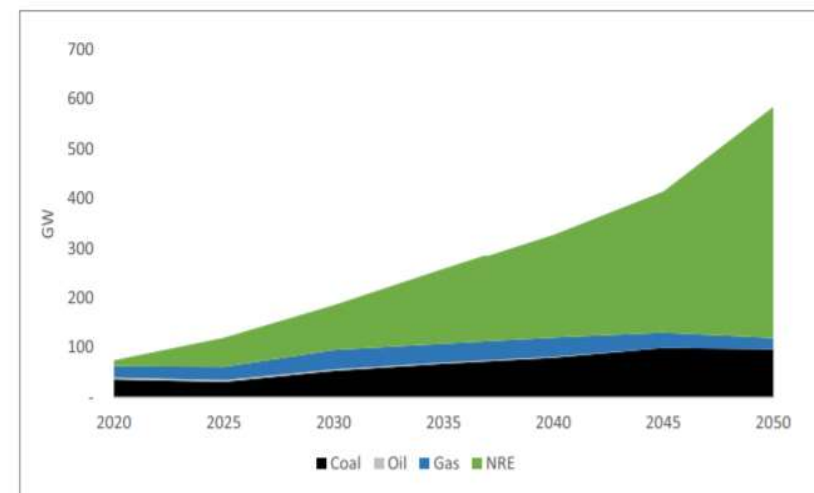


Figure 4.10 Power Plant Capacity Share by RK Scenario

- Indonesia Energy Outlook foresees significant increase in energy demand
- Now is the time for the policy choice on efficiency and sustainability of investments

Coal power is very sensitive to become more expensive than renewables

Already in 2020 without considering future cost reduction for RE

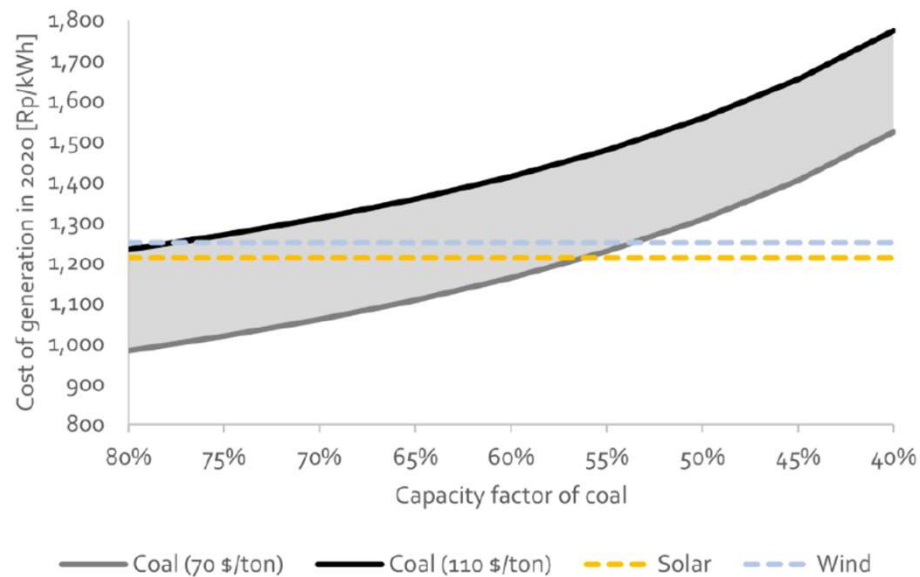
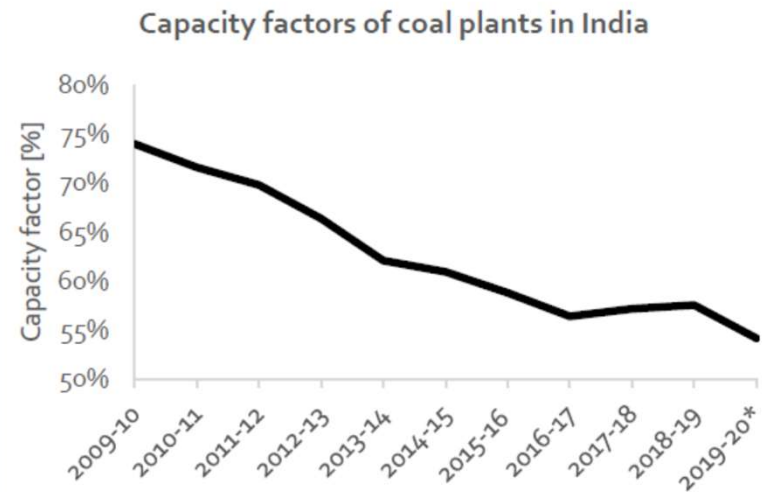


Figure 31: Coal generation cost at declining capacity factor, for a coal price of 70 \$/ton and 110 \$/ton.

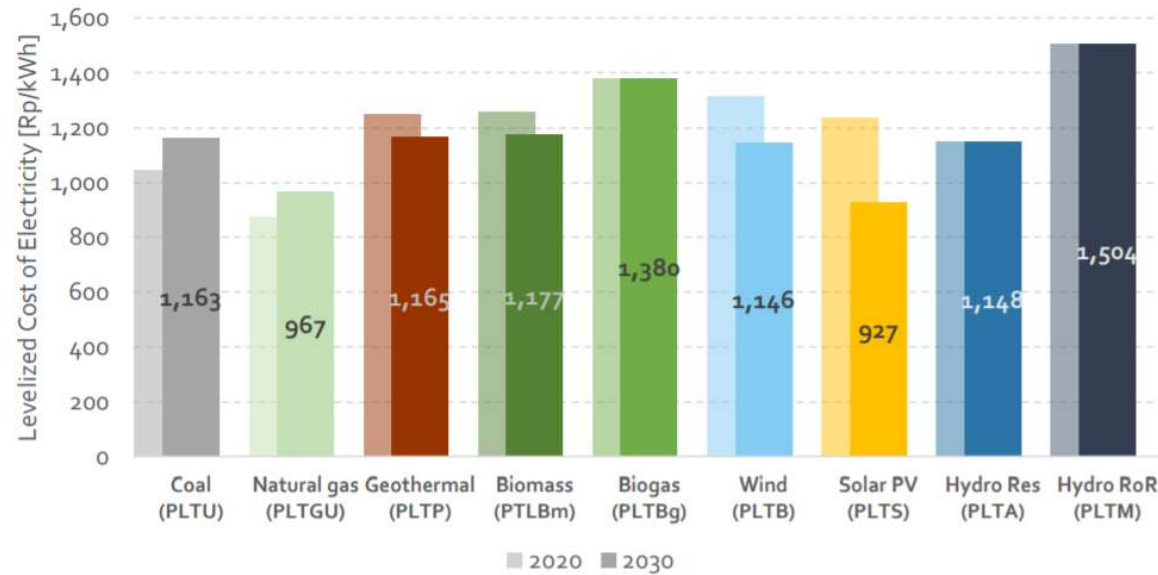
Source: Regional Energy Outlook North Sulawesi, DEA 2019



- In India RE reduce full-load hours for coal power plants
- High risk of stranded assets if investing too much in coal

Renewable is the key to low prices in Indonesia

Example South Kalimantan Energy Outlook 2019, Danish Energy Agency

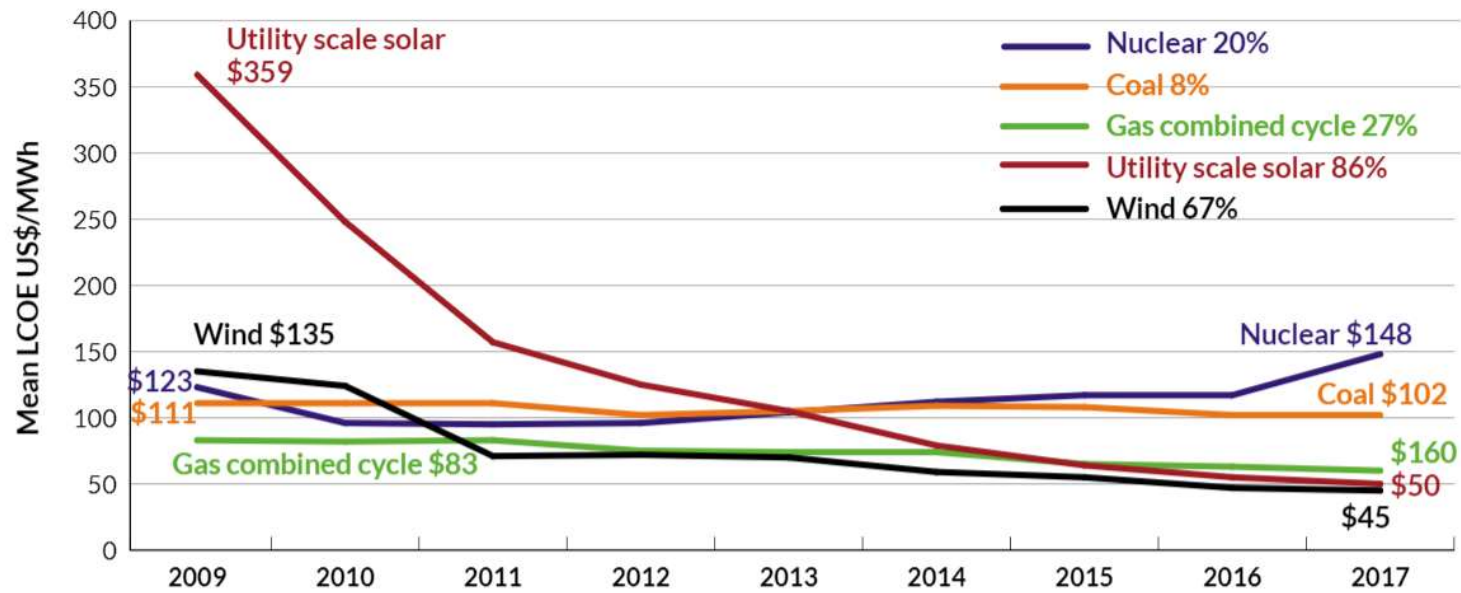


Levelized cost of electricity for each resource

Wind and solar becomes cheaper than coal before 2030 and solar cheaper than gas

International trends on RE-price is only downwards

Bappenas: Low Carbon Development Paths 2019



Source: (Lazard's 2017)



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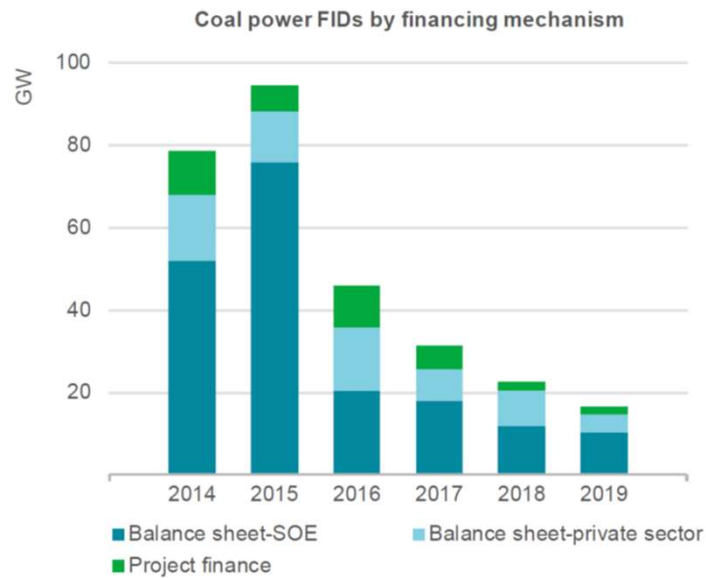
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How is international
finance changing?

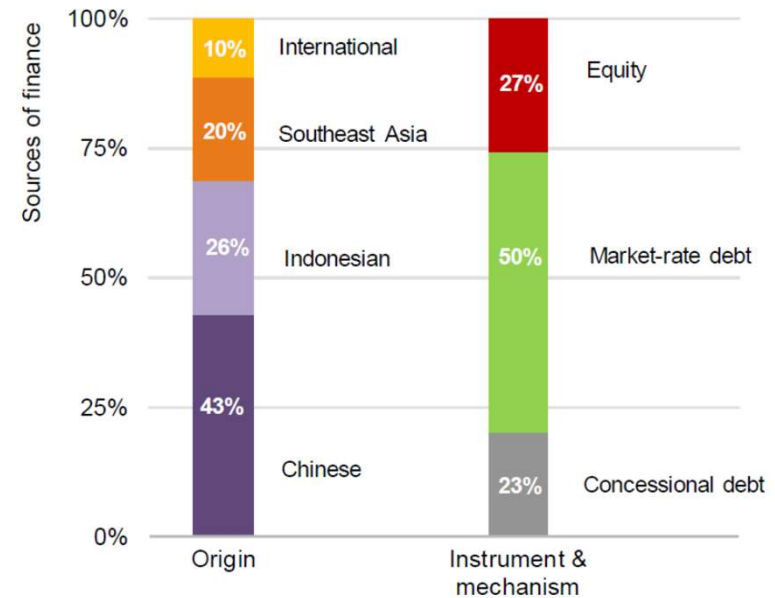
International coal finance declines

Indonesian coal investments are mostly financed from China and SEA according to IEA

Global investment decisions in coal are declining



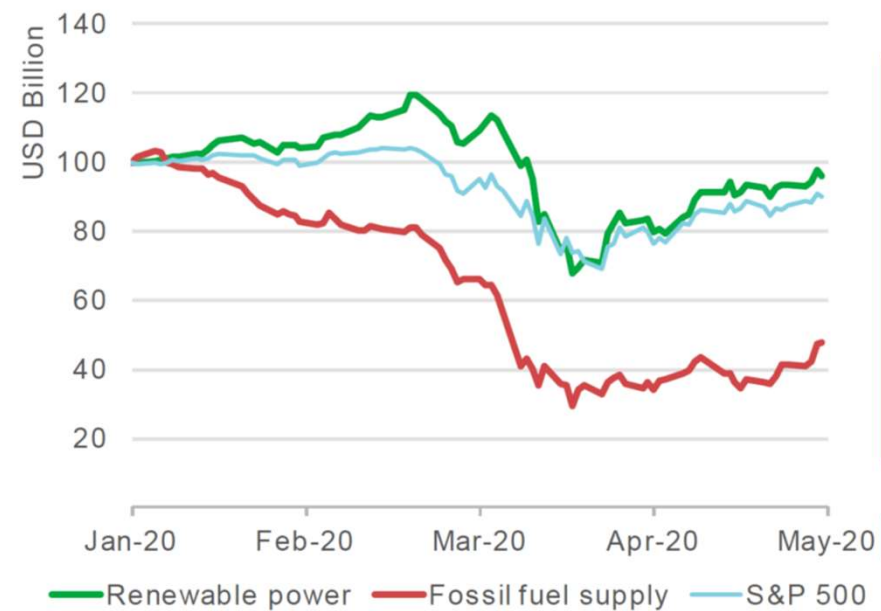
Indonesian coal projects 2015-2020 have been financed from China and SEA



International institutions are divesting from coal

- IEEFA tracks financial institutions
- Now more than 130 have restrictions on investments related to coal

Total equity return for US and Europe companies by sector





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More jobs in RE
than in fossil fuels?

More jobs in RE than coal per invested USD

GGGI: Employment Assessment of Renewable Energy, June 2020

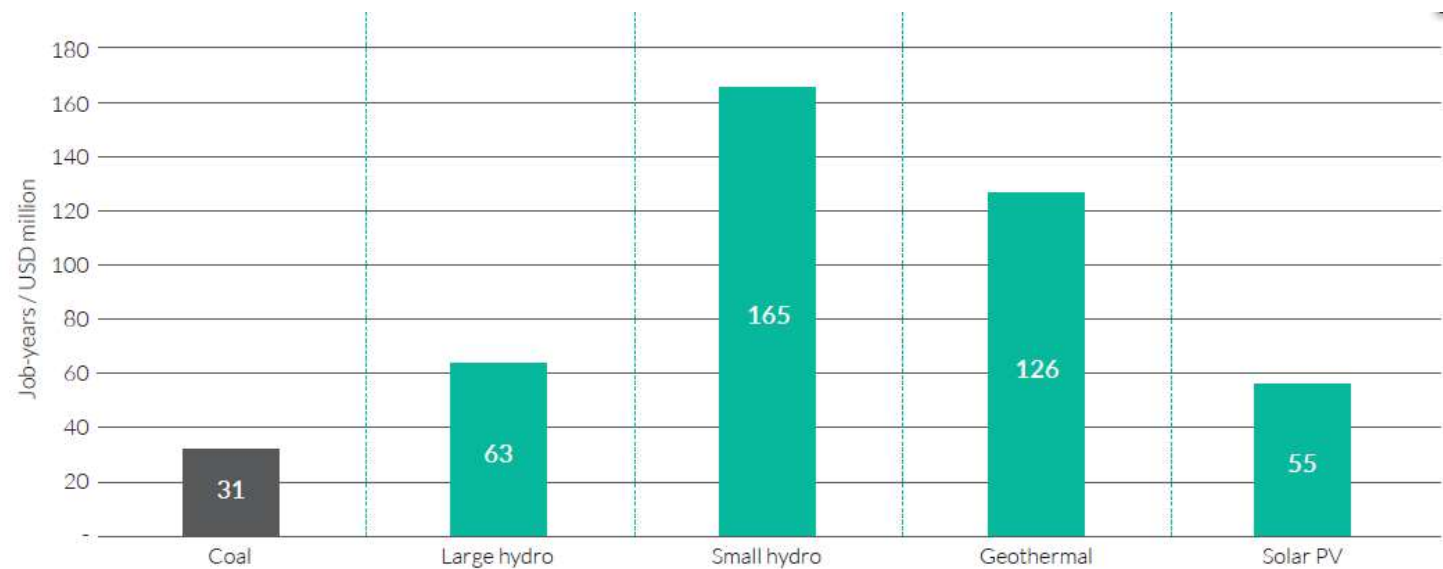


Figure 4.7 Direct job creation per unit of electricity generation (GWh) from new capacity and per unit of investment (USD million) under the RUKN scenario in Indonesia

Source: GGGI Analysis

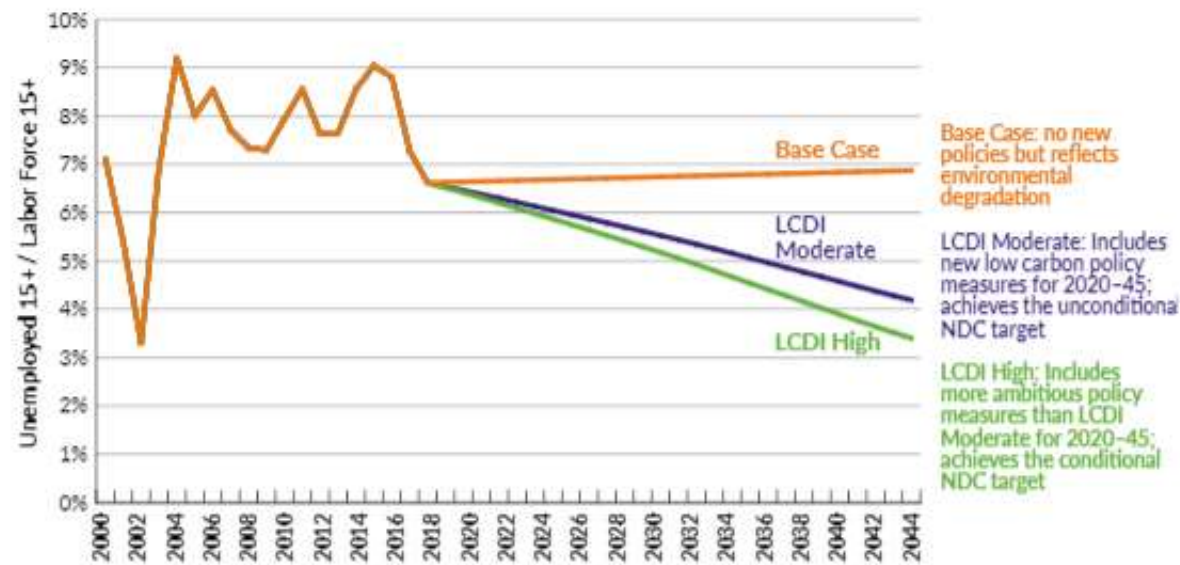


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Green transition gives higher employment rates in Indonesia

BAPPENAS: Low Carbon Development scenarios gives boost employment

Unemployment Ratios, Base Case vs LCDI Scenarios



Source: BAPPENAS Environment Directorate, based on results from IV 2045 Model



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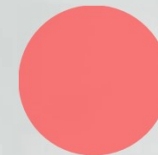
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EU

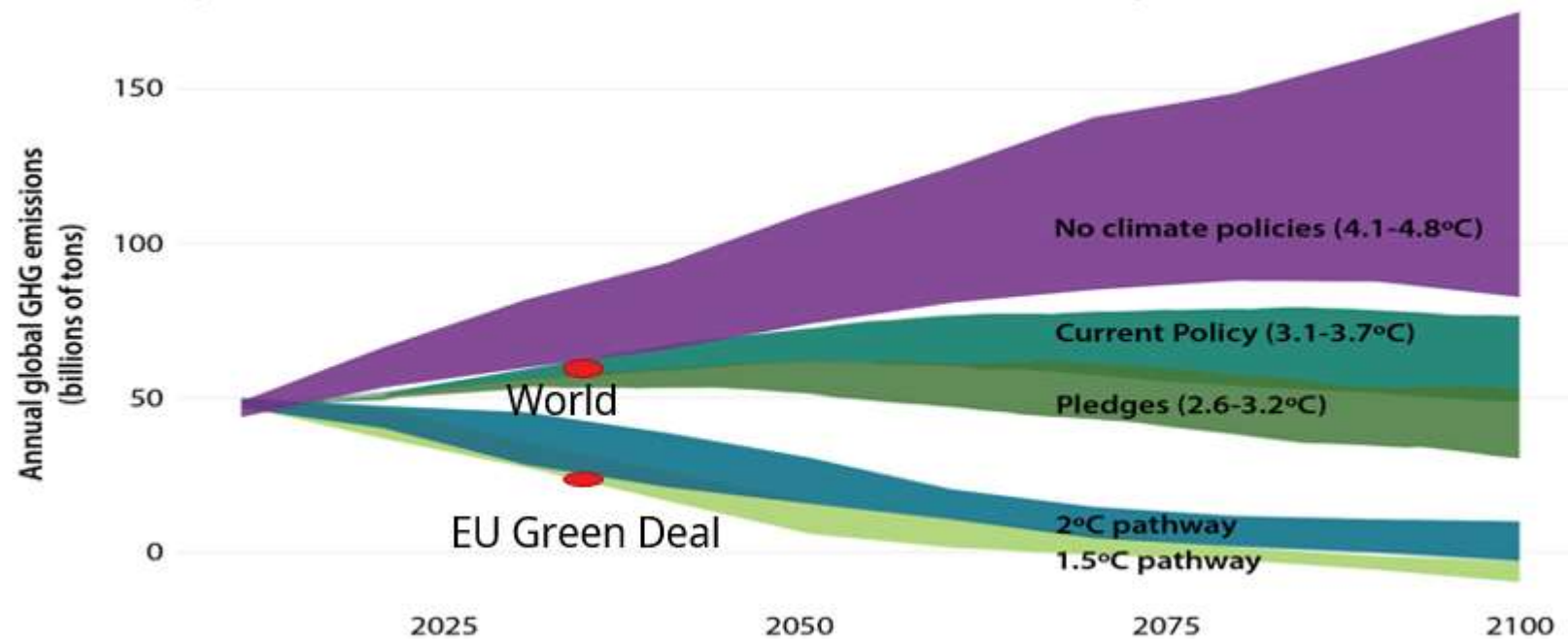


The World's climate pledges and policies are not sufficient

Can European Green Deal help us on track?

FIGURE E.

Historical and Projected Annual Global GHG Emissions under Selected Policy Scenarios, 2010–2100



Source: Fitchie and Roser 2017.

Note: These temperature estimates are relative to preindustrial temperatures. "Pledges" refers to the pledges made in the 2015 Paris Agreement.

THE HAMILTON PROJECT
BROOKINGS

Stanford Institute for Economic Policy Research (SIEPR)

European Green Deal

Stronger engagement in a green future



- Step-up of EU's own climate goals from 40 pct. reduction in 2030 to 60 pct. (depending on negotiations)?
- Focus on EE and RE, transport and agriculture
- International partnerships and finance is crucial



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European Green Deal

Major investment mobilisation

Enabling instruments



The European Green Deal Investment Plan and Just Transition Mechanism

To achieve the goals set by the European Green Deal, **the Plan will mobilise at least €1 trillion in sustainable investments over the next decade**. Part of the plan, the **Just Transition Mechanism**, will be targeted to a fair and just green transition.

THE EUROPEAN GREEN DEAL INVESTMENT PLAN

Mobilising at least **€1 trillion** of investments over the course of 10 years, thanks to the combined:

- capital from EU and national budgets;
- public and private investments;
- additional measures to facilitate and boost green public and private investment;
- attractive investment conditions;
- technical assistance to help investors in selecting sustainable projects.



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