ACCELERATING ENERGY TRANSITIONS AND RAISING AMBITION BASED ON DECREASING COSTS OF RENEWABLES

RENEWABLE ENERGIES IN THE CONTEXT OF AN NDC UPDATE IN INDONESIA AND MEXICO

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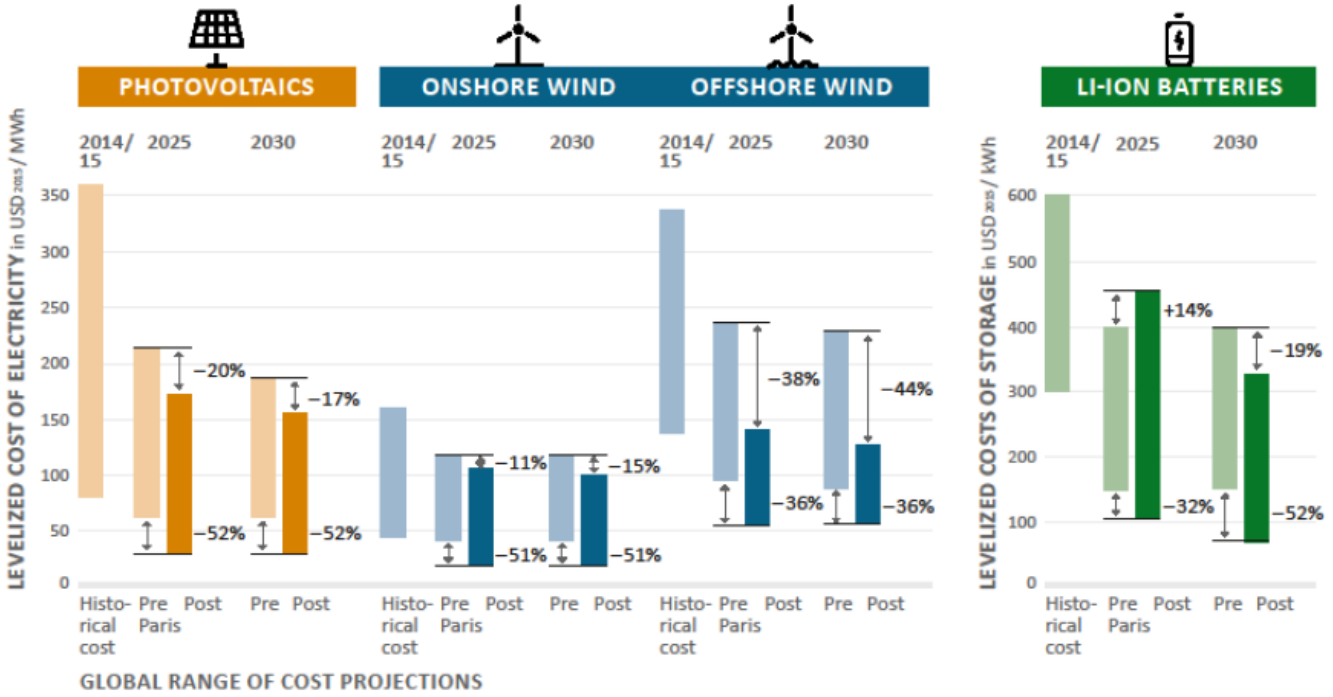

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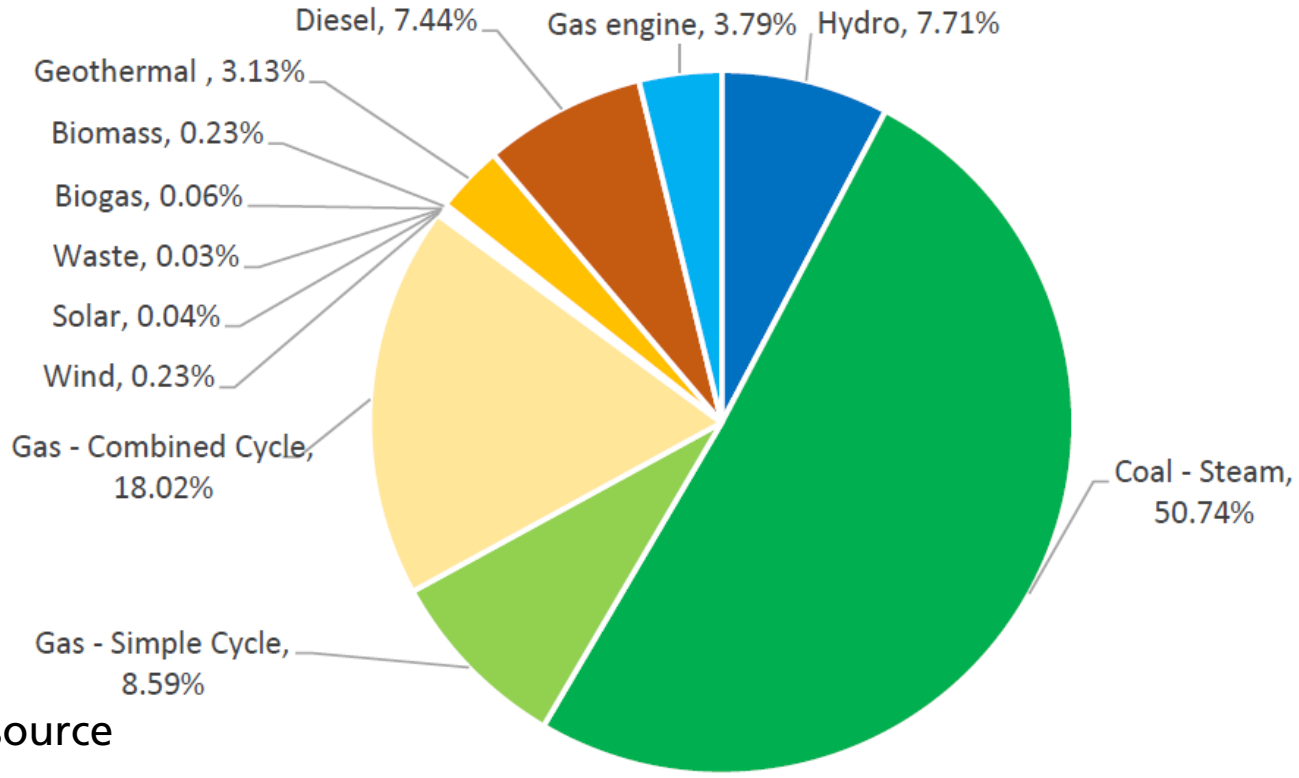
Indonesia: Current Energy supply

- large share of fossil fuels in the energy mix
- rural areas and outlying islands are supplied with diesel power

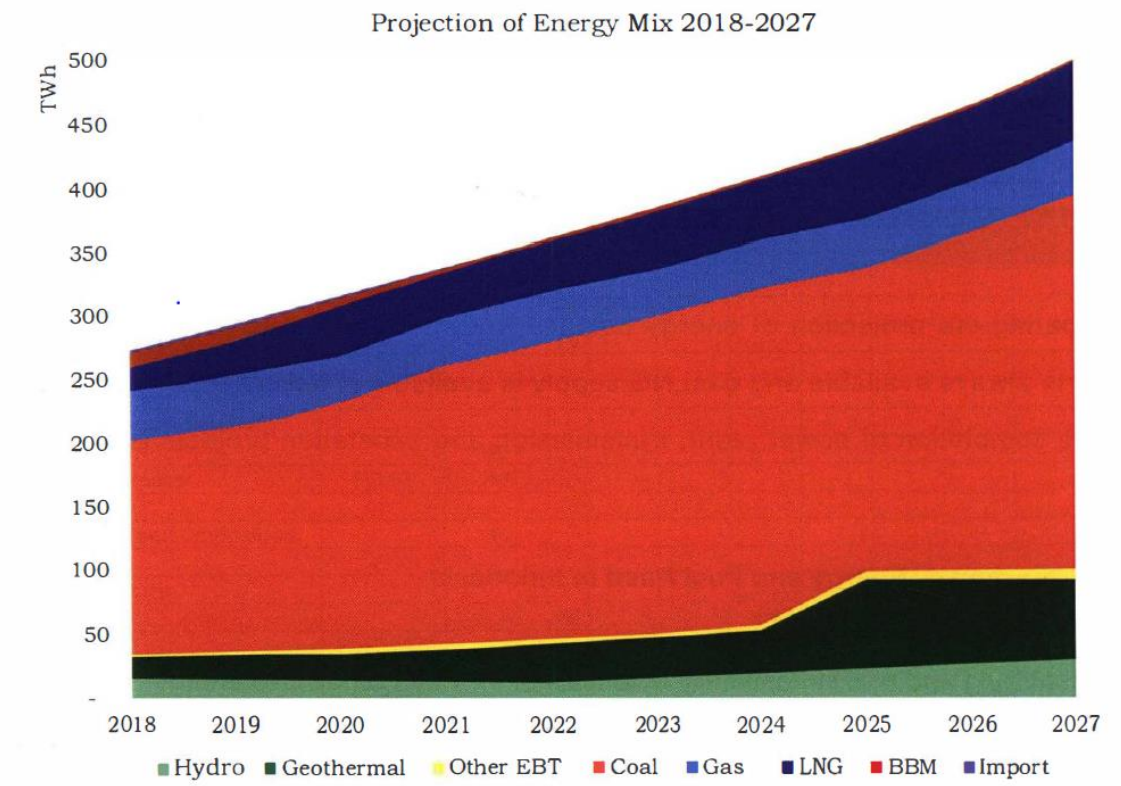


Capacity by source

Source: MEMR, 2018

Indonesia: Planned Energy Supply

- energy demand is projected to grow due to growing population and GDP increase
- major exporter of coal – 64% go to export



Source: RUPTL, 2018

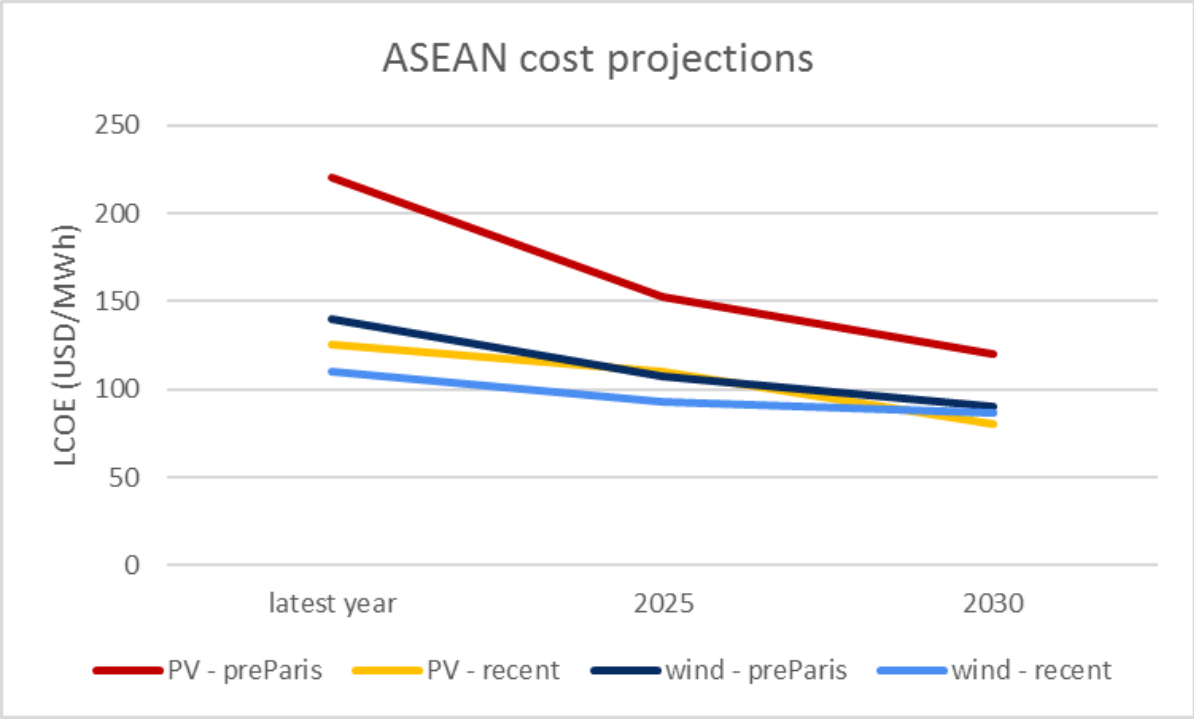
Indonesia: NDC and RE commitments

- national **commitments to RE**
  - 23% renewable energies in primary energy supply in 2023
  - 31% by 2050
- **NDC** is based on 3 scenarios
  - BaU: regulations remain in place, corresp. to increase of 25% in emissions
  - unconditional target : **29% reduction relative to BaU in 2030**
  - conditional: 41% reduction relative to BaU
  - includes forestry, land use
  - includes targets for RE:

    capacity of 7.5GW in 2025 (from 6.6GW in 2014); currently 8GW

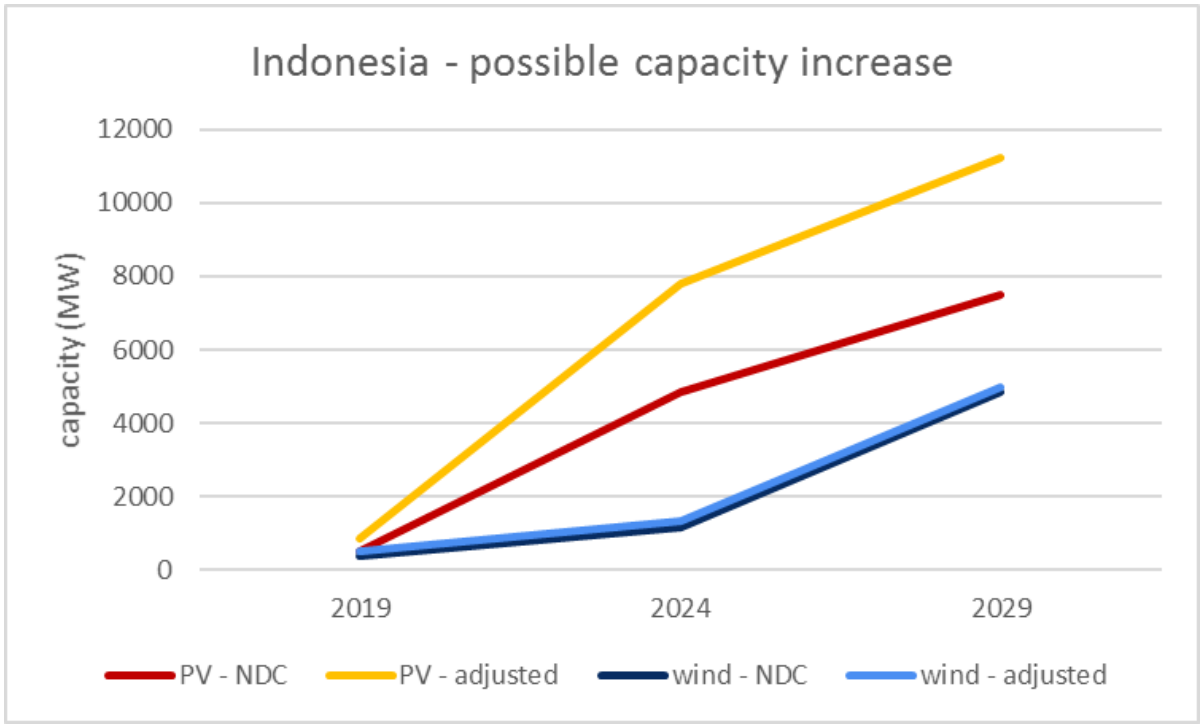
Indonesia: Cost Projections

- Specific cost projections for Indonesia are hard to obtain
- Currently using ASEAN data as an approximation
- seeing a remarkable drop in cost projections, especially for PV



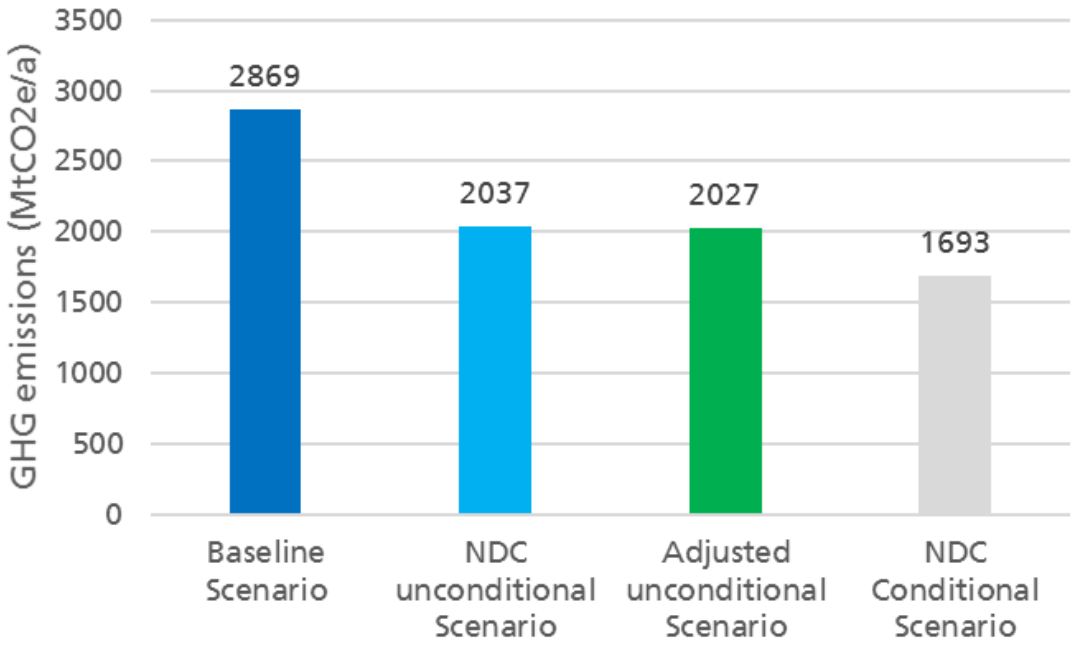
Indonesia: Capacity Increase

- The cost progression translates to an increase in capacity
- only a small effect on planned wind capacity



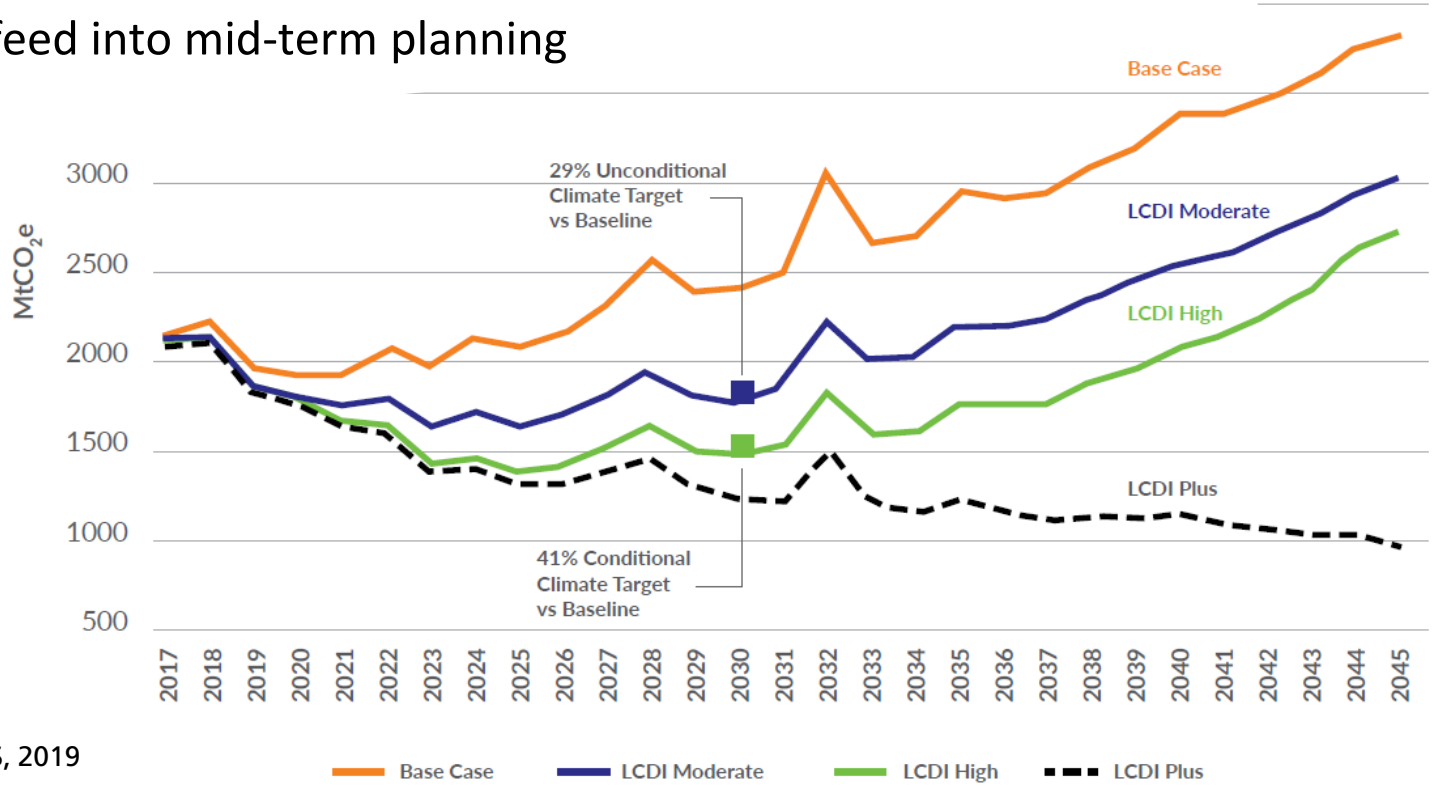
Indonesia: Emissions savings

- Assuming wind and PV replace coal
- Still only a limited effect on the overall emission level (<1%)
- Methodological effect: small ambition will remain small



Indonesia: Another Look at National Planning

- Ministry of National Development Planning has developed the Low Carbon Development strategy
- provides basis for NDC, but includes more ambitious scenarios
- this will feed into mid-term planning



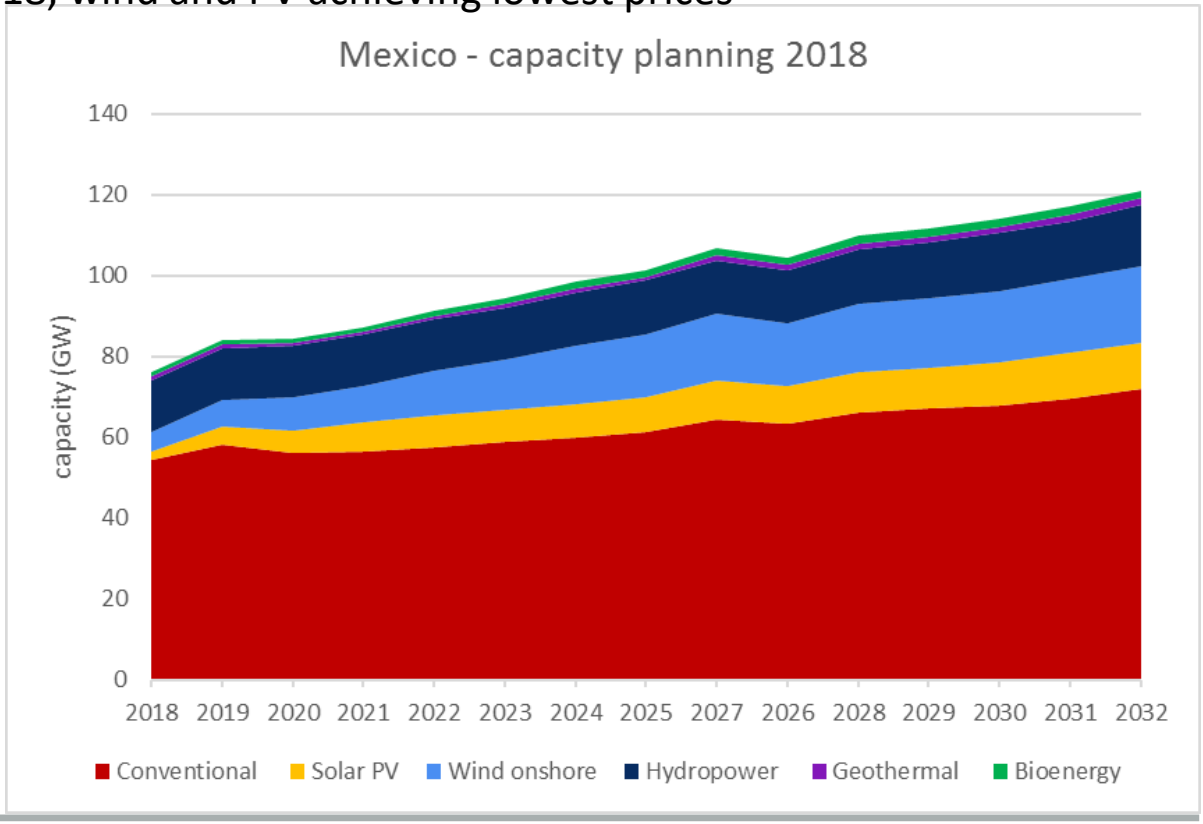
Source: BAPPENAS, 2019

Mexico: NDC and RE commitments

- several laws in pursuit of **transforming the energy sector**
  - energy transition law 2014: 18% clean energy in 2018, 35% in 2024
  - energy reform in 2013: moving away from state-owned monopoly to a competitive system, encourage natural gas use
  - climate change law updated in 2018 to reflect the NDC
- **auctions in 2018**
  - wind and solar achieving lowest prices (< 40USD/MWh)
- **NDC**
  - unconditional target: 22% below BaU
  - conditional target: 36% below BaU
  - well integrated with the other instruments

Mexico: Electricity Supply and Planning

- conventional power planned to remain dominant
- increase in wind and solar is planned
- auctions were held in 2018, wind and PV achieving lowest prices

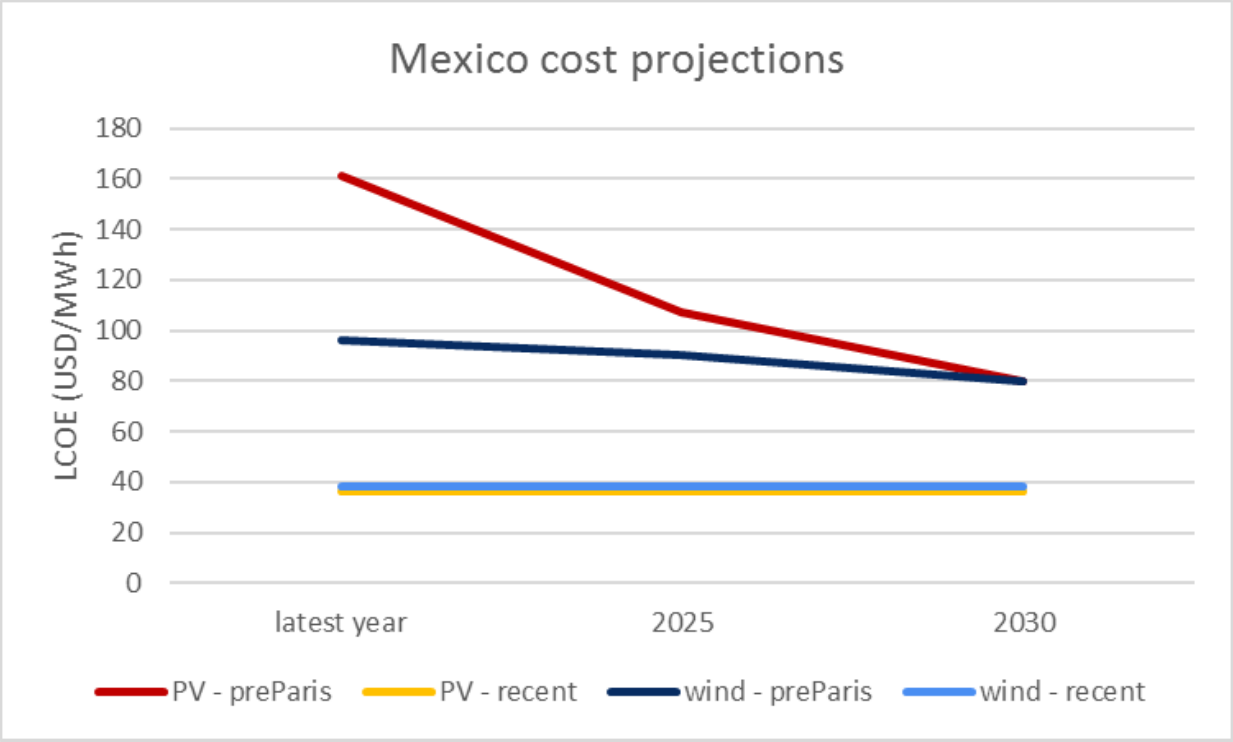


Capacity by source

Source: SENER, 2018

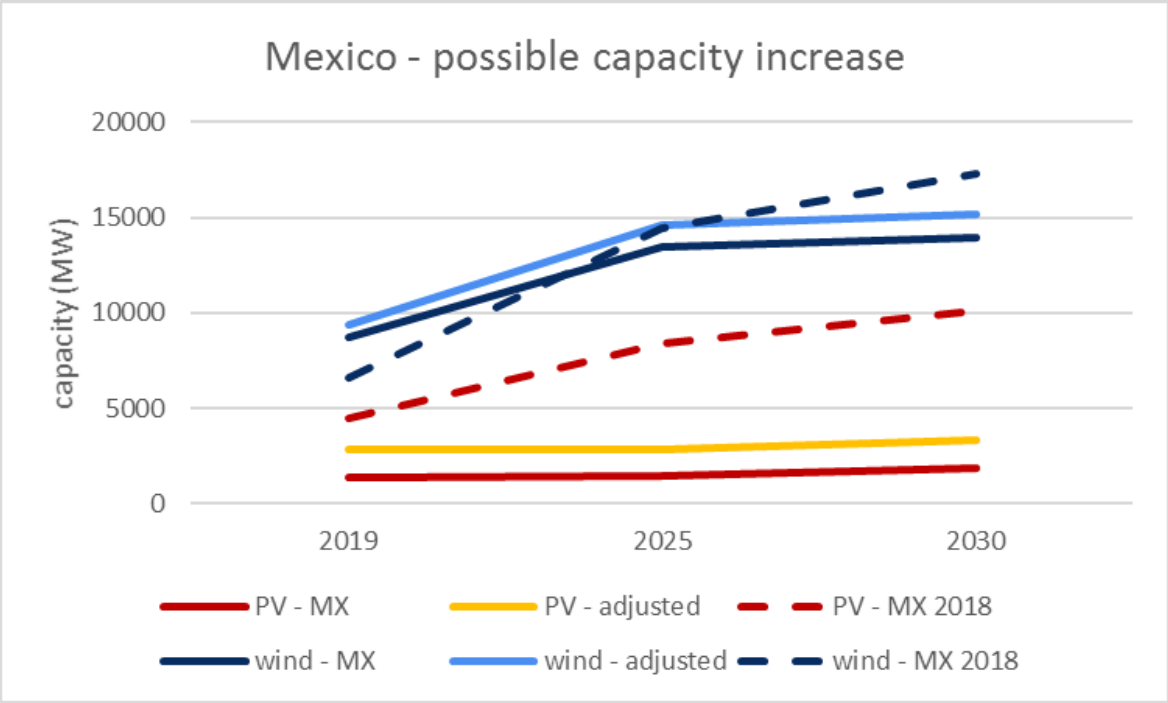
Mexico: Cost Projections

- Falling costs foreseen at the time of writing the NDC
- 2018 auctions are still undercutting 2030 prices foreseen by 50%



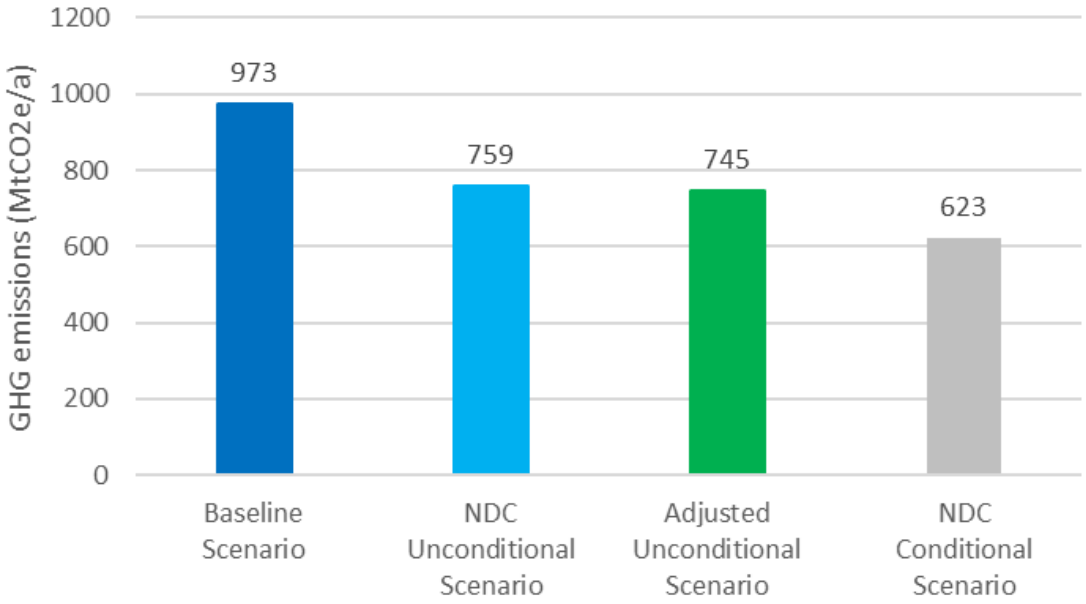
Mexico: Capacity plan

- Falling cost projections lead to increased capacity
- BUT: national planning is more ambitious already



Mexico: Emissions savings

- Estimated increase in capacity translates to up to 3% increase in ambition - considering only the same funding!

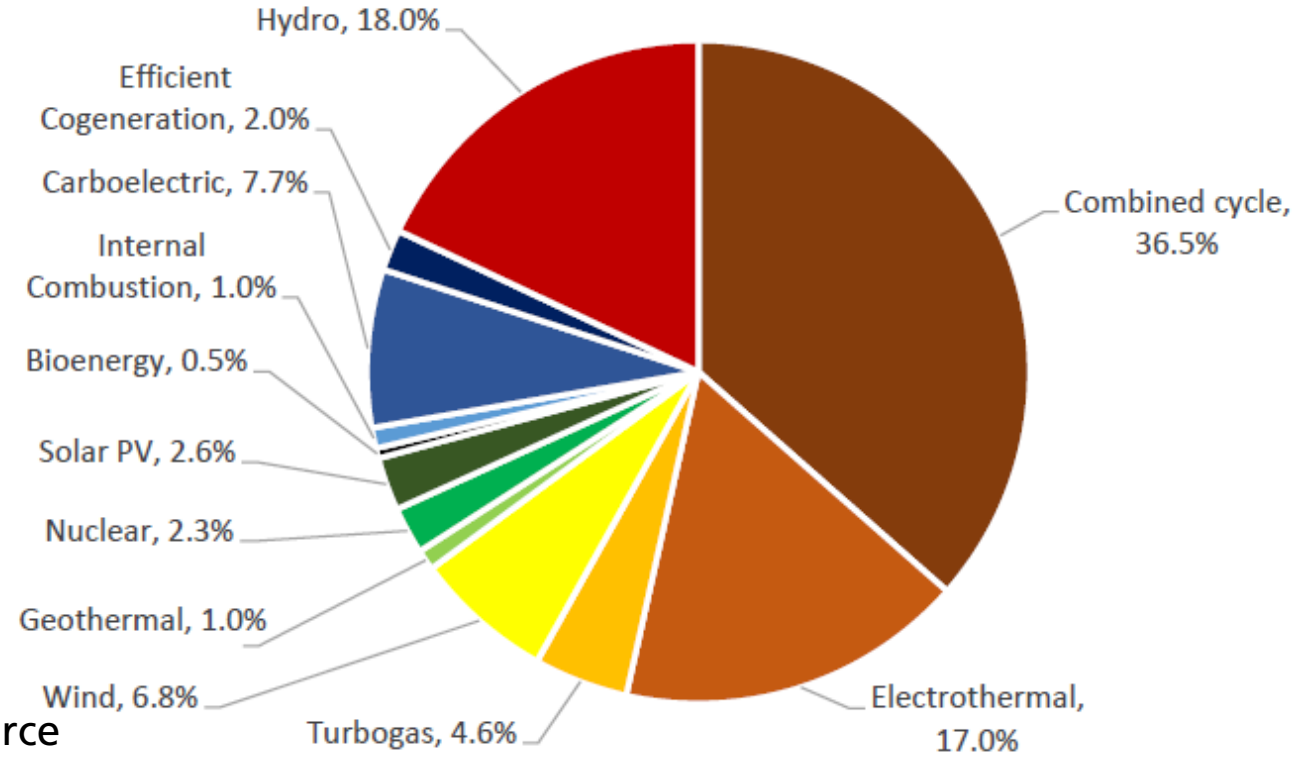


Mexico and Indonesia – Summary

- huge potential for renewable energies
- increasing share of RE at jeopardy
  - Indonesia: National planning only starting to consider GHG emissions at higher levels
  - Mexico: new government following presidential election has suspended renewable energy auctions
- natural resources seen as national patrimony to be exploited

Mexico: Electricity Supply and Planning

- Energy supply dominated by gas
- 9% total of solar and wind
- 18% hydro power



Capacity by source

Source: SENER, 2018