

Climate Compatible Development

*Short Course on Climate Change for
Namibian Parliamentarians*

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Outline of the Talk

- Introduction to climate compatible development and similar concepts
- Low carbon development in Namibia
- Climate resilient development in Namibia
- A climate resilience check-list

Climate Compatible Development

“Development that minimises the harm caused by climate impacts, while maximising the many human development opportunities presented by a low emissions, more resilient, future.” (CDKN 2010)

Climate Resilient Development Pathways

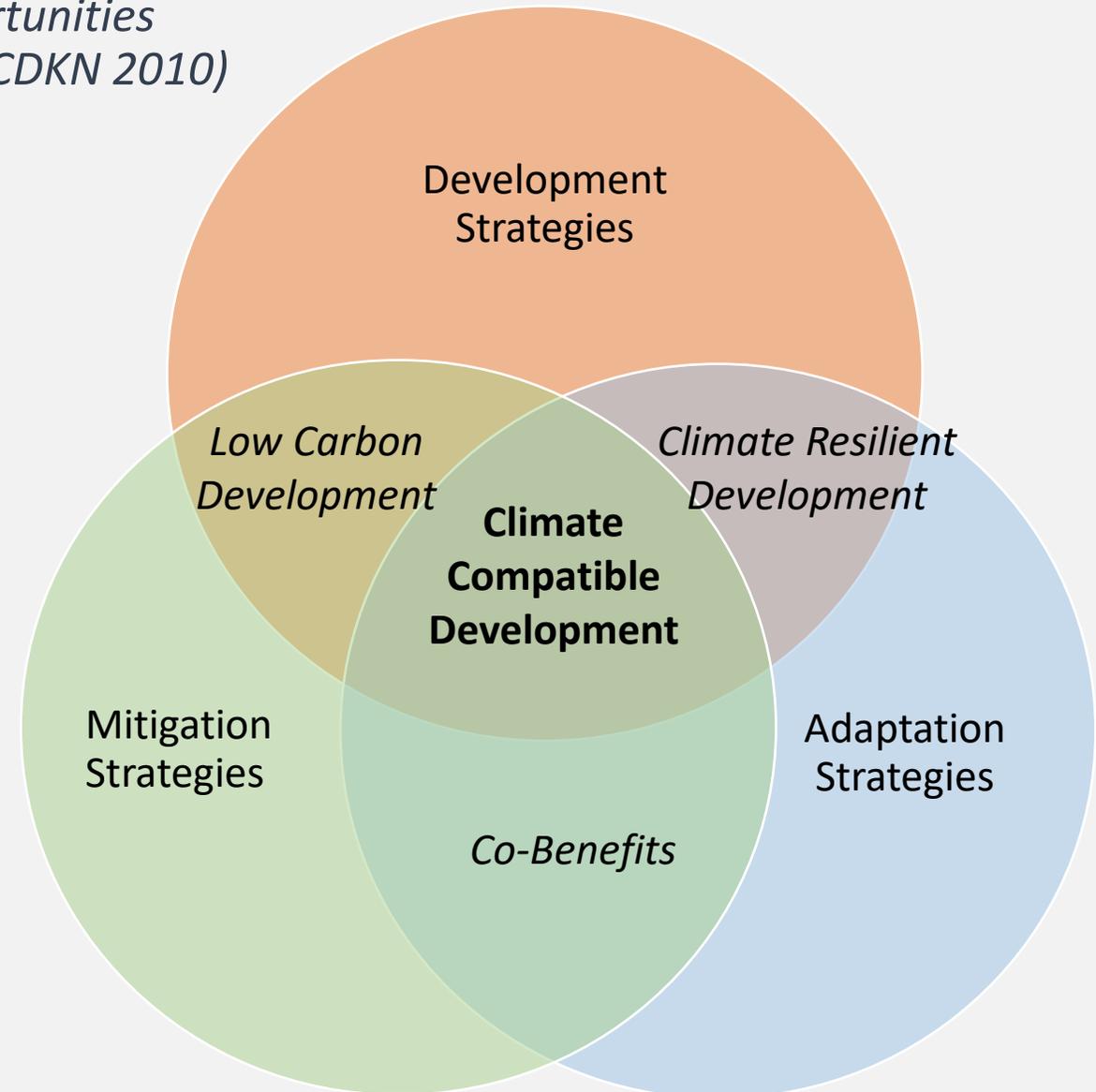
“Trajectories that strengthen sustainable development and efforts to eradicate poverty and reduce inequalities while promoting fair and cross-scalar adaptation to and resilience in a changing climate.” (IPCC 2018)

Climate Resilient Development

“Development that actively chooses mitigation and adaptation to achieve the sustainable development goals.” (IPCC 2021)

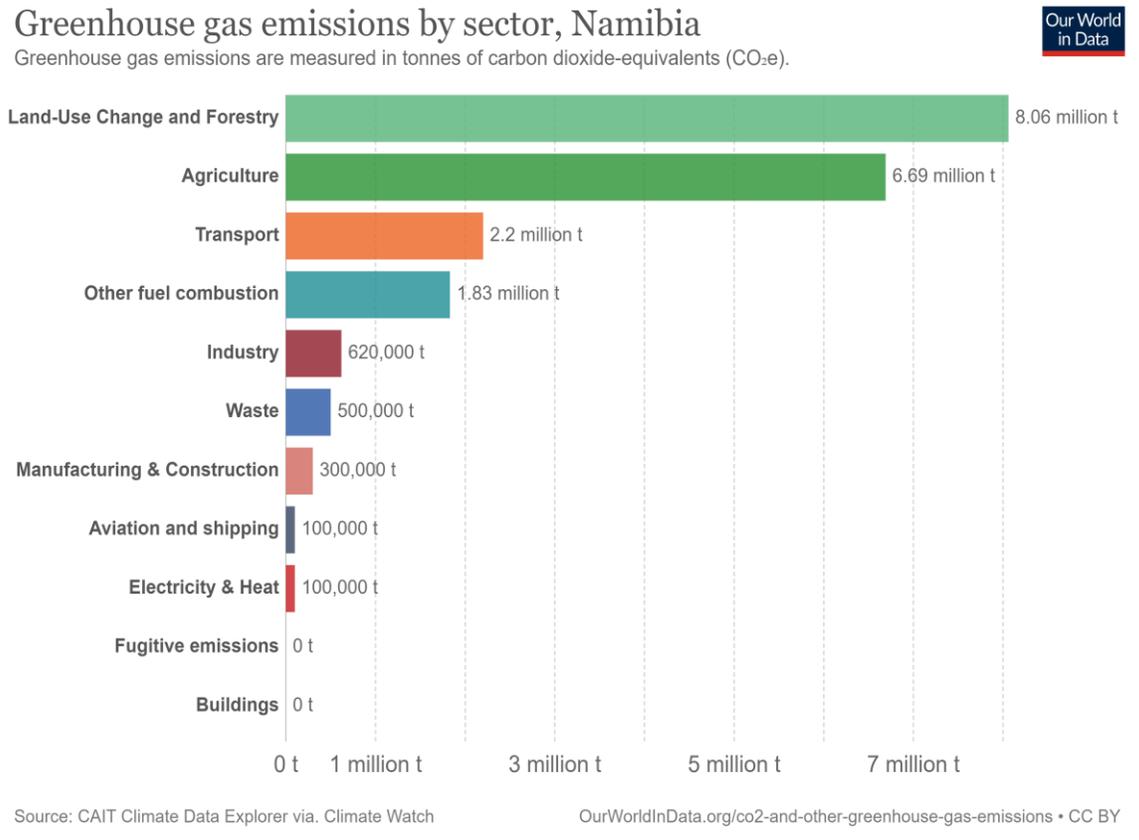
Adaptation Deficit

“The extent to which an entity (household, business, municipality, country) has not adapted to manage current climate risk”



Low Carbon Development

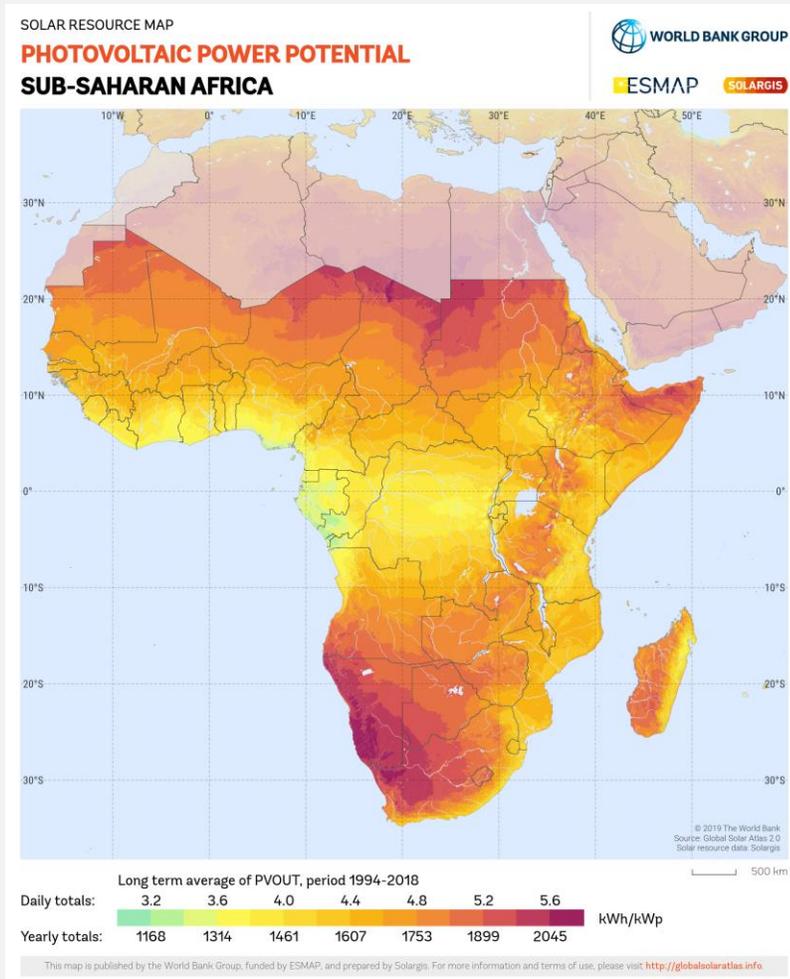
Namibia's current emission profile



- Total emissions very small (0.01% of global emissions since industrial revolution)
- Per capita annual emissions relatively high for Africa: 1.7 tons (South Africa is 8.4)
- Most emissions from land-use (agriculture and forestry), followed by transport and other fuel (mostly domestic fuel use)
- Consumption-based emissions double production based (electricity, imported goods and food)
- Low carbon development will need to:
 - Address emissions from agriculture and other land uses, other fuels, transport
 - Develop low / zero carbon electricity and fuels

Low Carbon Development

Namibia's low carbon electricity opportunities



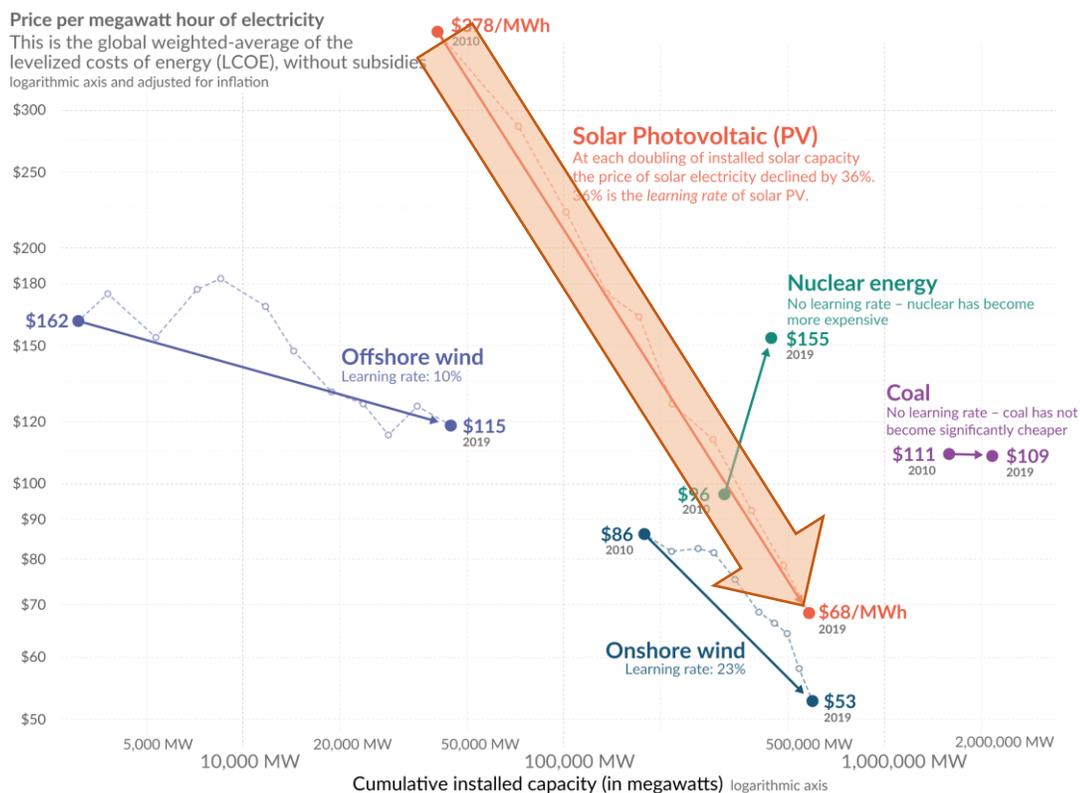
- Namibia has some of the greatest solar electricity potential in the world

Low Carbon Development

Namibia's low carbon electricity opportunities

Electricity from renewables became cheaper as we increased capacity – electricity from nuclear and coal did not

Our World in Data



Source: IRENA 2020 for all data on renewable sources; Lazard for the price of electricity from nuclear and coal – IAEA for nuclear capacity and Global Energy Monitor for coal capacity. Gas is not shown because the price between gas peaker and combined cycles differs significantly, and global data on the capacity of each of these sources is not available. The price of electricity from gas has fallen over this decade, but over the longer run it is not following a learning curve.

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OurWorldinData.org – Research and data to make progress against the world's largest problems.

- Namibia has some of the greatest solar electricity potential in the world
- Solar and onshore wind energy is now much cheaper than coal (excluding battery storage)

Low Carbon Development

Namibia's low carbon electricity opportunities



- Namibia has some of the greatest solar electricity potential in the world
- Solar and onshore wind energy is now much cheaper than coal (excluding battery storage)
- Solar can operate at large and small scale (home, village, town, national grid)
- Renewables can generate income for homeowners and landowners (solar farming)

Climate Resilient Development

What are some of the principles?

Climate resilient development should *choose and implement development options that will not be constrained or put at risk by current and future climatic conditions.*

It should therefore:

- Assess current and future climate risk
- Reduce impacts of climate hazards today and in the future
- Avoid options that exacerbate climate risk
- Enhance benefits to society
- Take a whole system approach to minimize negative trade-offs
- Be flexible, to allow for adjustment climate conditions change

Climate Resilient Development

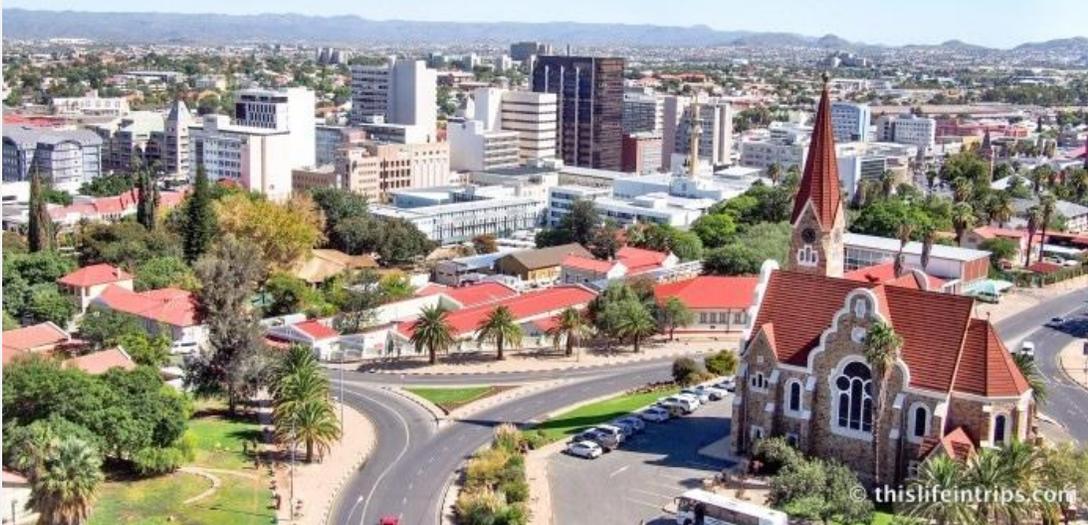
Need to address the climate risks facing Namibia

- Reduced overall rainfall, more frequent and severe drought
- Higher evaporation, drier soils
- Reduced surface water and groundwater availability
- More extreme rainfall events
- Hotter days and nights
- More intense and longer heat waves
- Changing coastal circulation, water temperatures, nutrients



Climate Resilient Development

What might climate resilient urban development look like?



- Urban development plans that take current and future climate risk into account
- Revised building and infrastructure regulations for heat comfort, water efficiency, stormwater infrastructure, energy efficiency (domestic, office, hospitals)
- Drought resilient water supply system that is not compromised by other water use demands
- Actively supports and incentivises for climate resilient business/industry
- Electrification (decarbonisation) of public transport

Climate Resilient Development

What might climate resilient rural development look like?



- Rural development plans should acknowledge:
 - Aridity and drought as fundamental constraints
 - Changing aspirations of younger generation
 - Rural to urban migration
- Investment in climate smart agriculture and training
- Investment in value chains and market access
- Plan transformational adaptation strategies for high levels of climate change

A Climate and Development Checklist

Does Namibia (or your constituency) have:

- An interdepartmental body to coordinate climate resilience action?
- A climate resilience plan?
- Principles or other guidance for state investment in resilience building?
- Resilience standards for infrastructure and new buildings?
- Resilience policies for utilities (water, electricity)?
- An insurance commission with climate-risk policies for the insurance sector?
- Dedicated revenues/funds for use in climate resilience strengthening?
- Criteria for investing state funds equitably in climate resilience?
- Research, funding, outreach, or other resilience-building partnerships with universities, nonprofits or networks?
- An agenda for federal policies/programs to support state and local resilience building?

A Climate and Development Checklist

Does Namibia (or your constituency) have:

- Resilience building included in your “all hazard” mitigation plan?
- Ways for local governments to address their resilience challenges and opportunities?
- Access to climate data and risk analysis?
- Technical guidance and assistance for developing local climate resilience plans?
- Communications assets/support for building public commitment to resilience?
- Local governments with authority to generate and spend local funds for resilience?
- Ways for local governments to leverage private investments for local resilience development?
- Incentives for real estate developers or to strengthen property resilience?
- Building codes that require strengthened resilience of properties and buildings?
- An infrastructure bank whose funds can be used for resilience strengthening?

Thank you for your attention