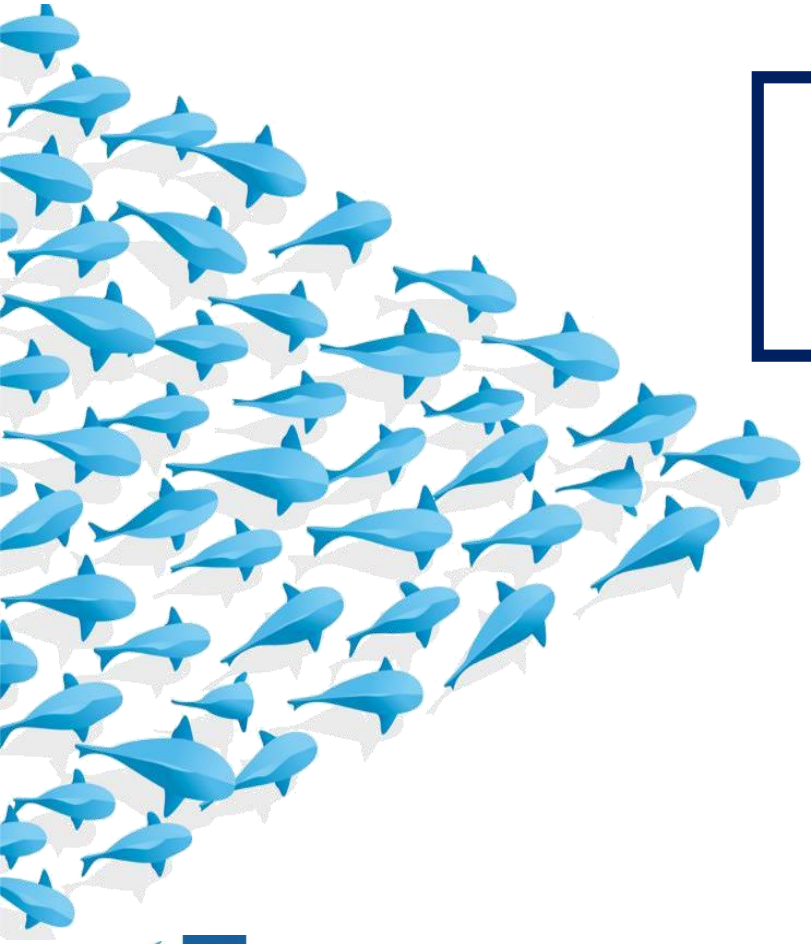
Lebanon under Climate Change
What to expect in 2030?



Transitions to renewable energy and sustainable prosperity in Lebanon

September 23, 2019

Lea Kai
Project Manager
Climate Change projects
UNDP/Ministry of Environment

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+1°C

Warmer than pre-industrial levels

+3°C

Warming by end of century

-49%

Emission reduction by 2030

-100%

Achieve carbon neutrality by 2030

85%

of renewables by 2050

The world has only

12 years

To effect a complete transition in economy and society

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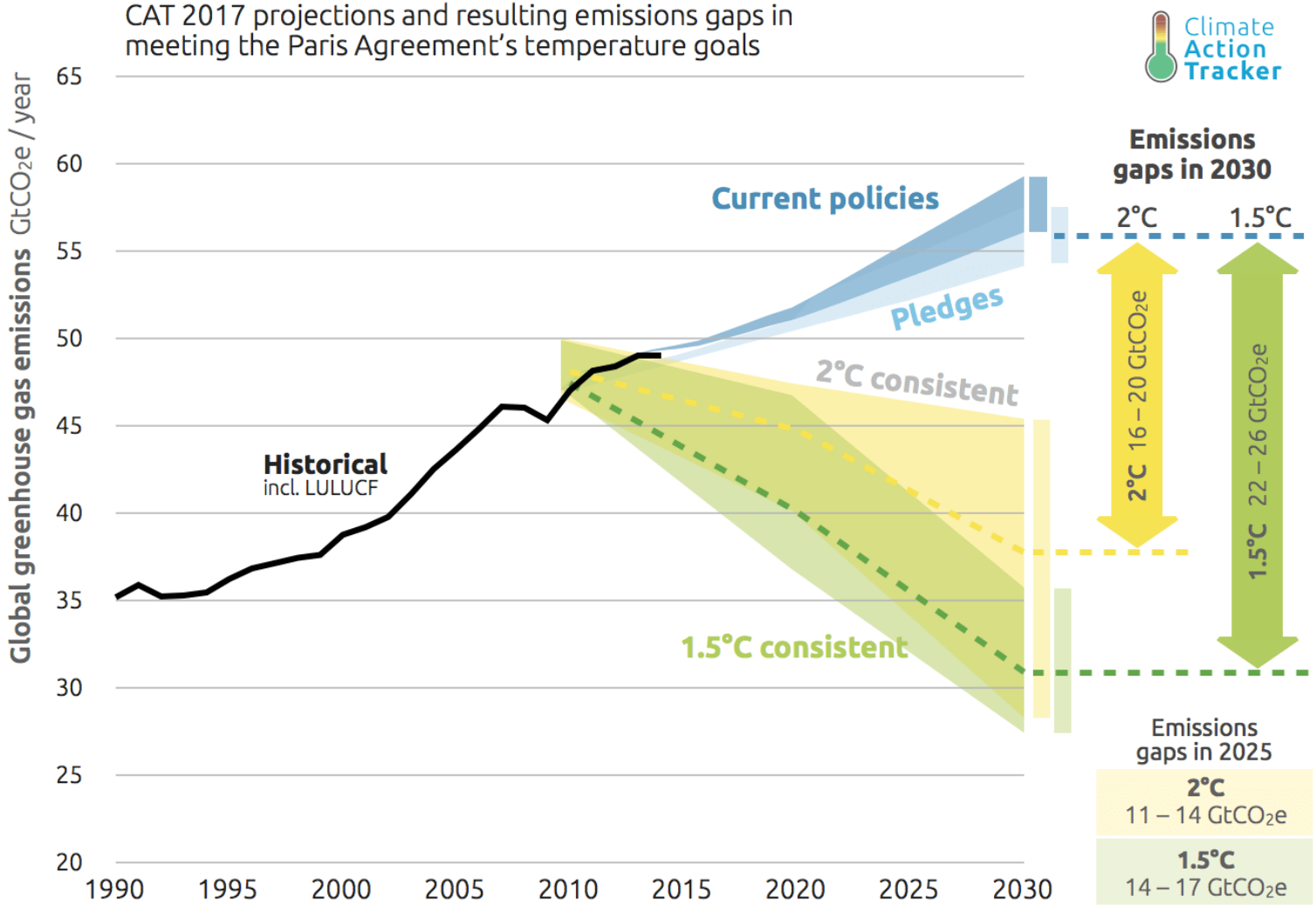
IPCC - Special Report on 1.5°C (2018)

2030 EMISSIONS GAPS

CAT 2017 projections and resulting emissions gaps in meeting the Paris Agreement's temperature goals



The "gap" range results only from uncertainties in the pledge projections. Gaps are calculated against the mean of the benchmark emissions for 1.5°C and 2°C.

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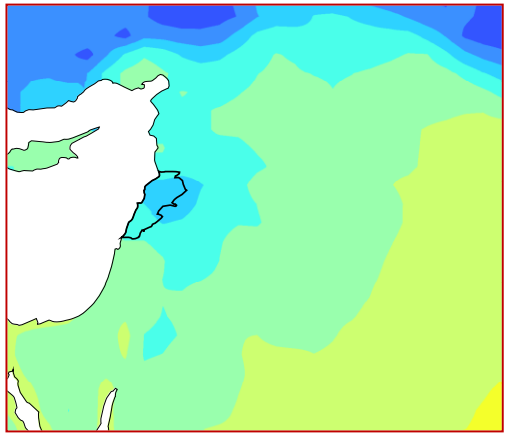
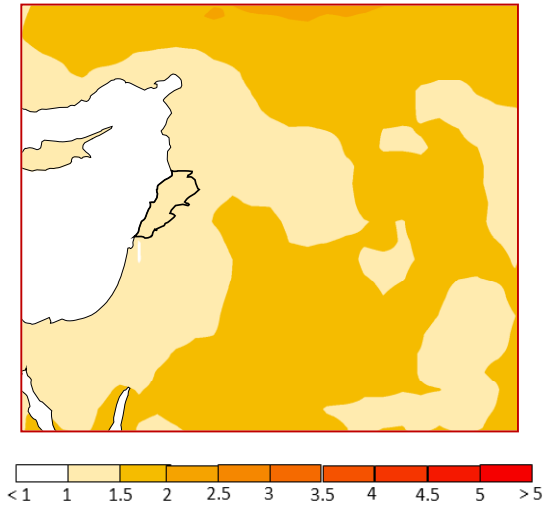
Projected changes in temperatures

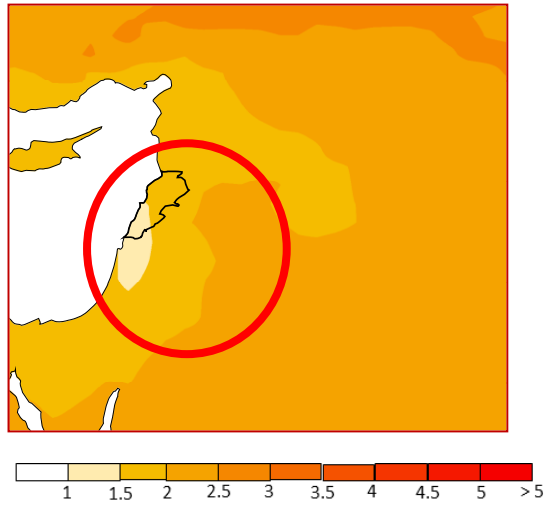
Reference Period (1986-2005)



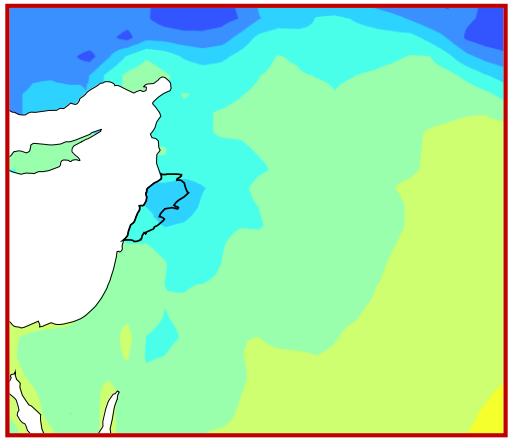
RCP4.5 (2046-2065)



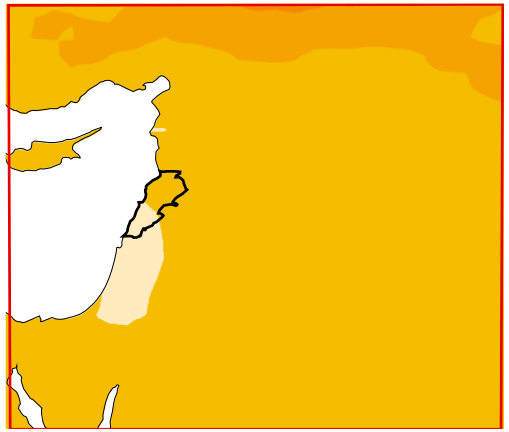
RCP8.5 (2046-2065)



Reference Period (1986-2005)



RCP4.5 (2081-2100)



RCP8.5 (2081-2100)

Source | Adapted from ESCWA, 2015

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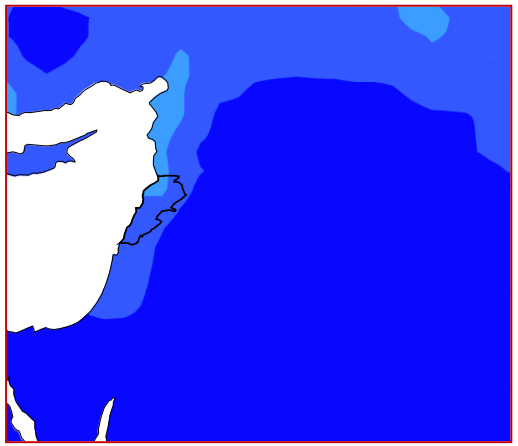
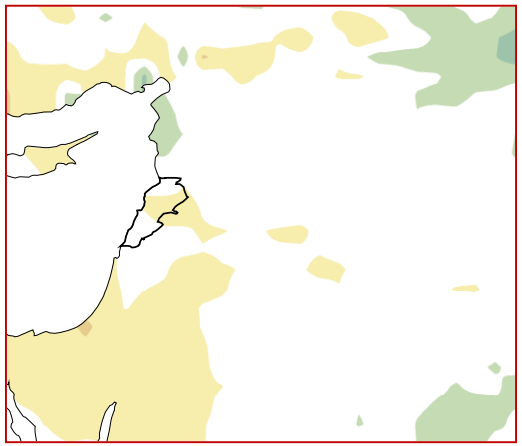
Projected changes in precipitations

Reference Period (1986-2005)



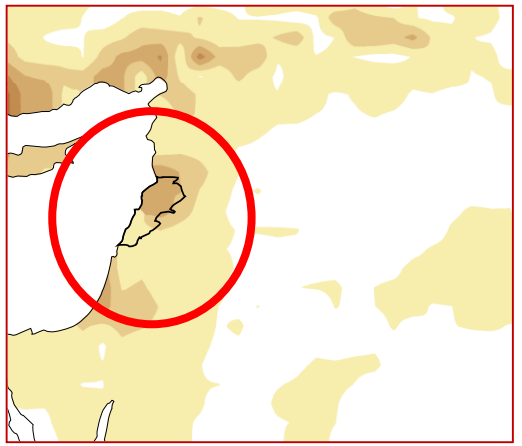
0 30 60 90 120 150 180 210 240 270 300

RCP4.5 (2046-2065)



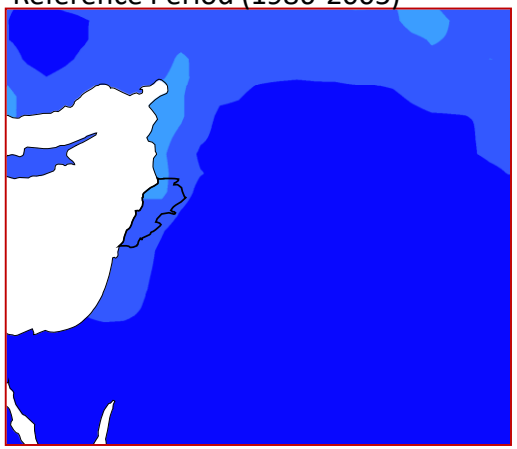
-10 -8 -6 -4 -2 0 2 4 6 8 10 > 10

RCP8.5 (2046-2065)

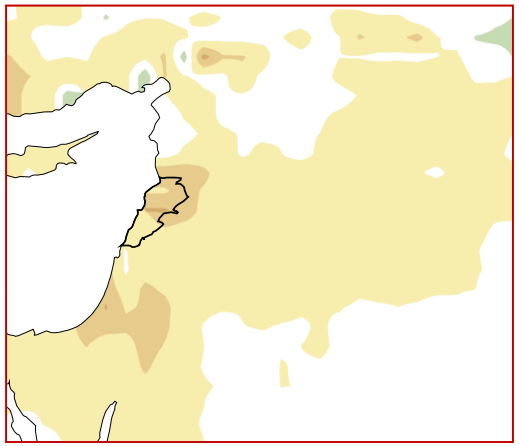


-10 -8 -6 -4 -2 0 2 4 6 8 10 > 10

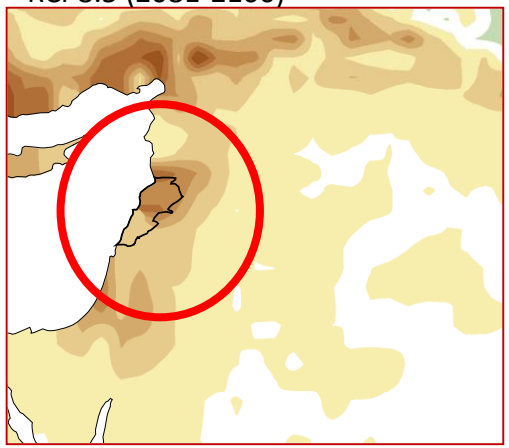
Reference Period (1986-2005)



RCP4.5 (2081-2100)



RCP8.5 (2081-2100)



Source | Adapted from ESCWA, 2015

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Climate change indices by 2080-2100

	Under moderate scenario (RCP4.5)	Under worst case scenario (RCP8.5)
Summer days Tmax> 35°C	+ 15 days	+ 43 days
Maximum length of dry spell	+ 1 day	+ 6 days

Source | Adapted from ESCWA, 2015

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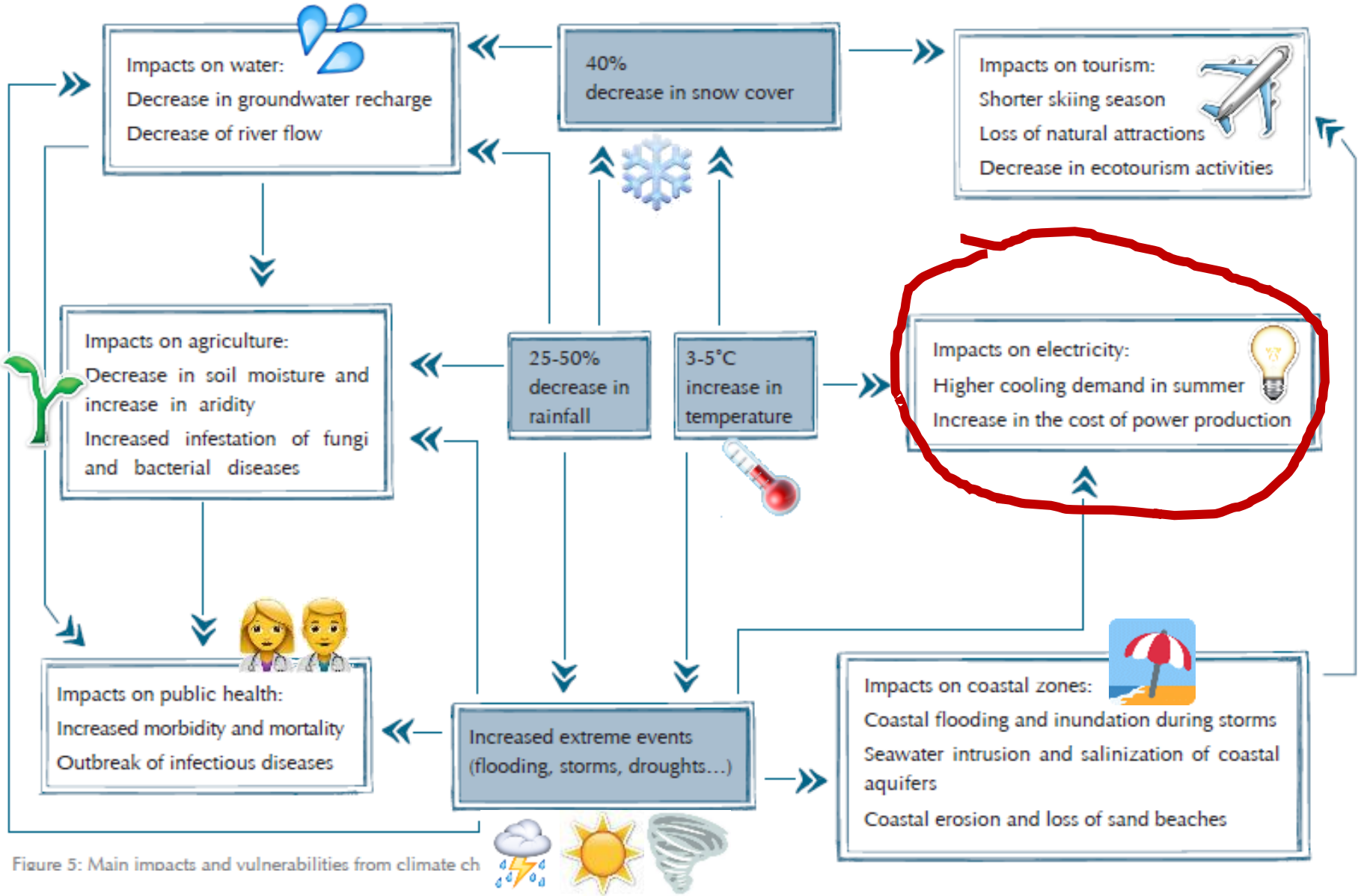
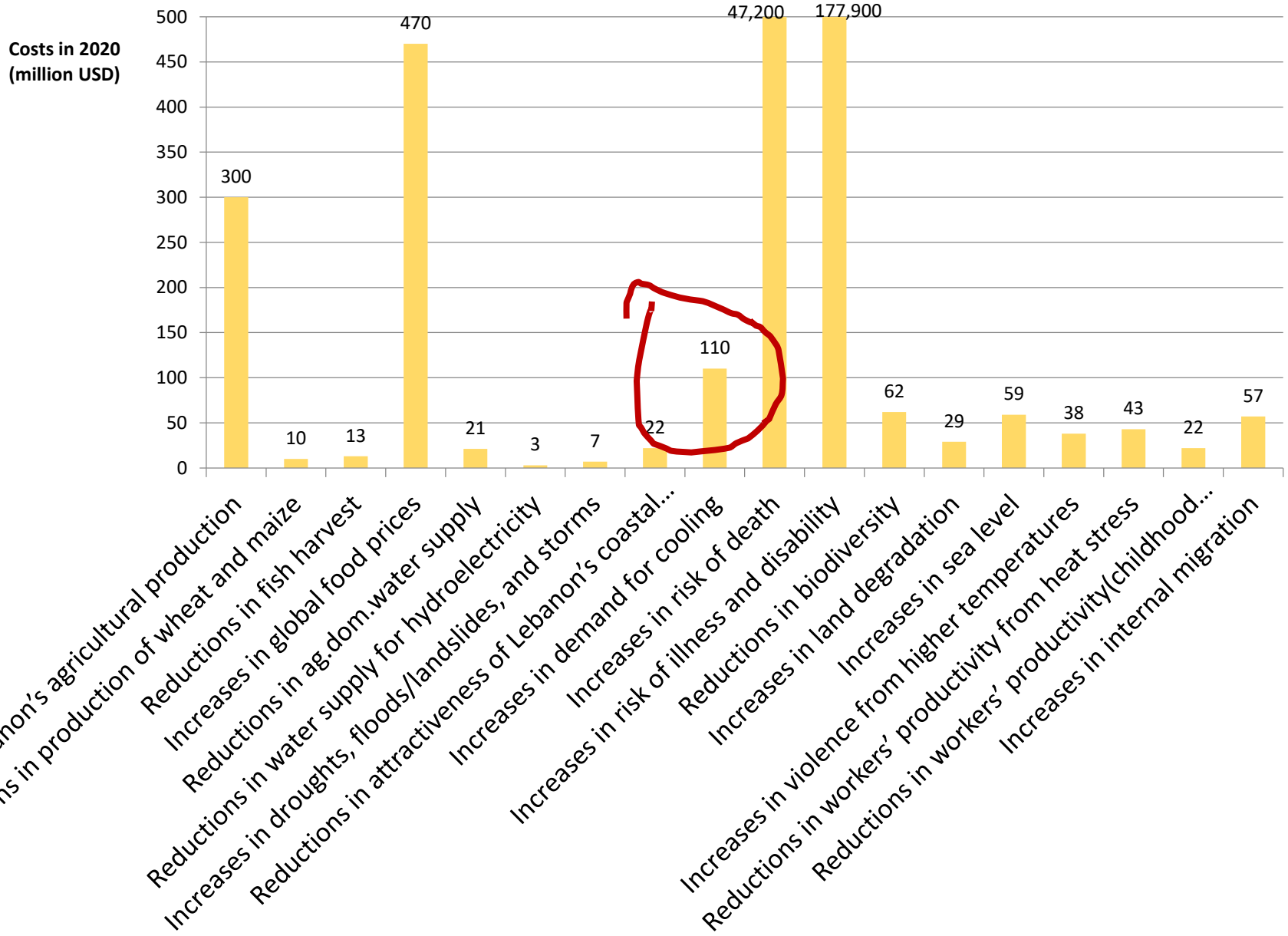


Figure 5: Main impacts and vulnerabilities from climate ch

Impact on Electricity

Increased temperature



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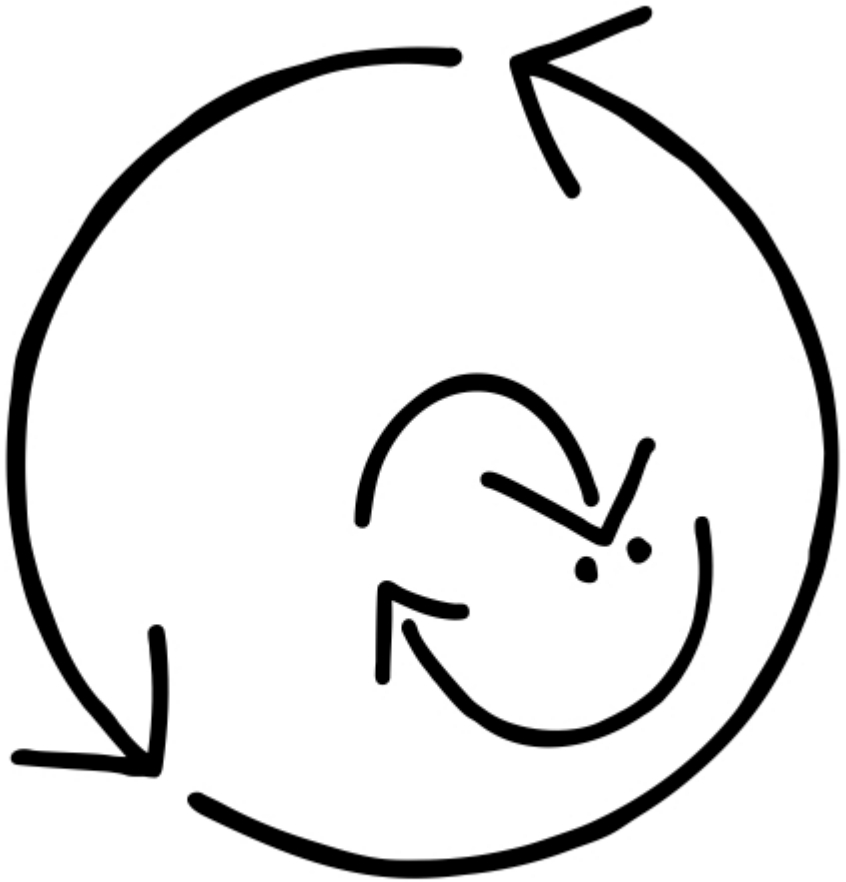

a vicious circle

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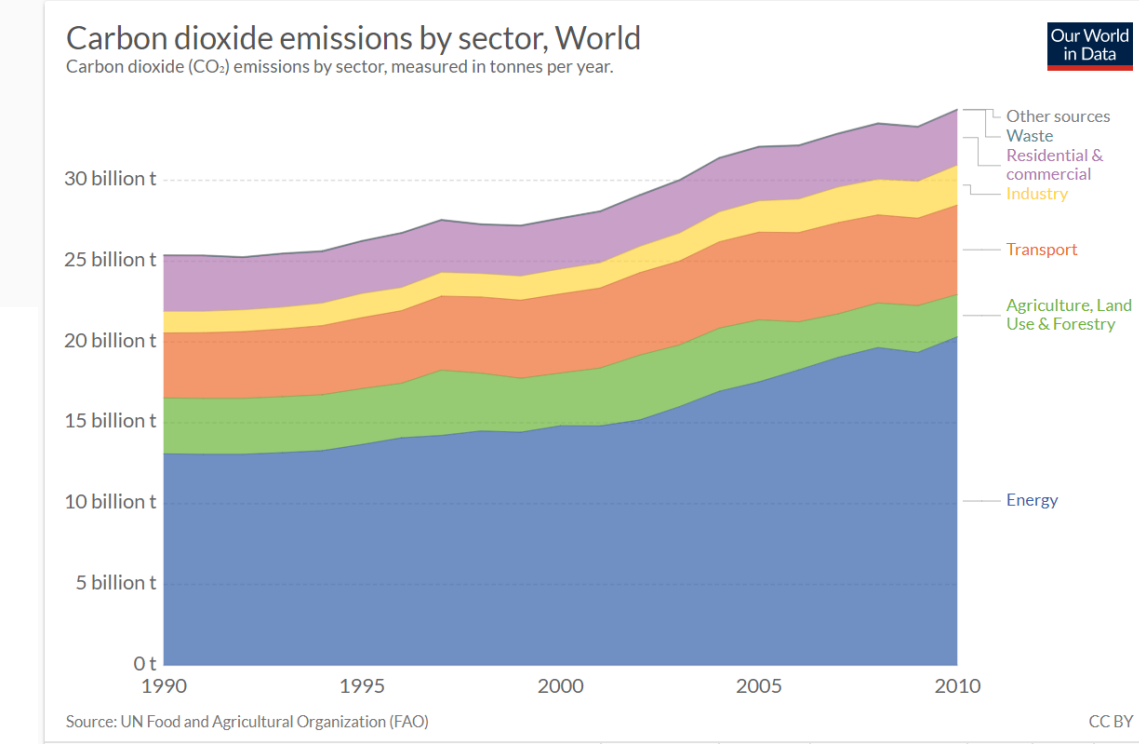
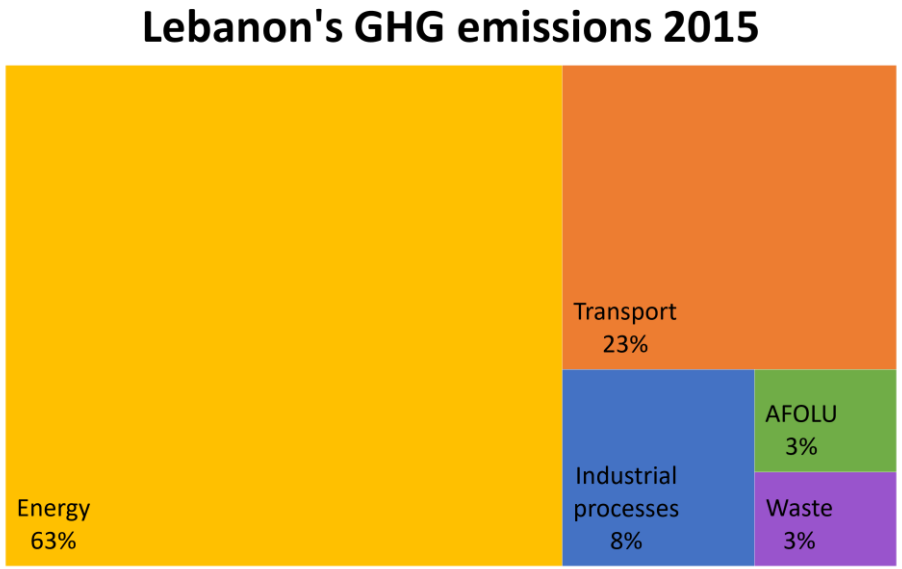
Increased cooling demand





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The Challenge of Climate Migrants

Storms, sea level rise, water scarcity, droughts

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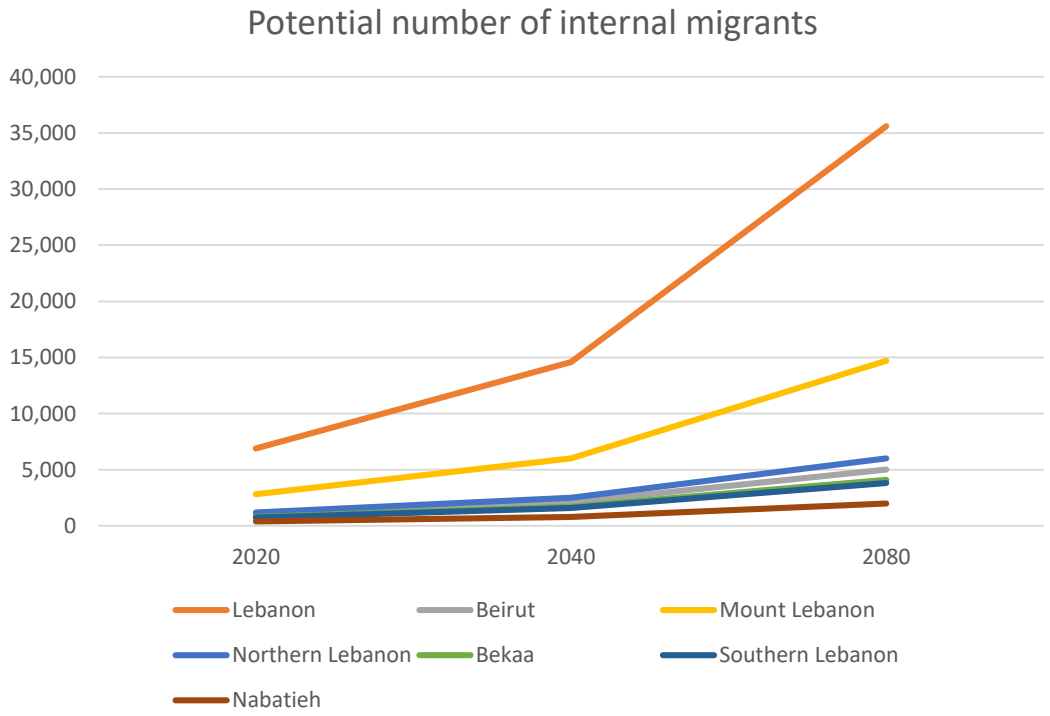
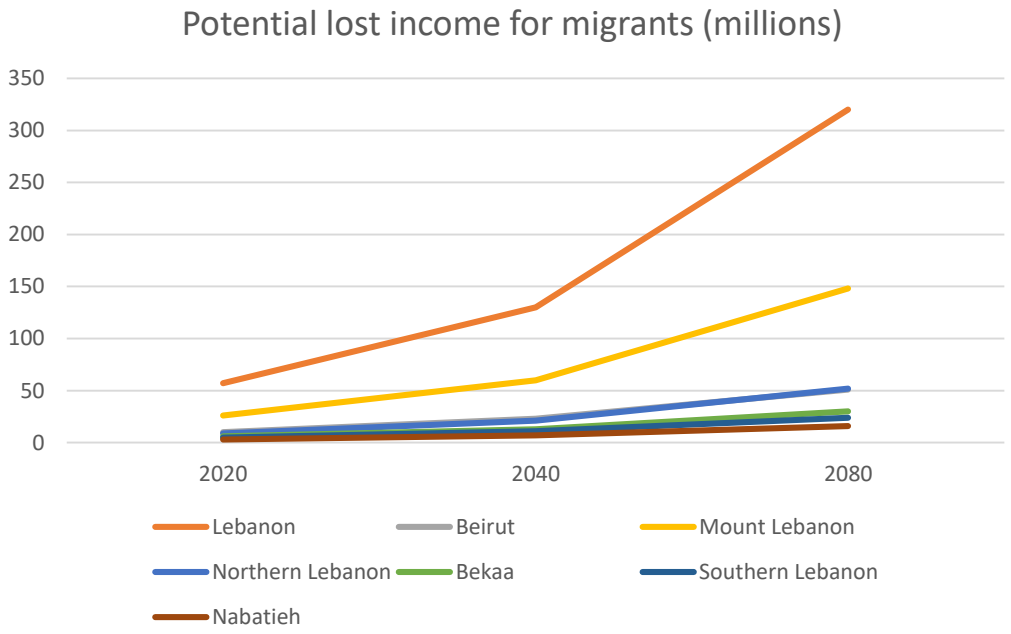
Potential number of internal migrants and their loss of income from climate-related impacts





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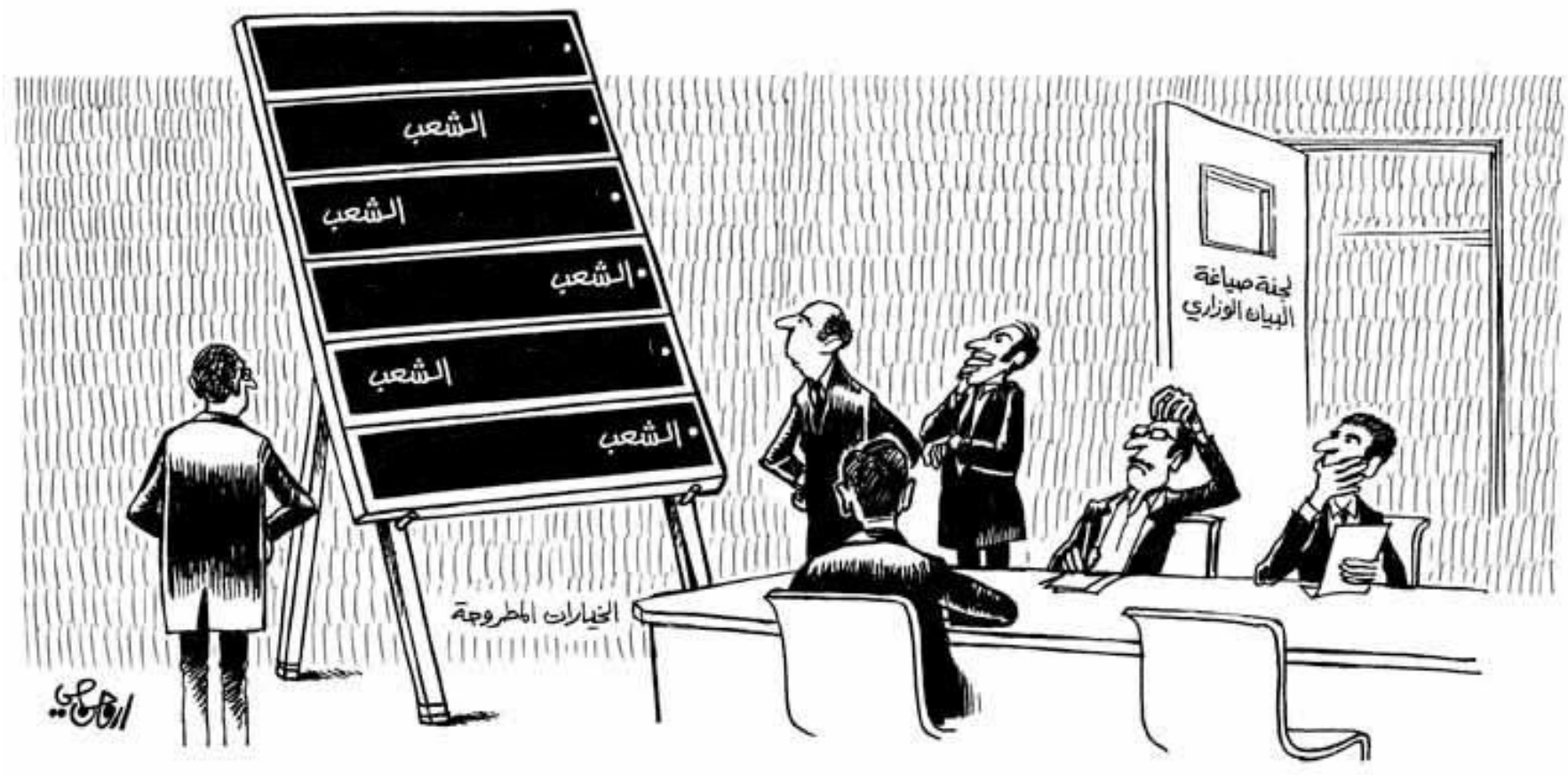
The Government’s reaction



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The Paris Agreement

United Nations Framework Convention on Climate Change

COP21 · CMP11
PARIS 2015
UN CLIMATE CHANGE CONFERENCE

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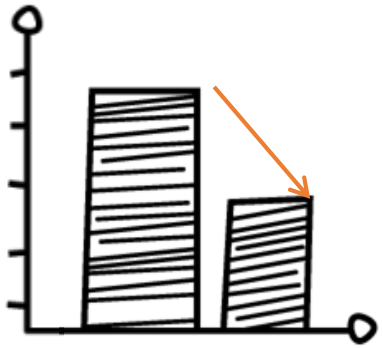
Lebanon's commitments

2030

Cut CO_2 emissions



15%

30%

Unconditional target

Conditional to finance, technical support and capacity building

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2015 Internal sectoral targets by 2030

Mitigation

Energy

Refurbishment, replacement and extension of conventional power generation capacities
Fuel switch to **natural gas**

An unconditional **3%** reduction in power demand through Energy Efficiency measures, increases to **10%** conditional to support

An unconditional **15%** increase in the share of Renewables in meeting heat and power demand, increases **to 20%** conditional to support

Transport

An unconditional **36%** stabilization of the share of annual passenger-kilometers driven using public transport, increases to **48%** conditional to support

A conditional **20%** increase in the share of fuel-efficient vehicles in the fleet

Waste

Waste management through energy recovery, equivalent to avoiding emissions from landfilling at 1,000 tonnes per day

An unconditional recycling rate of **25%**, increases to **30**% conditional to support

An unconditional treatment of **51%** of municipal wastewater, increases to **70%** conditional to support

Forestry

An unconditional target of **20 million** trees planted, increases to **26 million** trees conditional to support

Improvement in the function of Lebanon's forests as a sink

REPUBLIC OF LEBANON MINISTRY OF ENVIRONMENT

UNDP

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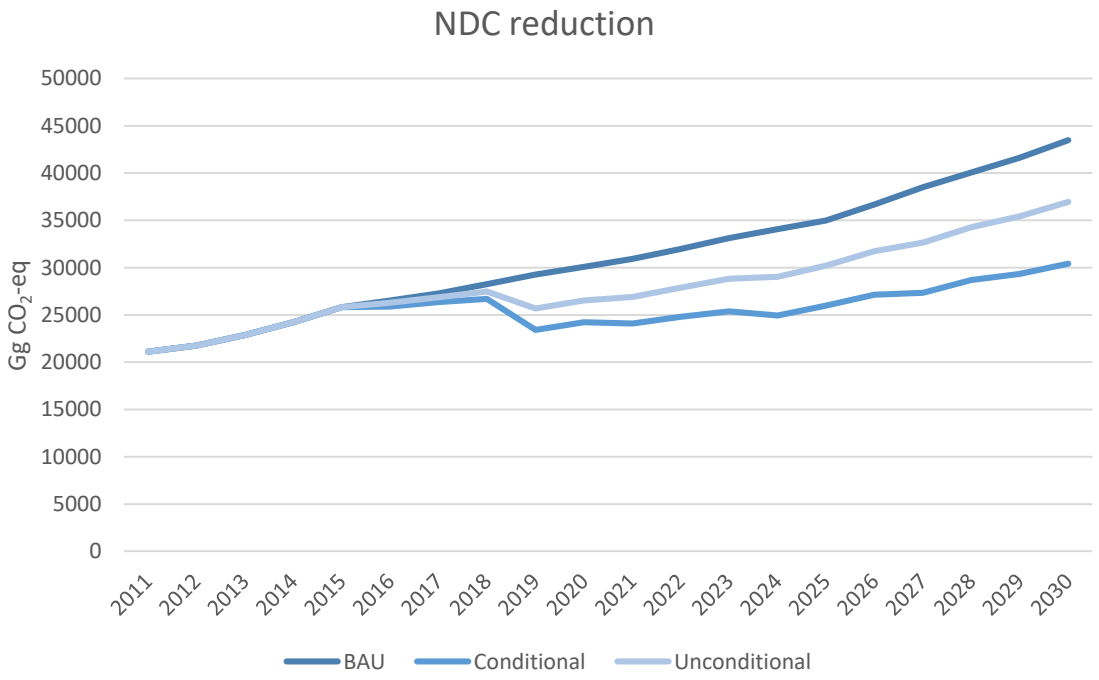
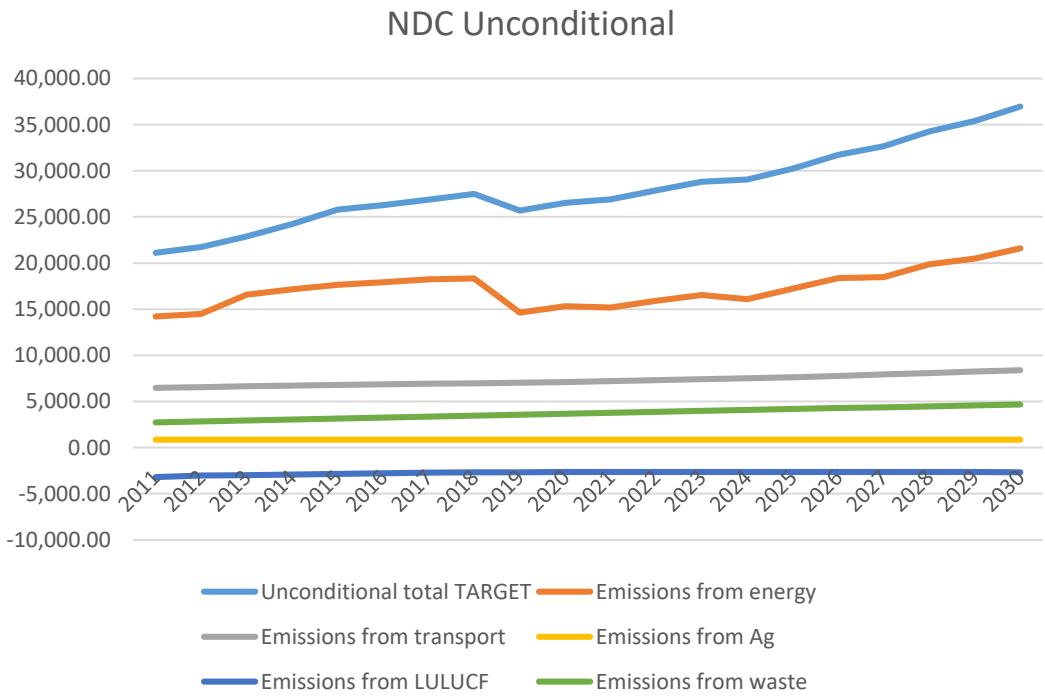
Baseline vs. Action





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2015 NDC Process

Lebanon's NDC was developed through a multi-ministerial participatory process in 2015, led by the Ministry of Environment

- Participatory and transparent process
- Sectoral ministries
- Cross-sectoral ministries and institutions

— Time constraints

Lebanon's targets have been constructed using existing adopted ministerial strategies and plans, through which, Lebanon's NDC can be achieved in 2030

- Electricity Policy Paper
  NREAP
  NEEAP
- Land Transport Policy
  FEV NAMA
- Solid Waste NAMA
- MoA Strategy
  National
  40 Million trees
  Biodiversity Strategy

— National Water Sector Strategy

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Key Elements of NDC Implementation

Challenges

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The NDC

The opportunity to plan ahead

Constant Coordination

Identify sectoral and cross-cutting needs (financial, technical, regulatory, legal, institutional)

Prioritize needs

Draft roadmap for implementation – 2030 Roadmap / Partnership Plan

Build the institutional architecture for gaps and needs

Formulate project proposals to match funding

Formulate investment plans

Climate-proof CEDRE/Capital Investment Plan and Lebanon Economic Vision (McKinsey report) as a precedent

Repeat until achievement ministerial plans to reduce emissions, increase resilience and reach sustainable development

Achievement in 2030

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Thank you

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