



United Nations
Economic Commission for Africa

Climate change and employment in North Africa: impact and challenges for public policy



October 1, 2025

Plan

- Climate emergency
- Economic impact: GDP and employment
- What challenges lie ahead for public policy?

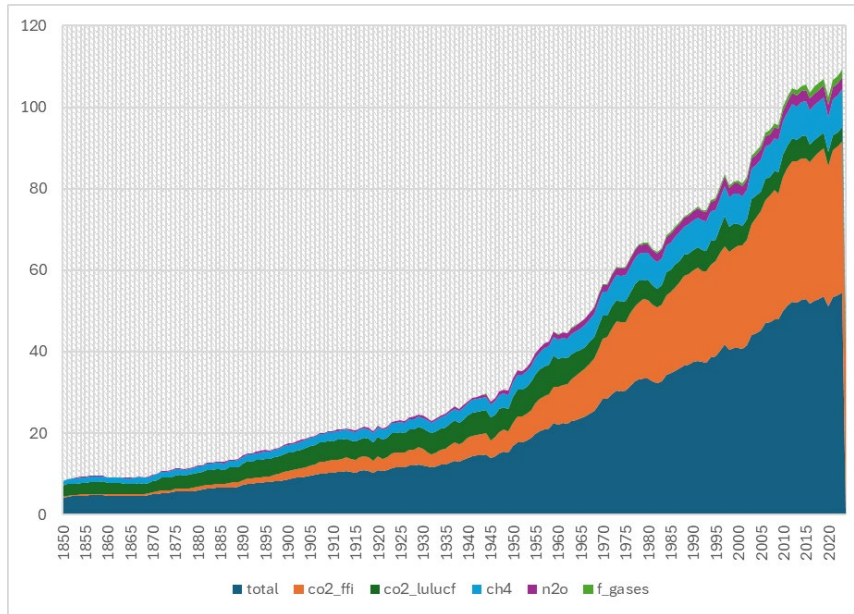
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The climate emergency

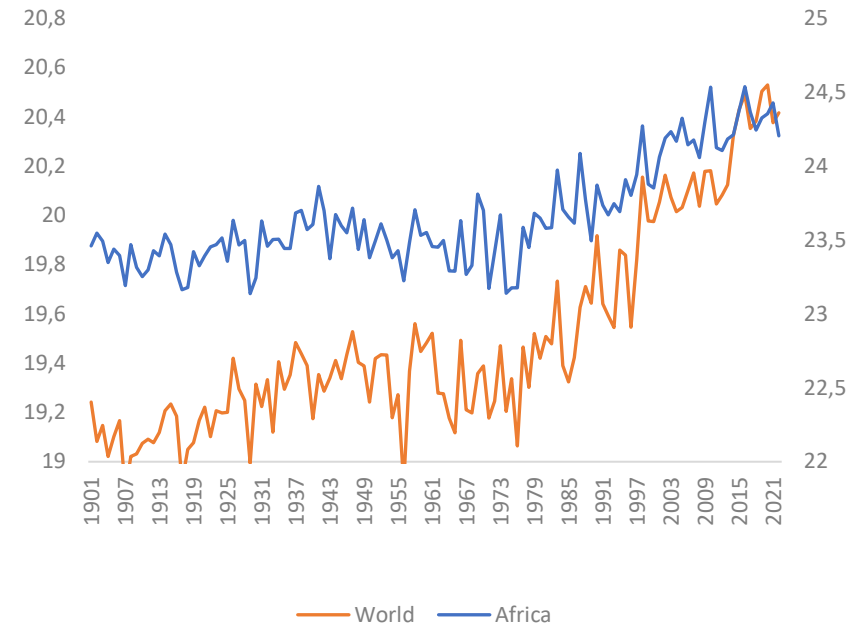
Human economic activities and GHZ



Source: Data are taken from www.climatrapper.org

The observed warming reached 1.24°C above the 1850–1900 level over the period 2015–2024, of which 1.22°C is attributable to human activities.

Evolution of Africa and World Temperatures



Current trajectory

Rate of Warming per Decade

+0,27°C

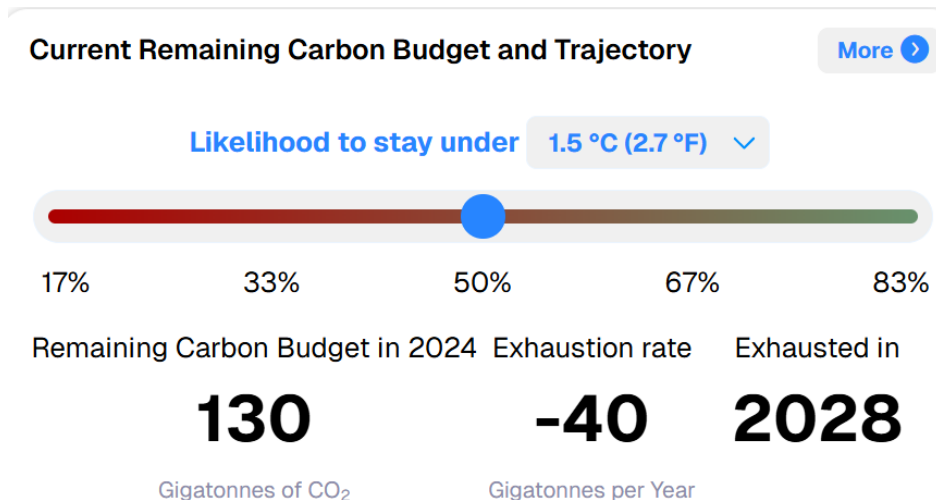
Years Expected to Breach Paris

Agreement Limits

1.5 °C approx. 2030

2.0 °C approx. 2048

A time of emergency: The Paris agreement target is “dead”



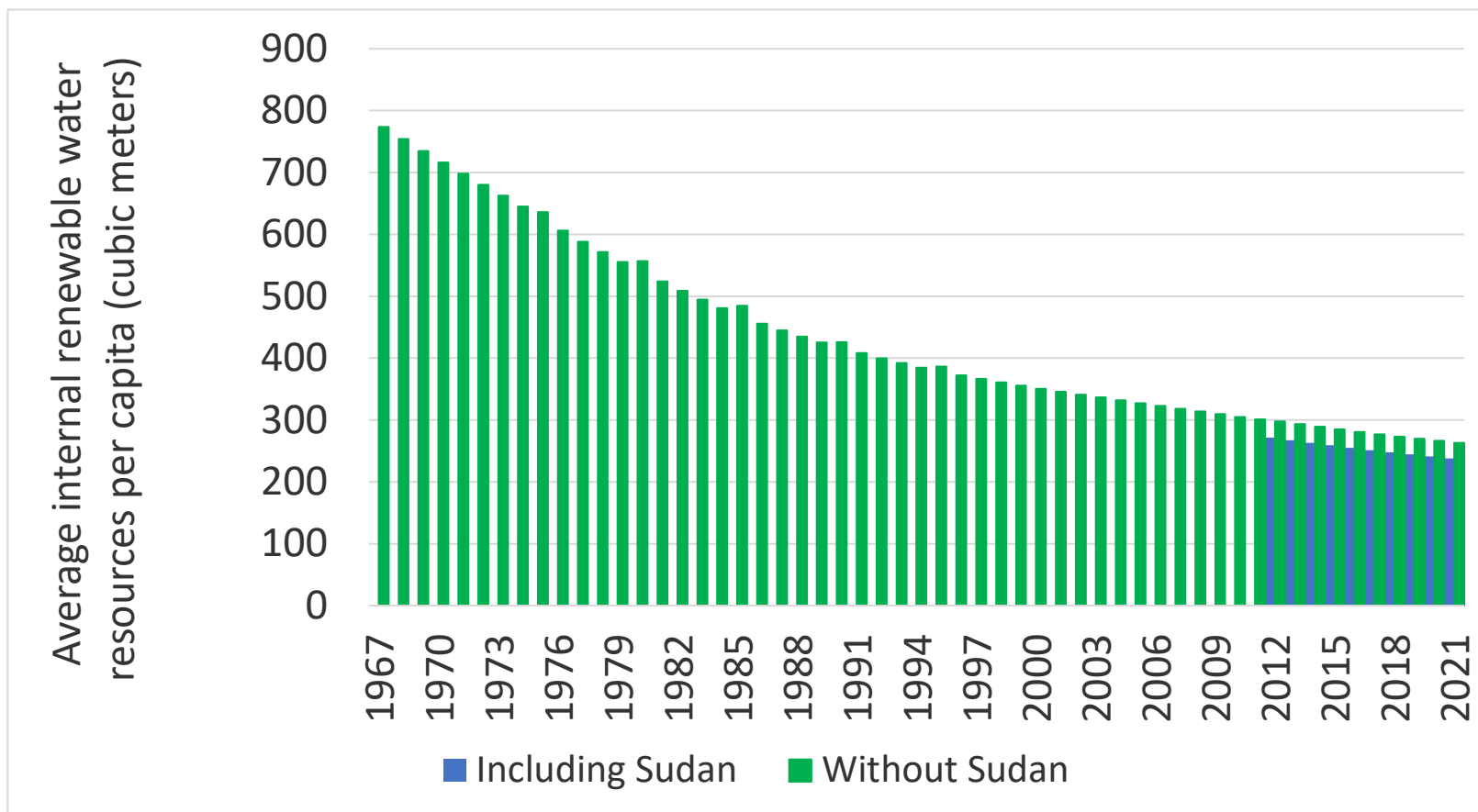
The remaining carbon budget to limit warming to 1.5°C with a 50% chance is being rapidly depleted (down by 74% compared to the 2021 estimate) and now corresponds to about 3 years of CO₂ emissions at the current level (130 Gt).

At +1.5°C, tipping points will be reached and trigger a positive feedback loop on global temperatures.

We are expected to reach +2°C by mid-century, and adaptation will then become very difficult, and even impossible in several regions of the world.

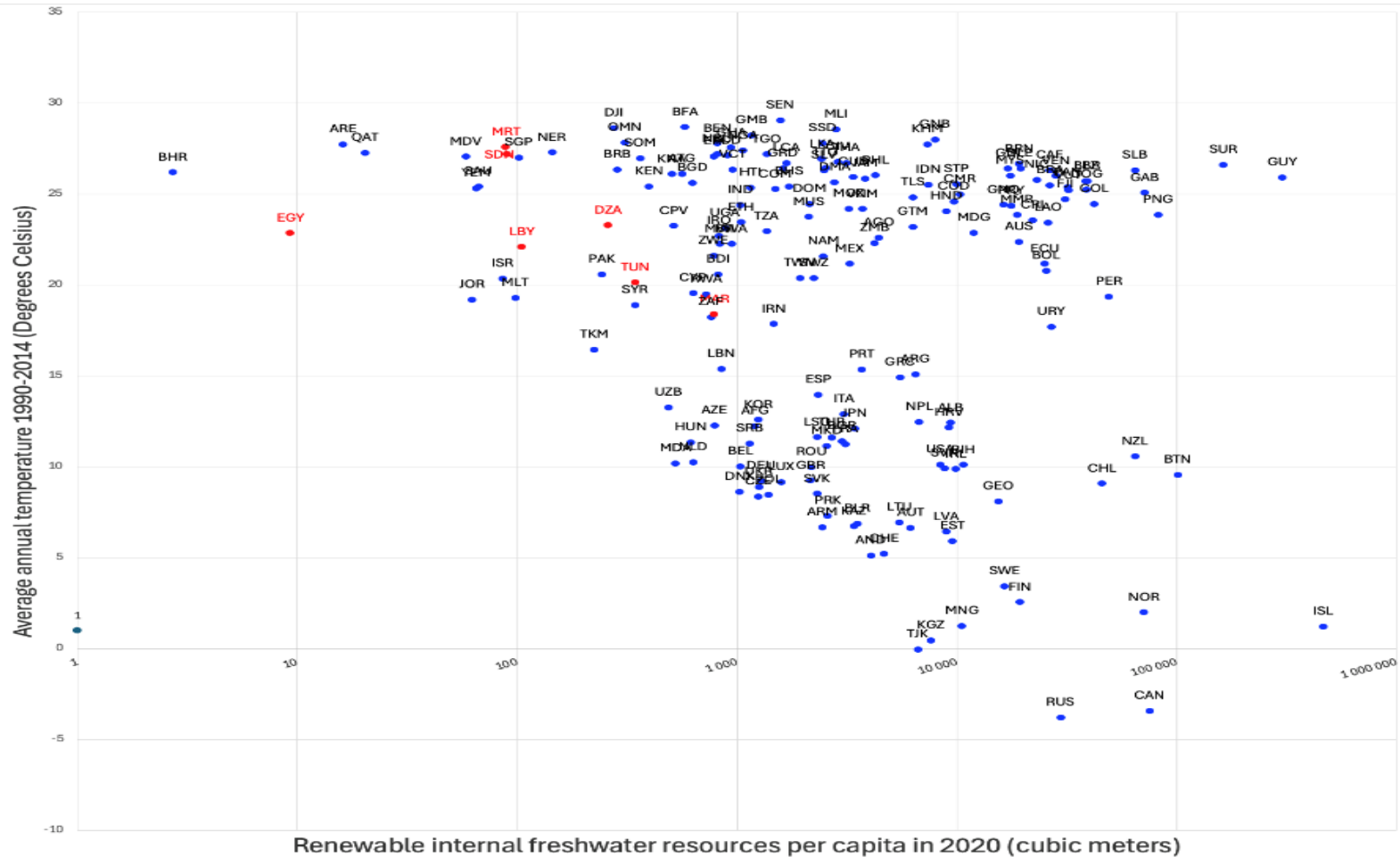
North Africa, water challenge

Water



North Africa, a hot spot

Températures moyennes 1990 - 2014 et ressources en eau renouvelables par habitant (2020)



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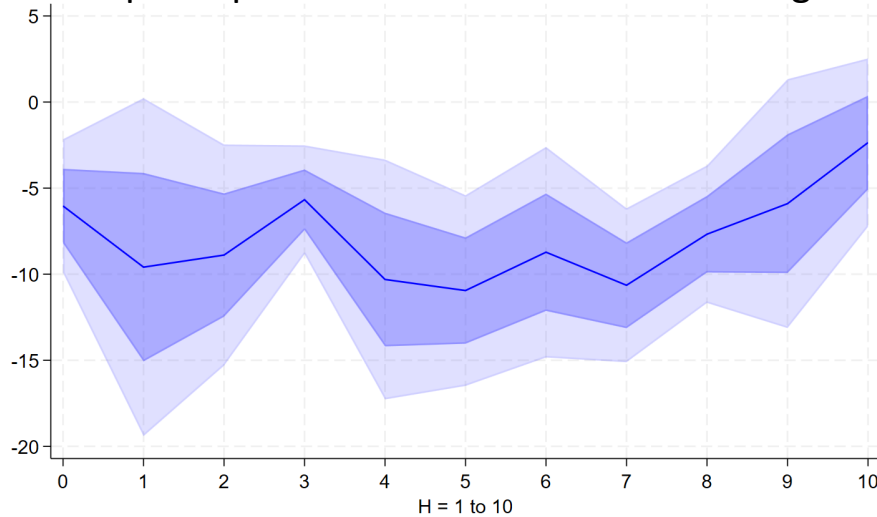


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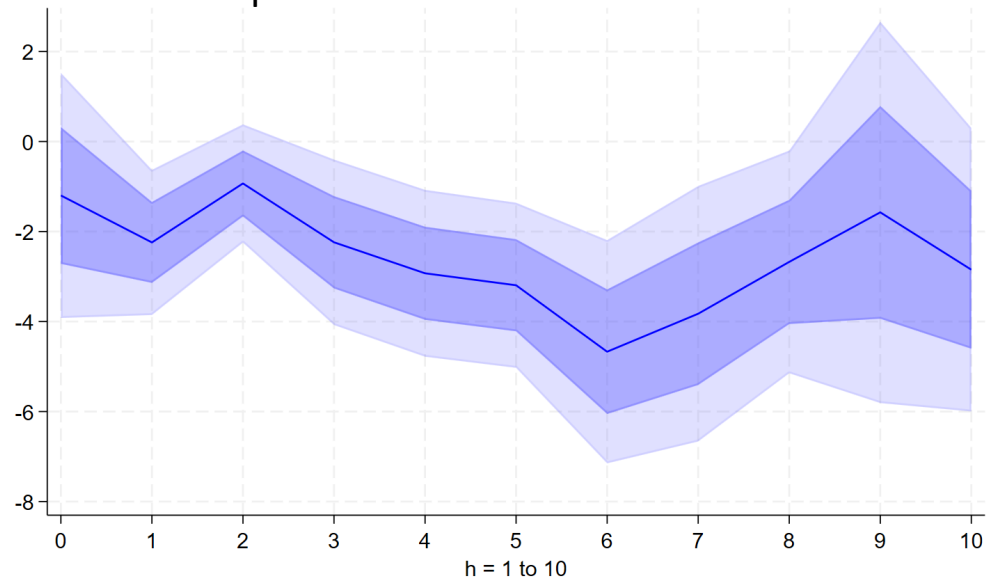
Huge economic impact

Impulse response functions for a +1°C temperature shock

GDP per capita reaction to +1°C increase in global temperatures



GDP per capita reaction to +1°C increase in local temperatures



Mechanisms of impact on employment

- **Forced structural transformation: sectoral reallocations**
 - NA suffers from string impediments to structural transformation
 - In the case of Morocco, a study found severe droughts led to a 6.5 percentage point decline in agricultural employment, with 39% of displaced workers remaining unemployed. These effects, more pronounced for informal and female workers, persist for at least five years. Unemployment rises by nearly 2.5 percentage points, with little absorption into other sectors
- **Impact on workers' health:** Climate effects on health (heat-related illnesses, respiratory diseases) affect workers' availability and capacity.
- **Supply chain disruptions:** Extreme weather events cause delays and additional costs in production chains, indirectly impacting employment.
- **Pressure on informal jobs:** Informal workers, who often lack social protection, are particularly affected by climate impacts, exacerbating their precarious situation.
- **Opportunities in green sectors:** Growing demand for mitigation and adaptation technologies (renewable energy, water management, sustainable construction) is generating green jobs.
- **Transformation of required skills:** Transitions to sustainable practices require workers to be retrained to meet new market demands.

Vulnerability and fragility of the labor market

- High unemployment rates, especially for youth and women
- Low labor market participation for youth and women
- High self employment rates
- High informality rates
- NEETs issue

Vulnerable workers

	Social protection effective coverage, 2023 or latest available year (% of population).	Vulnerable employment (% of employment) in 2022	Female Vulnerable employment (% of women employment) in 2022
Algeria	60,2	27,08	24,13
Egypt	36,6	23,93	27,73
Libya	66,1	13,02	8,78
Morocco	42,6	45,98	53,93
Mauritania		65,95	75,92
Sudan	10,4	58,22	65,03
Tunisia	53,8	20,74	11,99

Source : ILO

Productivity

Productivity and labor supply

- Outdoor jobs see reduced productivity due to heat stress and health risks
- Increased absenteeism and disruptions in work schedules due to health issues or infrastructure damage
- Rising adaptation costs reduce income stability in climate-sensitive sectors.

Country	1995						2030					
	Agriculture (in shade) (%)	Industry (%)	Construction (in shade) (%)	Services (%)	Total (%)	Total (thousand full-time jobs)	Agriculture (in shade) (%)	Industry (%)	Construction (in shade) (%)	Services (%)	Total (%)	Total (thousand full-time jobs)
Algeria	0.18	0.05	0.18	0	0.07	4	0.52	0.19	0.52	0.02	0.19	24
Egypt	0.35	0.08	0.35	0	0.16	25	1.05	0.32	1.05	0.02	0.42	134
Libya	0.31	0.10	0.31	0.01	0.09	1	0.79	0.30	0.79	0.04	0.25	6
Mauritania	4.09	1.99	4.09	0.37	2.40	57	7.79	3.20	7.79	0.39	3.88	85
Morocco	0.13	0.04	0.13	0	0.07	5	0.39	0.14	0.39	0.02	0.16	19
Sudan	6.21	3.34	6.21	0.79	3.70	210	10.57	6.53	10.57	2.11	5.91	852
Tunisia	0.63	0.25	0.63	0.04	0.25	6	1.36	0.63	1.36	0.12	0.44	17
Northern Africa	1.41	0.46	1.41	0.11	0.65	251	3.52	1.23	3.52	0.38	1.37	1054

By 2030, a total of equivalent 1.05 million jobs could be lost in North Africa.

Estimation of employment in vulnerable sectors

Sector	Impact	Channel	Share in employment (%)			
			Algeria 2017	Egypt -2022	Mauritania (2017)	Tunisia -2023
Education	Low to medium	Adapation and mitigation	10.31	7.61	5.12	8.09
Human health and social work activities	Low to medium	Direct impact and Adaptation	3.56	3.49	1.16	3.41
Public administration and defense; mandatory social security	Low to medium	Adaptation	15.81	5.34	2.97	8.56
Production and distribution of electricity, gas and water	High	Adaptation and mitigation	1.76	1.80	0.87	1.14
Agriculture; forestry and fishing	high	Direct impact and Adaptation	9.86	18.88	31.85	12.77
Construction	high	Direct impact and Adaptation	17.03	13.97	4.45	12.29
Finance and insurance	Medium	Direct impact and Adaptation	0.66	0.74	0.39	0.77
Mining and quarrying	Medium	Adaptation and mitigation	1.56	0.21	1.20	0.47
Arts, entertainment and recreation and other services	Low	Adaptation	2.98	2.84	3.73	2.78
Transportation; storage and communication	Medium-High	Direct impact and Adaptation/mitigation	6.49	9.98	5.35	6.13
Accommodation and food services	Medium-High	Adaptation and mitigation	2.16	3.08	1.41	4.11
Real estate; commercial and administrative activities	Low to medium	Direct impact and Adaptation/mitigation	1.71	3.06	3.17	3.21
Manufacturing activities	Medium	Adaptation and mitigation	10.39	12.56	11.16	19.22
Wholesale and retail trade; repair of motor vehicles and motorcycles	Low to medium	Adaptation	15.73	14.94	21.31	15.14

Tunisia: 26% of jobs in sectors highly exposed to climate change

Egypt: nearly 35%

Reduction in ecosystem services and employment

Dependence on ecosystem services:

Jobs dependent on natural resources (agriculture, forestry, tourism) are vulnerable to ecosystem degradation, affecting livelihoods.

Estimated share of employment (% of total employment) in environmentally dependent sectors

	Algeria (2017)	Egypt (2022)	Mauritania (2017)	Tunisia (2023)
Electricity, gas and water	1,76	1,8	0,87	1,14
Agriculture	9,86	18,88	31,85	12,77
Mining	1,56	0,21	1,2	0,47
Total	13,18	20,89	33,92	14,38



What challenges lie ahead for public policy?

Rising uncertainty and multiple shocks

- Multidimensional impact and cascading shocks/crises: climate, financial, health, social, economic crises
- Absorbing shocks:
 - absorb shocks in the short term, deal with employment and social consequences
 - pressure on public finances with a high risk of continuously rising debt
 - high risk of losing development gains
- Robustness and resilience will become key in economic development
- Managing transition: many structural transformations due to climate (adaptation and mitigation) but also other global shifts

Changing growth prospects and landscape

Global challenges

The global context in which today's North African countries have to develop is quite different from the one experienced by countries that achieved high-income status

Economic development and growth are now taking place under conditions of:

- technological disruptions (artificial intelligence): past development recipes become obsolete, threats to employment
- geopolitical and economic fragmentation: trade restrictions, volatile trade, deglobalization – reshapes GVC, tech fragmentation and restricted access to technologies, FDI
- mostly climate change, with tightening environmental constraints and huge economic impact



Merci pour votre attention

Ideas
to
Action