Economic Diversification and Climate Policy Integration in Nigeria:

CGE Results (UNFCCC Case Study)

Presentation to the KCI UNFCCC

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United Nations
Climate Change

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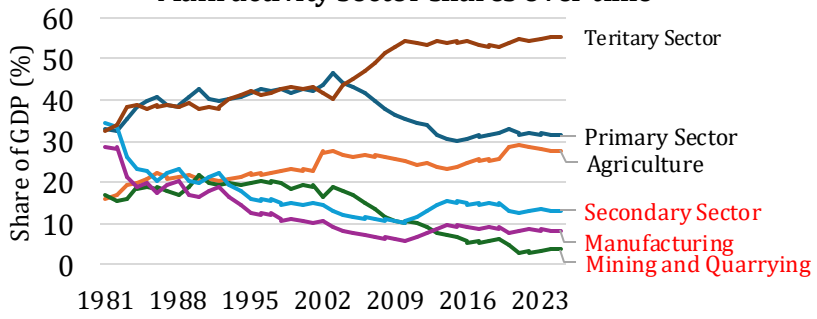
Nigeria must diversify while delivering growth, jobs, and a credible climate path

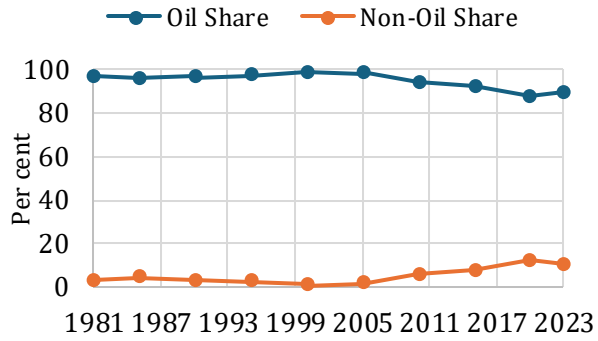
GDP composition dominated by few sectors

Activity Sector	1981	1990	2000	2010	2015	2020	2024
Agriculture	**15.90**	**20.67**	**22.99**	**24.98**	**23.58**	**28.50**	**27.81**
*Mining and Quarrying**	***17.05***	***21.80***	***19.48***	***10.42***	*6.51*	*4.68*	*3.55*
Manufacturing	**28.62**	**16.58**	**10.79**	5.87	**9.44**	**7.86**	**8.24**
Electricity, Gas, Steam	0.04	0.04	0.04	0.41	0.49	0.44	0.70
Water supply, sewage, waste Mgt.	0.08	0.08	0.09	0.10	0.17	0.21	0.25
Construction	5.91	2.93	3.63	4.01	5.30	4.31	3.93
Trade	**9.61**	**11.48**	**11.61**	**17.94**	**18.06**	**18.47**	**17.73**
Accommodation & Food Serv.	0.30	0.19	0.19	0.50	1.04	0.66	0.55
Transportation & Storage	1.85	1.18	1.34	1.65	1.50	0.97	0.75
Information & Communication	0.88	0.69	1.19	**7.15**	**7.16**	**9.61**	**9.79**
Arts, Entertainment & Recreation	0.06	0.04	0.12	0.14	0.50	0.44	0.32
Financial and Insurance	1.13	3.08	3.80	2.88	2.48	2.67	2.69
Real Estate	**9.35**	**10.01**	**12.34**	**13.33**	**13.16**	**11.18**	**13.58**
Professional, Scientific & Tech. Serv.	1.64	2.55	3.06	2.45	2.78	2.66	2.41
Administrative and Support Serv.	0.38	0.60	0.72	0.57	0.49	0.43	1.45
Public Administration	4.77	5.50	5.51	4.35	2.77	2.55	2.57
Education	0.85	0.98	0.98	1.06	1.49	0.98	0.70
Human Health & Social Services	1.25	1.33	1.38	1.34	1.51	1.62	1.59
Other Services	0.34	0.27	0.72	0.85	1.57	1.75	1.40
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Concentration Ratio – 1 (CR1)	28.62	28.62	28.62	28.62	28.62	28.62	28.62
Concentration Ratio – 2 (CR2)	45.67	45.67	45.67	45.67	45.67	45.67	45.67
Concentration Ratio – 3 (CR3)	61.57	61.57	61.57	61.57	61.57	61.57	61.57
Concentration Ratio – 4 (CR4)	71.18	71.18	71.18	71.18	71.18	71.18	71.18
Concentration Ratio – 5 (CR5)	80.53	80.53	80.53	80.53	80.53	80.53	80.53

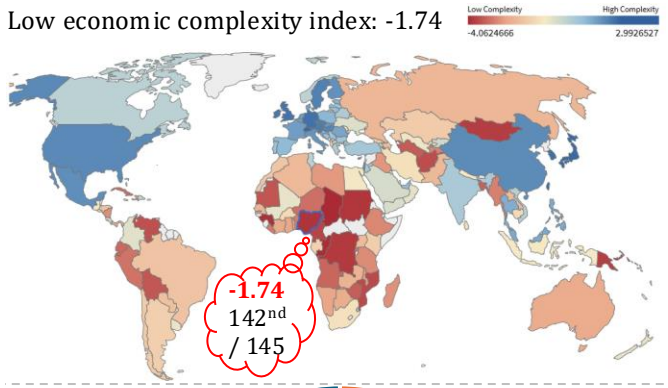
Main activity sector shares over time

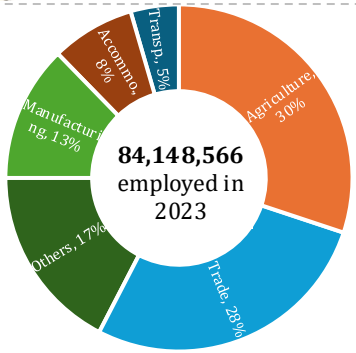


Export Composition: oil-dominated

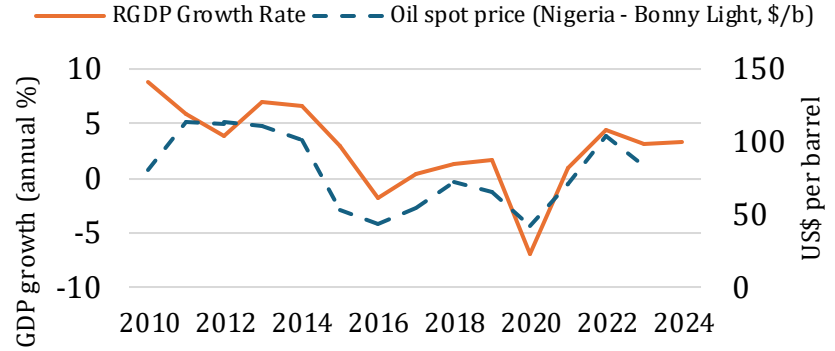


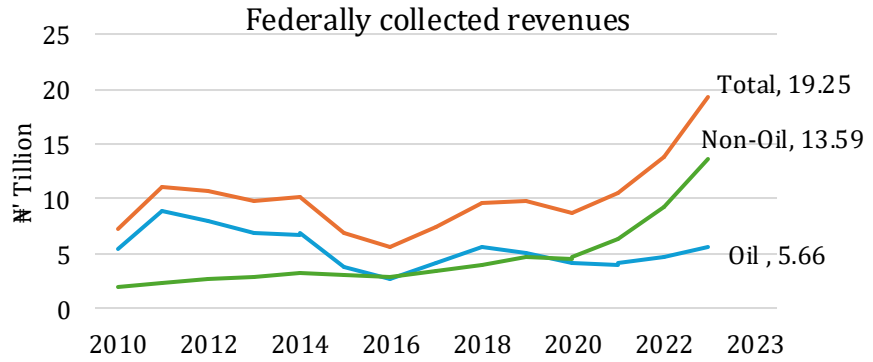
Low economic complexity index: -1.74





Economic performance mirror oil price volatility

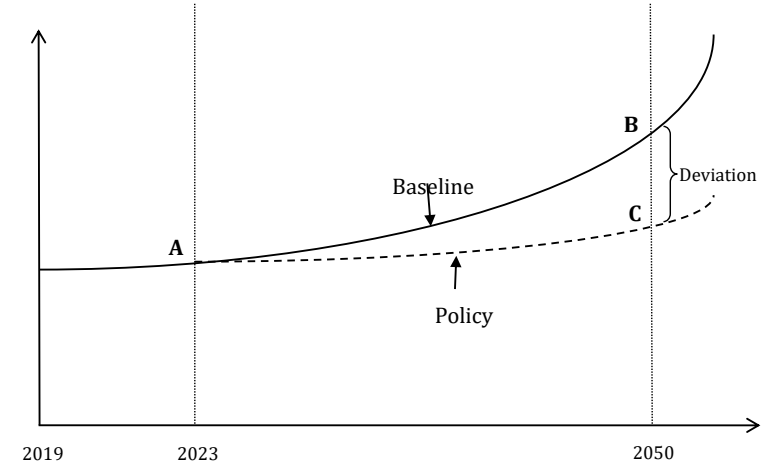




- General government revenues: historically dominated by hydrocarbon sources.
- The year 2020 marked a turning point induced by the Covid-19 pandemic.
- **<<< Agriculture sector** dominates **employment** in Nigeria. Activity is dominated by smallholder farmers who depend largely on rainfed-conditions → **adverse environmental/climate conditions**.
- **ND-Gain** report shows that Nigeria is one of the countries most **vulnerable** to climate change.
- **~ 40%** of Nigeria lack access to electricity

Core methodology: model, climate integration, and simulations

- Dynamic CGE with 2-simulation method; scenarios layer shocks from 2026



Source: Authors' illustration

	Near term, 2021-2040		Mid-term, 2041-2060		Long-term, 2081-2100	
Scenario	Best estimate (°C)*	Very *likely* range (°C)*	Best estimate (°C)*	Very *likely* range (°C)*	Best estimate (°C)*	Very *likely* range (°C)*
SSP1-1.9	1.5	1.2 to 1.7	1.6	1.2 to 2.0	1.4	1.0 to 1.8
SSP1-2.6	1.5	1.2 to 1.8	1.7	1.3 to 2.2	1.8	1.3 to 2.4
SSP2-4.5	1.5	1.2 to 1.8	2.0	1.6 to 2.5	2.7	2.1 to 3.5
SSP3-7.0	1.5	1.2 to 1.8	2.1	1.7 to 2.6	3.6	2.8 to 4.6
SSP5-8.5	1.6	1.3 to 1.9	2.4	1.9 to 3.0	4.4	3.3 to 5.7

*Temperature differences relative to the average global surface temperature of the period 1850-1900 are reported in °C.

Source: IPCC SSP-RCP Scenario

Code	Narrative	Cautious	Bold	Structural
Sim 1	▪ Remove petroleum and electricity subsidies, ▪ Increase VAT collections, ▪ Increase fuel levy on petroleum and remove tariffs. ▪ Assuming no change in government spending/investment. ▪ ***= Additional government revenues (R) increase***			
Sim 2	▪ **Sim 1** + an increase in government investment with **50% *R.***			
Sim 3	▪ **Sim 2** + increase in industry-specific capital productivity (low).			
	▪ Industry-specific labour productivity improvements for skilled and unskilled labour (low).			
	▪ Increase the labour participation for skilled and unskilled labour (moderate).			
	▪ Increase land productivity for agricultural (crops) sectors.			
	▪ Efficiency improvement in the use of freight and passenger road transport.			
Sim 4	▪ Increase in government investment with **80% *R***.			
	▪ Increase activity and exports of level of light manufacturing activities			
	▪ Increase in the share of electricity generation from renewable sources to 30% in 2050			
	▪ Industry-specific capital, land and labour productivity improvements for skilled and unskilled labour (moderate).			
Sim 5	▪ Increase in government investment with **100% *R***.			
	▪ Increase in the share of electricity generation from renewable sources to 50% in 2050			
	▪ Industry-specific capital, land and labour productivity improvements for skilled and unskilled labour.			
	▪ Increase the labour participation for skilled and unskilled labour.			

Source: Authors' compilation

Key Messages

- Two-simulation approach: baseline path vs policy path; impacts = Δ vs baseline from 2026.
- Stakeholder inputs: Co-designed with the Federal Macroeconomics Dept (NDP 2026–2030 alignment).
- Potential growth pathway: **SSP2.** in line with the **LT-LEDS**.
- **Climate damage: Heat**
- **Three cumulative scenarios (Cautious/Bold/Structural) apply common levers (tax, non-oil capex, productivity/participation, AfCFTA).**
- Electricity mix: 22% renewables (baseline 2050) → 30% (Bold) → 50% (Structural).

Baseline: assumptions and macro picture

Topic	Detail
How the baseline is built	▪ 2020–24 observed GDP growth + SSP2 forecasts (GDP & population) → control path for policy deltas; aligned with **LT-LEDS 2023 & Climate–Health 2024**. ▪ Nigerian team views embedded (crude oil, power mix, subsidies) for sector credibility. ▪ Heat damages applied: labour productivity (agri > non-agri) and land yields ↓ → baseline GDP slightly below SSP-implied growth rates.
Quant anchors (SSP2 context)	▪ 2050 population: ~<440m (within 220–450m SSP2 range); real GDP ~3–5% p.a. ▪ Rapid urbanisation → higher infrastructure/energy demand; SSP2 warming ~2.5–3.5°C by 2100 without stronger mitigation.
Energy, oil & emissions	▪ Power mix 2050: ~80% fossil (gas-led); renewables rise gradually; +0.5% p.a. efficiency in petroleum/gas use. ▪ Domestic refining lifts local share of petroleum consumption to ~80% by 2050; petroleum exports also ↑. ▪ GHG emissions increase over time, but slower than GDP (intensity improves in BAU).
Fiscal & administered prices	▪ Subsidies imposed to 2024, then held: ₦5.4T (petrol) + ₦1.9T (power). ▪ Revenues fixed to observed: VAT-to-GDP 1.8% (2019–24); Customs ₦7,518bn (2024); CIT ₦6,500bn (2024); PIT ₦2,000bn (2024); Resource rent ₦5,900bn (2022).
Macro closure (what is exogenous/endogenous)	▪ Real GDP exogenous; technology adjusts endogenously to hit path. ▪ Private consumption = constant APC × HDI; foreign savings absorbs investment swings (current account adjusts). ▪ Real public/private consumption ratio fixed; tax collections exogenous to 2024 (rates endogenised), tax rates fixed from 2025. ▪ Export FX prices & import FX prices fixed → terms of trade fixed; employment endogenous (constant employment rate), wages adjust; numeraire = nominal exchange rate.

Broad policy scenarios and policy levers

- Sequenced reforms convert fiscal space into investment, productivity, exports

Code	Narrative	Cautious	Bold	Structural
Sim 1	▪ Remove petroleum and electricity subsidies, ▪ Increase VAT collections, ▪ Increase fuel levy on petroleum and remove tariffs. ▪ Assuming no change in government spending/investment. ▪ ***= Additional government revenues (R) increase***	**a**	**a**	**a**
Sim 2	▪ **Sim 1** + an increase in government investment with **50%** ***R.***	**b**		
Sim 3	▪ **Sim 2** + increase in industry-specific capital productivity (low).	**c**		
	▪ Industry-specific labour productivity improvements for skilled and unskilled labour (low).	**d**		
	▪ Increase the labour participation for skilled and unskilled labour (moderate).	**e**	**e**	
	▪ Increase land productivity for agricultural (crops) sectors.	**f**		
	▪ Efficiency improvement in the use of freight and passenger road transport.	**g**	**g**	**g**
Sim 4	▪ Increase in government investment with **80%** ***R***.		**h**	
	▪ Increase activity and exports of level of light manufacturing activities		**i**	**i**
	▪ Increase in the share of electricity generation from renewable sources to 30% in 2050		**j**	
	▪ Industry-specific capital, land and labour productivity improvements for skilled and unskilled labour (moderate).		**k**	
Sim 5	▪ Increase in government investment with **100%** ***R***.			**l**
	▪ Increase in the share of electricity generation from renewable sources to 50% in 2050			**m**
	▪ Industry-specific capital, land and labour productivity improvements for skilled and unskilled labour.			**n**
	▪ Increase the labour participation for skilled and unskilled labour.			**o**

Key Notes

- What changes from Baseline:
  - Subsidy removal; VAT to 15%; fuel levy; AfCFTA-aligned tariff reduction; revenue recycling).
- Tax-to-GDP rises to 9% in 2026, stabilising 8.7% in Sim1.
- Recycling 50–100% of new revenue lifts investment and capital above baseline.
- Participation + productivity (e.g., +0.1–0.25 pp p.a.) permanently raise employment.
- Power mix shifts to 30%/50% renewables in Bold/Structural.
- **Please refer to the full report for the details of the shocks.**

Baseline results: growth outpaces jobs marginally; emissions and power remain carbon-heavy

Macro results

	2021-2025	2026-2030	2031-2035	2036-2040	2040-2050	2021-2050
A. Income components of GDP						
1. Real GDP	3.0	3.9	4.7	5.0	4.7	4.4
2. Capital stock	2.9	2.8	3.8	4.1	3.9	3.6
3. Employment (wagebill weighted)	1.7	2.4	2.4	2.2	2.0	2.1
4. Aggregate employment, persons	2.5	2.4	2.3	2.2	2.1	2.3
5. Natural resource	-0.6	0.0	0.0	0.1	0.1	-0.1
6. Multi-factor productivity	1.3	1.6	2.1	2.4	2.4	2.0
7. Real wage (CPI deflated)	1.0	0.9	2.2	2.9	2.7	2.1
B. Expenditure components of GDP						
8. Real private consumption	2.3	3.9	4.5	4.8	4.6	4.1
9. Real public consumption	2.3	3.9	4.5	4.8	4.6	4.1
10. Real investment	0.7	4.7	5.7	4.2	3.5	3.7
11. Export volumes	8.0	2.3	4.5	6.7	6.7	5.8
12. Import volumes	0.8	3.3	4.5	4.5	4.5	3.7
C. Other macro indicators						
12. Real exchange rate (+devaluation)	-0.5	-1.8	-0.9	-0.4	-0.4	-0.7
14. Terms of trade	-2.4	0.0	-0.0	0.0	0.0	-0.4
15. Real GNE	2.1	4.1	4.7	4.7	4.5	4.1
16. GDP deflator	9.0	1.8	0.9	0.4	0.4	2.1
17. Population	2.5	2.4	2.3	2.2	2.1	2.3
D. Other indicators						
18. Greenhouse gas emissions	2.2	3.1	4.0	4.5	4.6	3.8

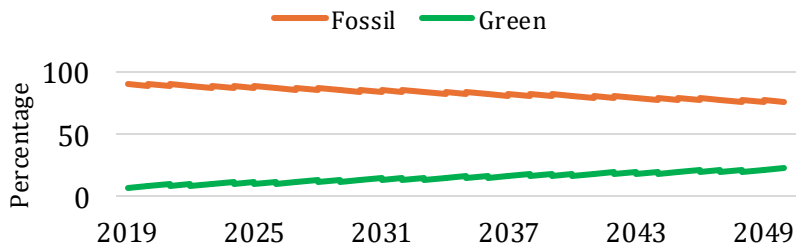
Source: Authors' compilation

Industry	Output	Employment
Sector 1 - Agriculture, forestry, and fishing	3.5	1.9
Sector 2 – Mining	4.4	0.6
Sector 3 – Manufacturing	5.4	2.0
Sector 4 – Electricity and gas distribution	5.4	2.2
4a Fossil fuel electricity services	5.0	1.8
4b Renewable electricity services	8.7	5.3
Sector 5 – Construction	3.9	1.5
Sector 6 - Trade	4.2	2.0
Sector 7 - Accommodation & food services	4.4	1.9
Sector 8 - Transport, postal, and warehousing	5.7	3.3
Sector 9 - Communication services	4.6	2.2
Sector 10 - Financial & insurance services	4.7	2.4
Sector 11 – Rental	4.5	2.3
Sector 12 - Professional services	4.3	1.8
Sector 13 - Administrative services	4.9	2.4
Sector 14 - Public administration and safety	4.2	1.8
Sector 15 - Education and training	4.8	2.4
Sector 16 - Health care and social assistance	4.7	2.4
Sector 17 - Arts and Recreation	5.1	2.7
Sector 18 - Other services	4.9	2.8
Sector 19 - Ownership of dwellings	5.9	0.0

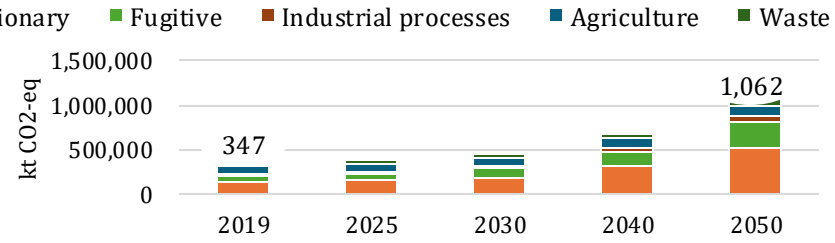
Key Messages

- GDP +4.4%/yr, real wage +2.1%/yr, employment +2.1–2.3%/yr—productivity drives gap (avg 2021–50).
- Manufacturing and electricity grow 5.4%/yr; agriculture slower at 3.5%/yr.
- Renewables only 22% of power by 2050—limited decarbonisation.
- Emissions climb to 1,062 $MtCO_2e$ by 2050—intensity improves but not enough.

Power mix

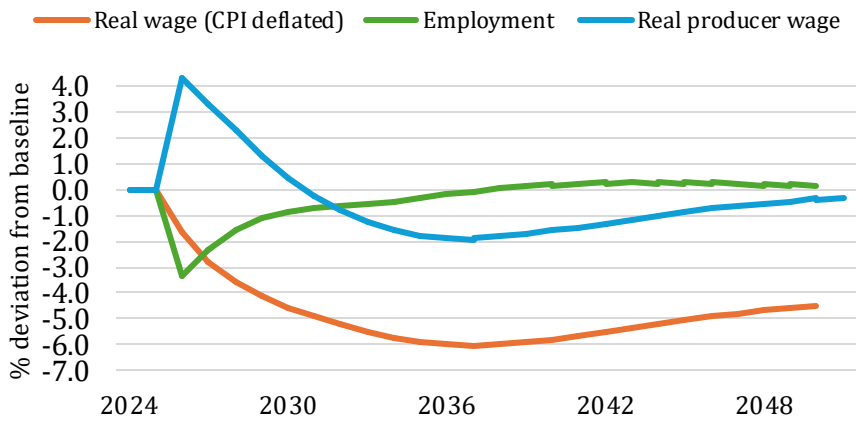


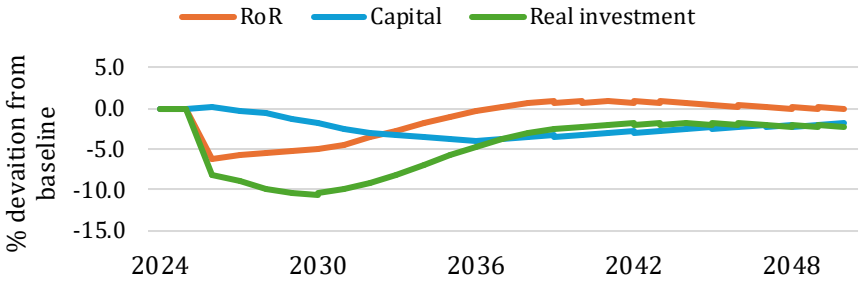
Emissions

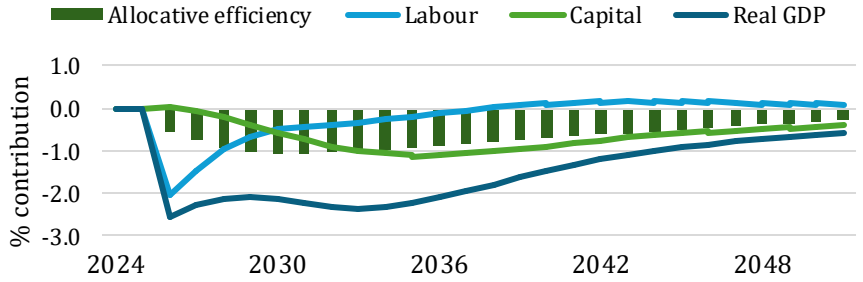


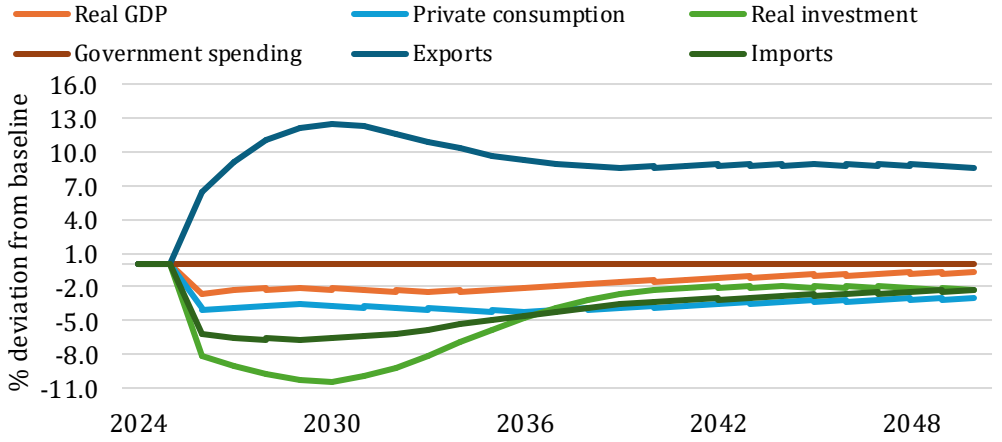
Sim 1: Tax reform only

- Higher revenue; near-term CPI shock → GDP −0.6%, consumption −3% by 2050









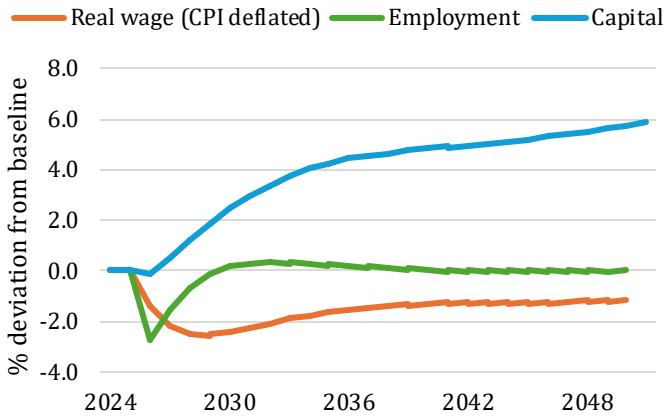
Industry output	2026-2030	2031-2035	2036-2040	2040-2050	2025-2050
Sector 1 - Agriculture, forestry, and fishing	-1.5	-1.8	-2.0	-1.6	-1.4
Sector 2 – Mining	0.2	0.2	-0.1	0.0	0.1
Sector 3 – Manufacturing	-1.8	-1.9	-1.2	-0.1	-0.9
Sector 4 – Electricity and gas distribution	-4.9	-6.8	-6.7	-5.6	-5.0
4a Fossil fuel electricity services	-5.6	-7.2	-7.2	-6.4	-5.5
4b Renewable electricity services	-1.6	-6.9	-6.0	-3.5	-3.6
Sector 5 – Construction	-9.7	-8.2	-3.4	-2.1	-4.3
Sector 6 - Trade	-2.2	-2.2	-1.8	-0.9	-1.3
Sector 7 - Accommodation & food services	6.7	8.1	7.2	6.6	5.8
Sector 8 - Transport, postal, and warehousing	-3.0	-2.6	-2.1	-0.6	-1.5
Sector 9 - Communication services	-3.4	-3.6	-3.4	-2.6	-2.6
Sector 10 - Financial & insurance services	-0.7	-0.6	-0.2	0.7	0.0
Sector 11 – Rental	-2.9	-2.7	-2.2	-1.2	-1.7
Sector 12 - Professional services	-1.1	-0.8	-0.2	0.5	-0.2
Sector 13 - Administrative services	-2.0	-1.9	-1.2	-0.2	-0.9
Sector 14 - Public administration and safety	2.2	2.2	1.9	1.8	1.6
Sector 15 - Education and training	-5.4	-5.8	-6.2	-5.8	-4.8
Sector 16 - Health care and social assistance	-2.9	-2.7	-2.5	-1.9	-2.0
Sector 17 - Arts and Recreation	-6.4	-6.9	-7.4	-6.9	-5.8
Sector 18 - Other services	-5.5	-5.0	-4.4	-3.1	-3.5
Sector 19 - Ownership of dwellings	-1.2	-4.6	-6.8	-6.5	-4.3

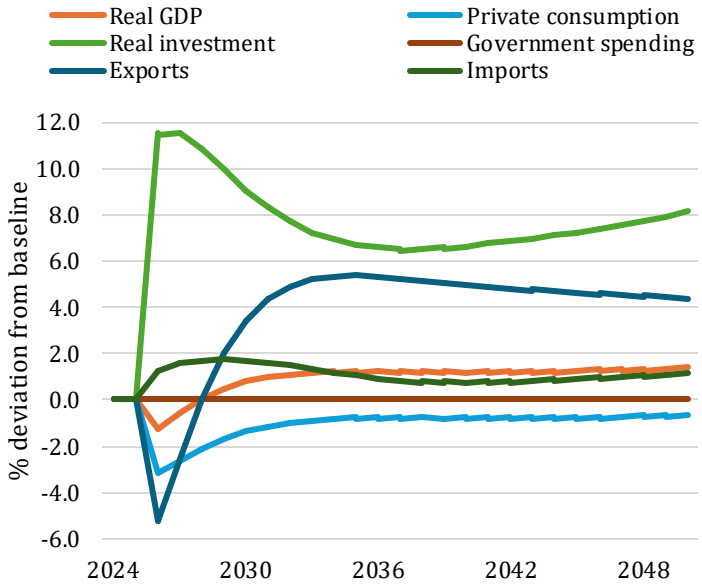
Key Messages

- Tax-to-GDP rises to 9% (2026); stabilises 8.7% long-run.
- Real GDP −0.6% vs baseline by 2050 (final year).
- Household consumption −3% vs baseline by 2050.

Sim 2: Sim1 +Recycling to non-oil investment (capital deepening)

- Recycling into capex → GDP +1.4%, capital up; wages firm; employment ≈ baseline





Industry output	2026-2030	2031-2035	2036-2040	2040-2050	2025-2050
Sector 1 - Agriculture, forestry, and fishing	-0.1	1.1	1.3	1.3	0.8
Sector 2 – Mining	0.3	0.6	0.6	0.4	0.4
Sector 3 – Manufacturing	-0.3	1.2	1.5	1.6	0.9
Sector 4 – Electricity and gas distribution	-0.3	2.5	3.5	4.1	2.3
4a Fossil fuel electricity services	-0.4	2.9	4.3	5.1	2.8
4b Renewable electricity services	1.3	3.4	3.6	3.5	2.6
Sector 5 – Construction	9.4	6.1	5.3	6.0	5.4
Sector 6 - Trade	0.4	1.6	1.6	1.6	1.1
Sector 7 - Accommodation & food services	-2.2	3.7	4.4	4.3	2.4
Sector 8 - Transport, postal, and warehousing	-2.0	-0.2	0.2	0.5	-0.2
Sector 9 - Communication services	-2.0	-0.3	-0.1	0.0	-0.4
Sector 10 - Financial & insurance services	-1.5	1.0	1.1	1.3	0.5
Sector 11 – Rental	-1.1	0.5	0.7	0.7	0.3
Sector 12 - Professional services	-0.1	2.0	2.2	2.4	1.5
Sector 13 - Administrative services	-1.0	0.8	0.9	0.9	0.4
Sector 14 - Public administration and safety	-0.5	0.3	0.2	0.2	0.1
Sector 15 - Education and training	-4.5	-2.7	-2.8	-3.0	-2.7
Sector 16 - Health care and social assistance	-1.7	-0.2	0.0	0.1	-0.3
Sector 17 - Arts and Recreation	-4.3	-2.5	-2.6	-3.0	-2.6
Sector 18 - Other services	-3.6	-1.6	-1.4	-1.1	-1.5
Sector 19 - Ownership of dwellings	-0.2	-1.3	-2.6	-3.7	-1.9

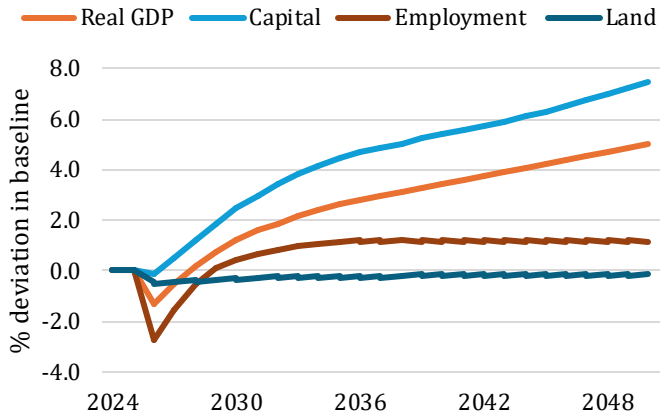
Source: Authors' compilation

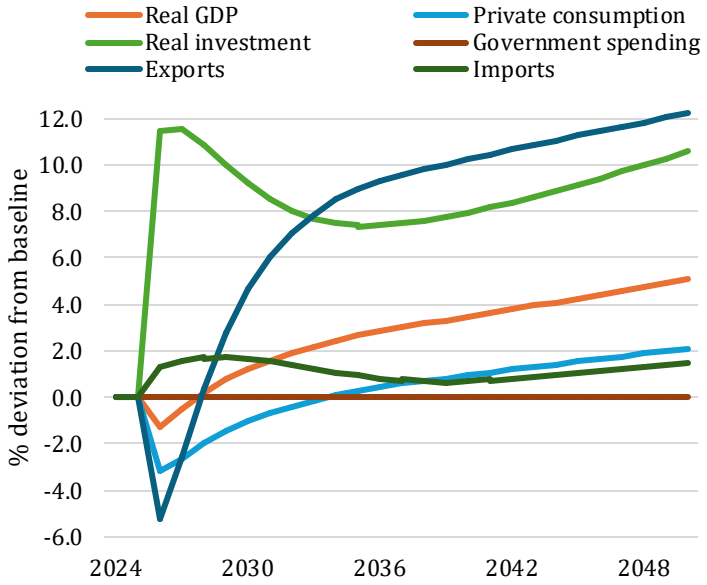
Key Messages

- GDP +1.4% by 2050 vs baseline.
- Aggregate investment above baseline (capex channel activated).
- Capital stock higher; rate-of-return deviations narrow over time.
- Employment broadly near baseline under long-run wage adjustment.
- Household consumption −0.7% vs baseline by 2050; all households' welfare below baseline.

Sim 3: Cautious (Sim 2 + productivity + labour participation)

- Productivity & participation → GDP +5%, capital +7.5%, jobs +1.2%, consumption +2%





Industry output	2026-2030	2031-2035	2036-2040	2040-2050	2025-2050
Sector 1 - Agriculture, forestry, and fishing	0.0	1.9	2.7	3.5	1.9
Sector 2 – Mining	0.3	0.8	1.0	1.0	0.7
Sector 3 – Manufacturing	-0.1	2.5	4.0	5.7	2.9
Sector 4 – Electricity and gas distribution	-0.2	3.4	5.4	7.4	3.9
4a Fossil fuel electricity services	-0.2	3.9	6.2	8.5	4.4
4b Renewable electricity services	1.4	4.1	5.2	6.4	3.9
Sector 5 – Construction	9.5	6.6	6.4	8.0	6.4
Sector 6 - Trade	0.5	2.5	3.4	4.5	2.6
Sector 7 - Accommodation & food services	-1.6	7.0	10.0	11.7	6.3
Sector 8 - Transport, postal, and warehousing	-1.9	0.3	1.1	2.3	0.7
Sector 9 - Communication services	-1.8	0.7	1.8	3.0	1.1
Sector 10 - Financial & insurance services	-1.2	2.7	4.1	5.5	2.7
Sector 11 – Rental	-0.9	1.6	2.8	3.9	1.9
Sector 12 - Professional services	0.2	3.6	5.0	6.6	3.6
Sector 13 - Administrative services	-0.8	2.0	2.9	3.9	2.0
Sector 14 - Public administration and safety	-0.4	1.0	1.3	1.8	0.9
Sector 15 - Education and training	-4.3	-1.5	-0.8	-0.2	-1.2
Sector 16 - Health care and social assistance	-1.5	0.6	1.4	2.1	0.8
Sector 17 - Arts and Recreation	-4.1	-1.3	-0.4	0.3	-0.9
Sector 18 - Other services	-3.3	-0.3	1.0	2.3	0.3
Sector 19 - Ownership of dwellings	-0.1	-0.7	-1.3	-1.2	-0.7

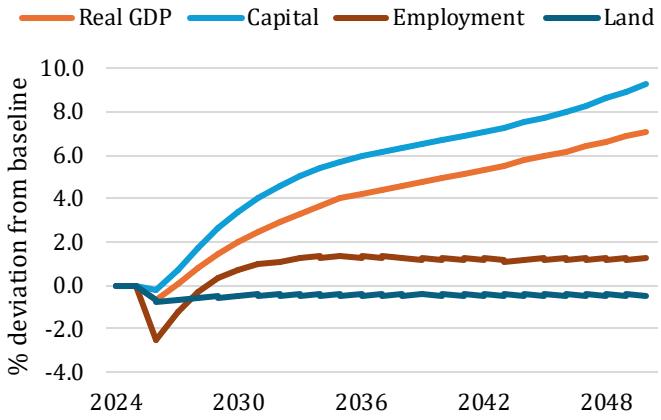
Source: Authors' compilation

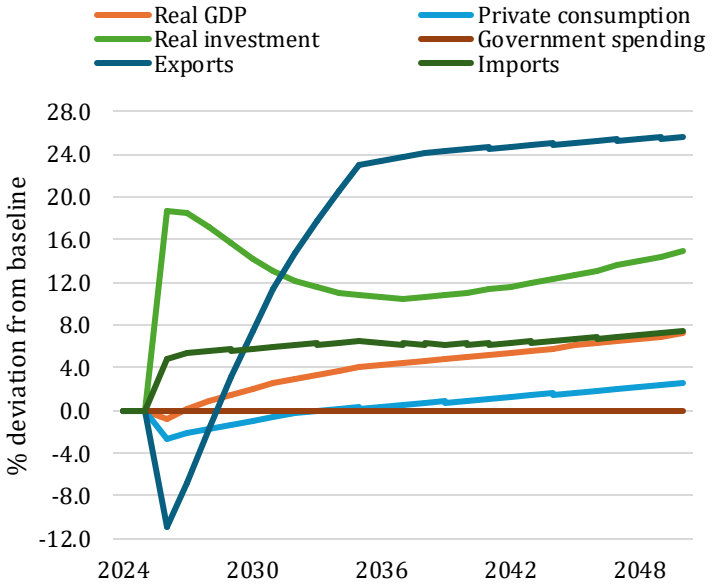
Key Messages

- Real GDP ≈ +5% vs baseline in 2050; capital ≈ +7.5% vs baseline in 2050.
- Employment +1.2% above baseline in 2050 via higher participation.
- Household consumption ≈ +2%; all households' welfare improves.
- Export response +12.2% > import response (competitiveness via real devaluation).

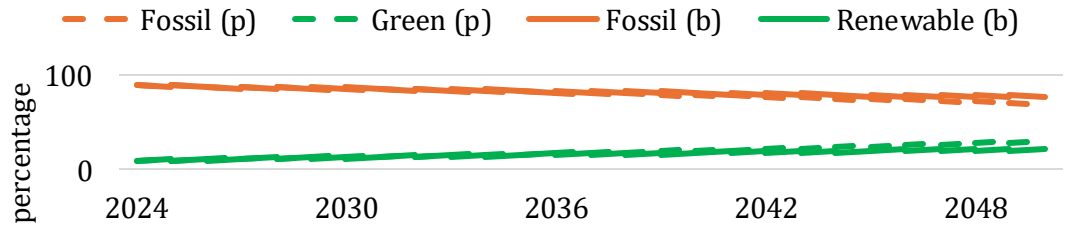
Sim 4: Bold (Cautious + 80% recycling + light manufacturing + 30% RE)

- Bigger push → GDP +7.1%, capital +9.3%, jobs +1.3%; exports accelerate





	Trade effects	Exports	Import replacement	Total market	Total
	Industry	1	2	3	4
	Best performing				
1	Wood products	22.7	-3.5	2.1	21.3
2	Electrical equipment	10.4	-1.5	3.4	12.3
3	Chemicals	11.8	-0.7	0.8	11.9
4	**Rubber and plastic products**	**12.7**	**-4.7**	**3.4**	**11.4**
5	Motor Vehicles	4.0	0	6.8	10.6
6	**Textiles, wearing apparel and footwear**	**10.2**	**-0.8**	**0.9**	**10.3**
7	Electricity from hydro	0.0	0.0	10.3	10.3
8	**Food production**	**13.8**	**-1.6**	**-2.1**	**10.1**
9	**Pulp, paper and printing**	**12.4**	**-4.7**	**1.8**	**9.5**
10	Construction	0.0	0.0	10.0	10.0
	Worst performing				
11	Crude oil	2.9	0	-2.9	0.0
12	Public administration	-1.0	0.0	0.4	-0.6
13	Arts, recreation and entertainment	0.0	0.1	-0.7	-0.7
14	Movies and music	0	0	-0.9	-0.9
15	Electricity from natural gas	0	0	-1.0	-1.0
16	Education	0	-0.1	-1.4	-1.5
17	Rail transport	0	0.7	-5.5	-4.8
18	Electricity from coal	0	0	-7.7	-7.7
19	Road transport	0	0	-10.1	-10.1
20	Petroleum	-29.0	9.4	7.5	-12.1

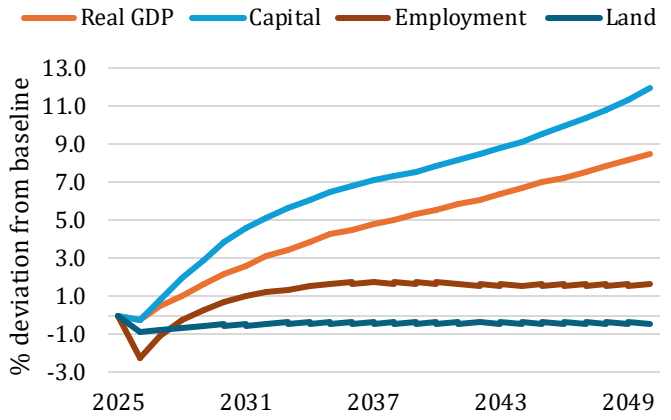


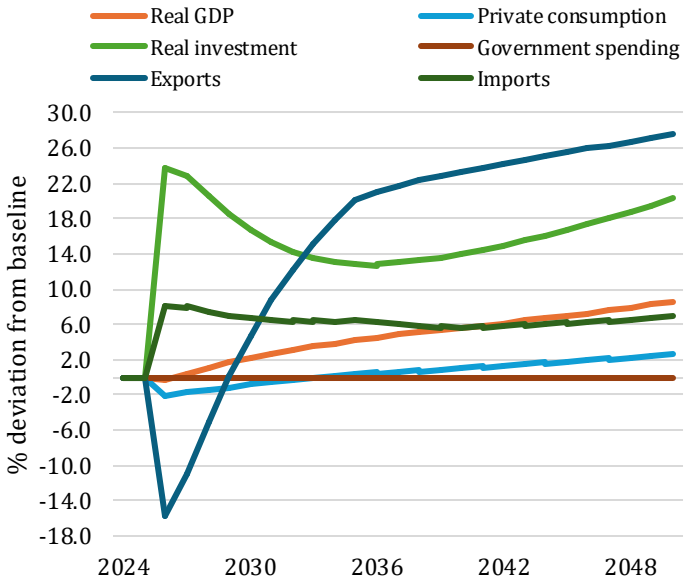
Key Messages

- Real GDP +7.1% (2050) vs baseline.
- Investment >18% above baseline in the short-run.
- Capital +9.3% (2050) with ~18% short-run investment pop.
- Employment +1.3% (2050) with higher participation.
- Household consumption +2.5%; all households' welfare improves.
- Light-mfg output +10% (2025) for export; terms of trade improve; some real appreciation.
- RE share 30% in 2050.

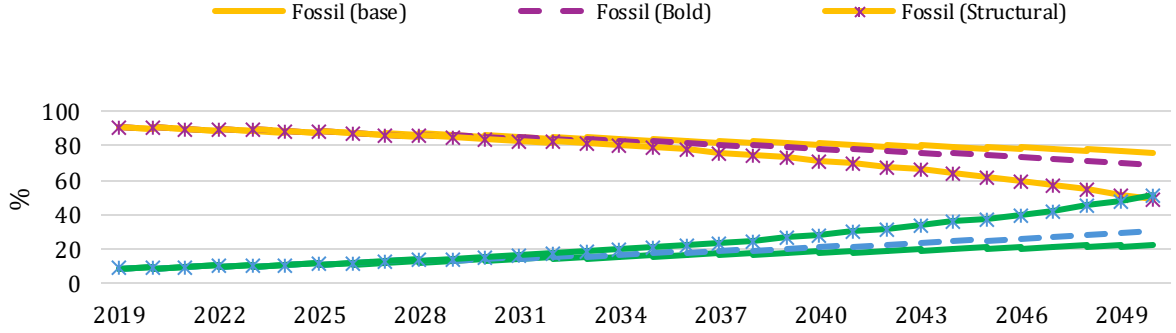
Sim 5: Structural (100% recycling + deeper productivity/participation + 50% RE)

- Coordinated reform → GDP +9%, capital +12%, jobs +1.8%; investment +24% in short run





Industry output	2026-2030	2031-2035	2036-2040	2040-2050	2025-2050
Sector 1 - Agriculture, forestry, and fishing	1.0	3.6	5.1	6.4	3.7
Sector 2 – Mining	0.7	1.6	2.0	2.0	1.4
Sector 3 – Manufacturing	0.1	4.7	7.7	10.7	5.5
Sector 4 – Electricity and gas distribution	-1.5	-1.0	-2.2	-3.6	-2.0
4a Fossil fuel electricity services	-4.0	-13.2	-28.2	-53.2	-28.7
4b Renewable electricity services	4.3	10.7	13.2	16.5	10.0
Sector 5 – Construction	18.8	12.3	11.8	15.4	12.1
Sector 6 - Trade	1.9	5.4	7.4	9.6	5.6
Sector 7 - Accommodation & food services	-10.5	-0.1	4.2	8.4	1.5
Sector 8 - Transport, postal, and warehousing	-1.8	0.7	2.0	4.5	1.6
Sector 9 - Communication services	-1.6	1.4	3.0	5.4	2.2
Sector 10 - Financial & insurance services	-2.7	2.3	4.5	7.5	3.1
Sector 11 – Rental	-0.4	2.8	4.5	6.7	3.3
Sector 12 - Professional services	-0.9	3.5	5.8	9.3	4.4
Sector 13 - Administrative services	-1.2	2.2	3.7	6.1	2.8
Sector 14 - Public administration and safety	-2.6	-0.6	-0.1	0.7	-0.3
Sector 15 - Education and training	-4.6	-1.6	-0.3	1.6	-0.6
Sector 16 - Health care and social assistance	-1.0	1.1	2.3	3.8	1.7
Sector 17 - Arts and Recreation	-3.3	-0.6	0.7	2.8	0.4
Sector 18 - Other services	-2.5	0.2	2.0	4.5	1.4
Sector 19 - Ownership of dwellings	-0.1	-1.2	-2.7	-3.0	-1.7

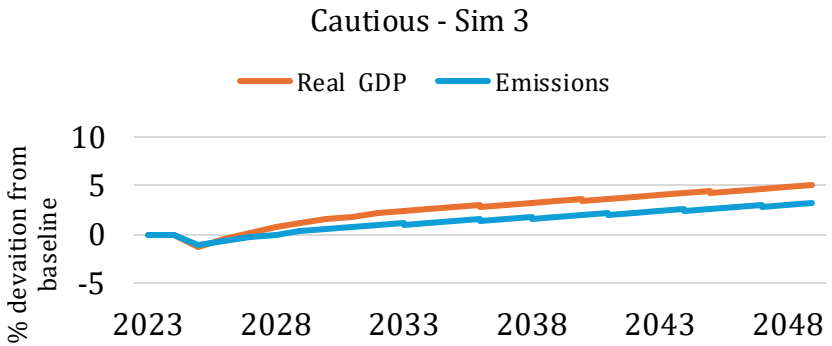


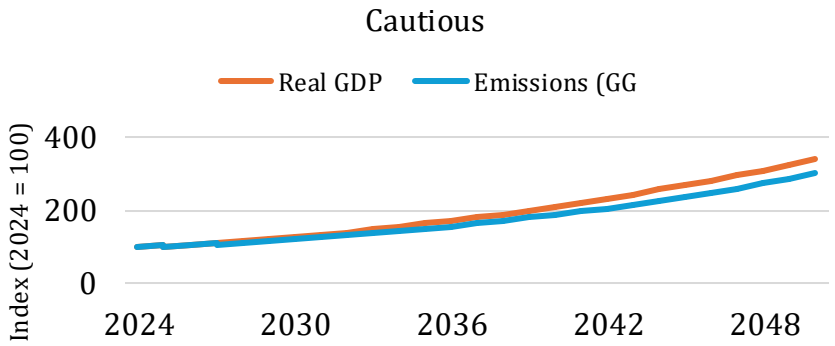
Key Messages

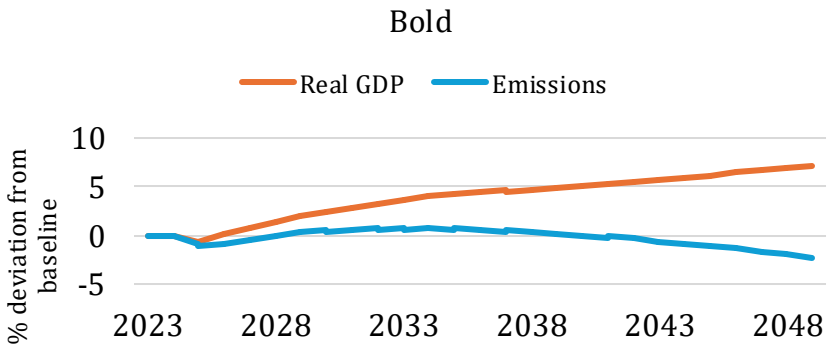
- Real GDP +9% (2050) vs baseline in 2050.
- Capital +12% (2050);
- Employment +1.8% (permanently above).
- Investment +24% in the short run (vs baseline).
- Household consumption +3.3%; all households' welfare improves.
- RE share 50% of power by 2050.

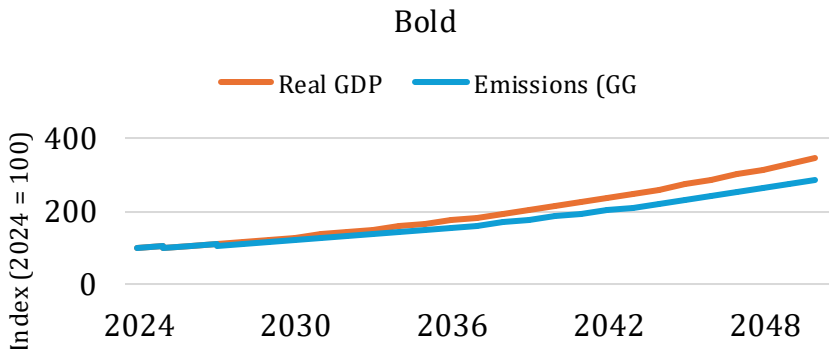
Cross-scenario climate results (emissions & power mix)

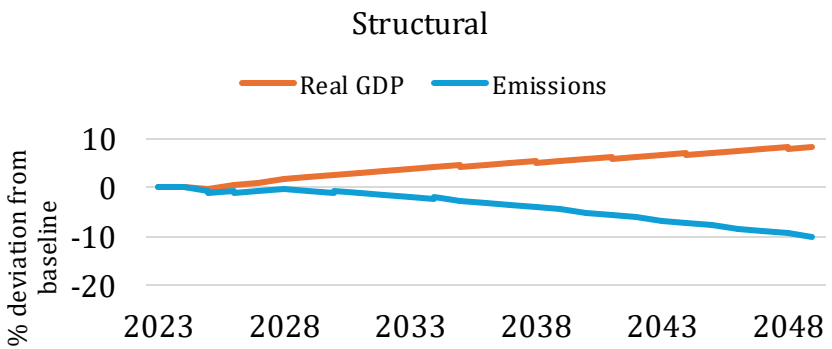
- Ambition accelerates decoupling—emissions below GDP deviations; power mix is a lever

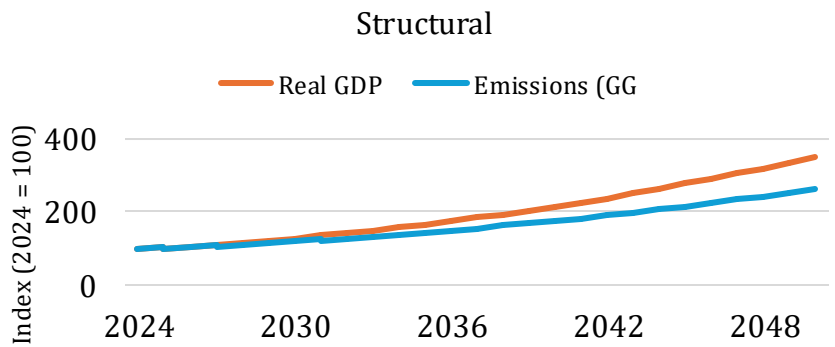












Key Messages

- In Cautious, emissions are +3.2% vs baseline in 2050.
- In Bold, emissions are −2.3% vs baseline; in Structural, −10% vs baseline in 2050.
- Renewables share: 22% (Base) → 30% (Bold) → 50% (Structural) by 2050.
- Across scenarios, ΔEmissions < ΔGDP—intensity improves.
- Baseline emissions path still rises to ~1,062 $MtCO_2e$ (2050).

Conclusion and Policy recommendations

Baseline Scenario

- Moderate GDP growth averaging 4.5% annually, insufficient to absorb the rapidly expanding labour force.
- Continued dominance of oil exports, with limited expansion in non-oil sectors.
- Gradual energy transition, with renewables reaching only 22% of electricity generation by 2050.
- Rising emissions, albeit at a slower pace than GDP, indicating partial decoupling but not enough to meet climate goals.

Policy Scenarios

- **Sim 1 (Tax Reform):** Necessary for expanding fiscal space; tax reform alone yields limited economic gains and imposes short-term welfare costs.
- **Sim 2 (Investment Allocation):** Redirecting revenue to non-oil sectors begins to shift the growth trajectory, but the impact remains modest without accompanying productivity improvements.
- **Sim 3 (Cautious Diversification):** Adding increased labour supply and productivity reforms enhances GDP growth and export performance, signalling the importance of human capital (better trained labour force) development as well as improvement in climate resilient infrastructure (improved irrigation, dams, roads).
- **Sim 4 (Bold Diversification):** An aggressive investment strategy, coupled with export promotion and renewables expansion, delivers stronger outcomes in growth, employment, and emissions reduction.
- **Sim 5 (Structural Transformation):** The most ambitious scenario achieves the highest gains in GDP (9%), exports (27.5%), and emissions reduction (10%), illustrating the transformative potential of coordinated, long-term reform.

Recommendation	Detail
Expand fiscal space	through subsidy reform and progressive taxation, while protecting vulnerable populations through targeted transfers.
Public invest priority	prioritise public investment in infrastructure, manufacturing, and renewable energy to induce private sector growth.
Enhance productivity	through education, skills development, and technology adoption, especially in labour-intensive sectors.
Promote export-orientation	particularly light manufacturing and services, to reduce dependence on oil and improve foreign exchange stability.
Accelerate the energy transition	leveraging Nigeria's renewable potential to reduce emissions and improve energy access.
Strengthen institutions	to ensure policy coherence, transparency, and effective implementation across federal and state levels

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Thank You

Recommendation

Finalize the case study and consider any recommendations from the case study as part of the annual report discussion