

Country Profile

KIRIBATI



0.13 million population (2024)



5.3% GDP growth rate (2024)



11 MW total installed capacity (2024)



2 MW installed solar capacity (2024)

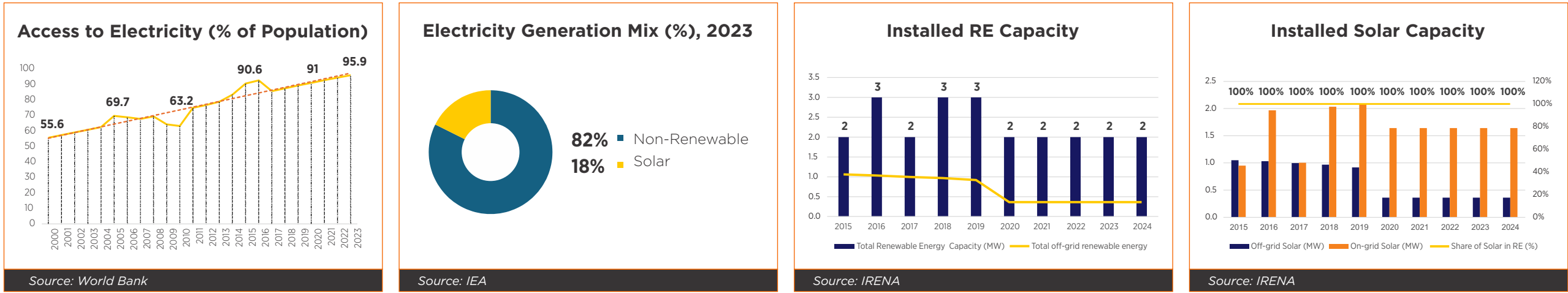


Reducing its GHG emissions by 8% unconditionally and 23.8% conditionally by 2030 compared to BAU



Targets 34.9% consumption from RE mix by 2030





KEY CHALLENGES

- Kiribati’s **population is spread across low-lying atolls**, making grid extension costly and leaving the country reliant on small, isolated power systems
- Most generation depends on imported diesel**, exposing the sector to volatile fuel prices and high transport costs
- Climate risks—sea-level rise, erosion, and extreme weather—threaten energy infrastructure and raise maintenance costs for solar and grid assets

POTENTIAL OPPORTUNITIES

- Year-round solar potential makes PV the most viable renewable option** for both grid and off-grid use
- National plans prioritize solar PV and energy efficiency to cut diesel reliance and boost energy security
- Solar-battery mini-grids can replace diesel on outer islands**, improving reliability and lowering costs.
- Expanding solar for essential services—water, health, schools, telecom—strengthens resilience and living standards
- Solar-powered desalination and cold-chain systems support climate adaptation for water and food security
- Kiribati’s high climate vulnerability positions it to attract climate finance and technical support for solar and storage projects

ENERGY STORAGE AND GRID INTEGRATION

- Battery energy storage is a central component of Kiribati’s energy strategy, because **small islanded grids require storage to maintain frequency stability and ensure continuous supply** during cloudy or low-generation periods.
- Many new and upgraded mini-grids are being deployed as solar-battery-diesel hybrids, with batteries sized to allow diesel generators to operate primarily as backup rather than baseload.
- Careful system design, including appropriate inverter sizing, protection settings and control systems, is essential to avoid power-quality issues in very small networks with high solar penetration.
- The corrosive marine environment and high temperatures mean that both batteries and PV systems must be selected, installed and maintained with strong attention to durability and lifecycle costs.



Key Policies and Framework

- Kiribati’s **national energy policies** and the **Integrated Energy Roadmap** set clear objectives to reduce diesel consumption, increase renewable energy penetration and improve overall energy efficiency
- The policy framework explicitly recognizes solar PV and battery storage as the primary technologies for transforming the country’s power systems**, given the geographic and climatic realities of the islands
- Regulations and planning processes are developed in close coordination with development partners, which helps align national priorities with the design of donor-funded solar and storage projects
- The **government encourages community engagement and ownership models for renewable energy systems**, particularly in outer islands where local management is critical for long-term sustainability



Climate & Sustainability Commitments

- Kiribati’s NDC and climate strategies emphasize that **the country contributes very little to global emissions but faces disproportionate risks from climate change**, making low-carbon and resilient energy systems a moral and practical imperative
- Green Climate Fund (GFC) supports Kiribati’s emission reduction and clean energy goals**
- The government actively advocates in international climate forums for increased support to SIDs, often highlighting renewable energy as a core component of survival and sustainable development
- Solar projects are framed as part of a broader resilience agenda that includes coastal protection, climate-resilient infrastructure and community-level adaptation measures



Investment & Financing Landscape

- Kiribati’s energy investments are predominantly financed by international development partners such as **the World Bank, Asian Development Bank, Green Climate Fund and various bilateral donors including Australia, New Zealand and the EU**
- South Tarawa Solar PV and Battery Storage Project is funded by SREP (USD 4.7M), GCF (USD 5.2M), ADB (USD 5M), and others
- The **POIDIER Project** promotes indigenous RE use on outer islands, funded by GEF with USD 5.38 budget
- Project implementation often involves specialized EPC contractors and regional engineering firms with experience in island systems, who work closely with the national utility and government agencies

Sources:

- Population: Population, total | Data
 - GDP: GDP growth (annual %) | Data
 - Installed Capacity: Kiribati Energy 2024, CIA World Factbook
- Solar Capacity: Renewable Energy Statistics 2025
 - Carbon Target: Nationally Determined Contribution - NDC | Climate Policy Database
 - RE Target: SDG 7 Roadmap 2030