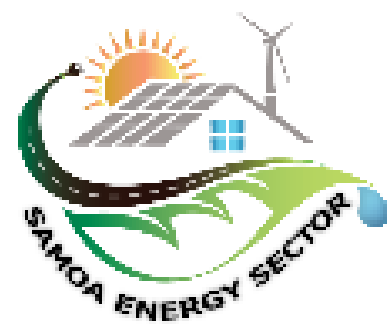


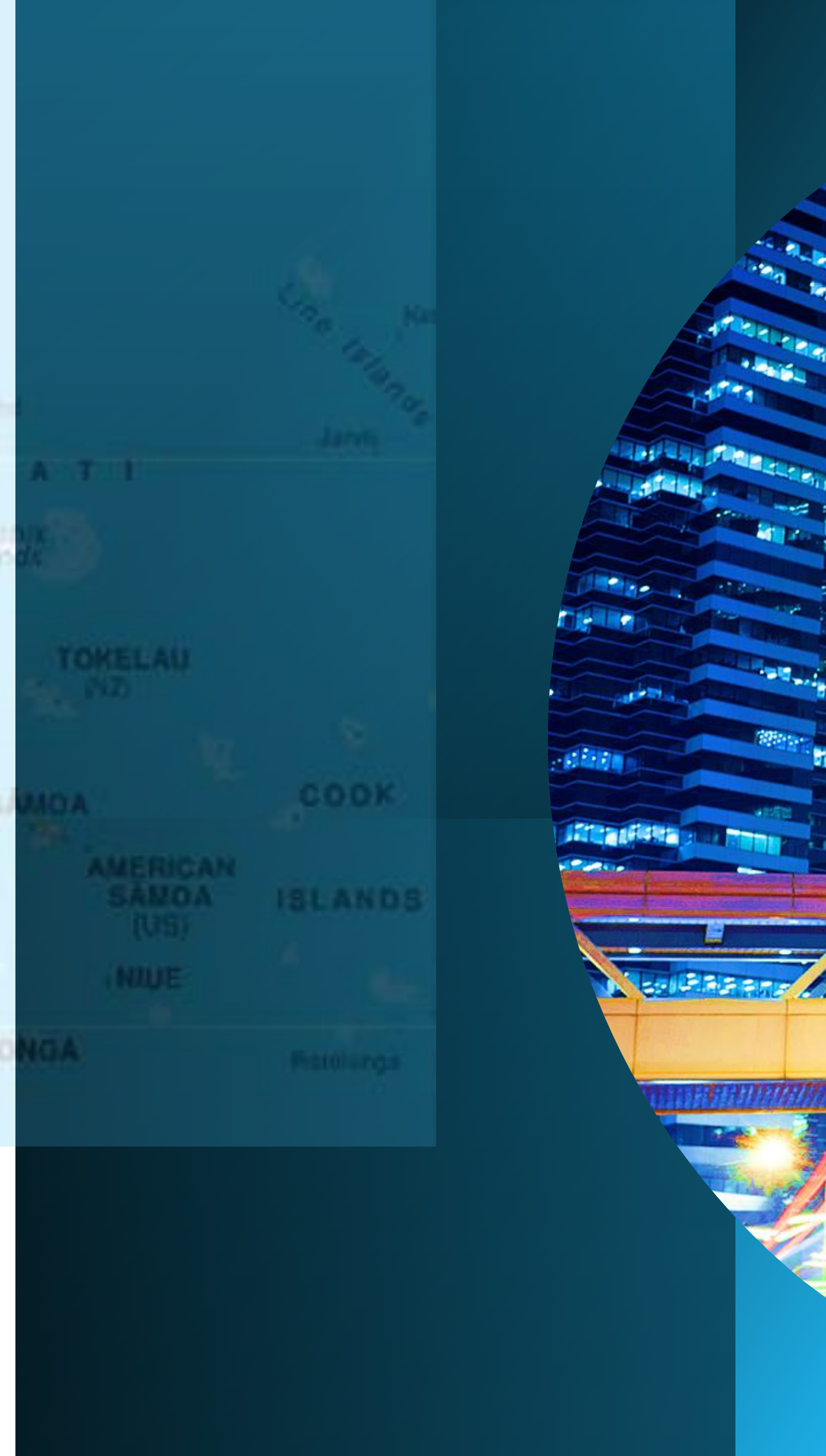


Low Carbon Energy Transition Roadmap

A Case Study of Samoa in Pacific Island Countries



Government of Samoa



Content

01 Introduction

- ✓ Climate Change
- ✓ Systems Approach

02 Case study of Samoa Energy Sector Roadmap

- ✓ Baseline
- ✓ NDC
- ✓ Energy Sector Roadmap Development
- ✓ Methodology
- ✓ Projections
- ✓ Target Setting
- ✓ Projects Identification
- ✓ Cross-cutting Enablers



Climate Change

Perils



Temperature Increases



Extreme Event
(flood, droughts)



Increase in Sea Surface
Temperature (SST)



Sea Level Rise (SLR)



Precipitation



- **Low-lying** Pacific Islands face risks of flooding, saltwater intrusion, and coastal erosion
- **Reliance on natural resources** for livelihoods, such as fishing, agriculture, and forestry, can reduce food security and income.
- **Limited finance access** makes investing in climate change adaptation and mitigation measures difficult.

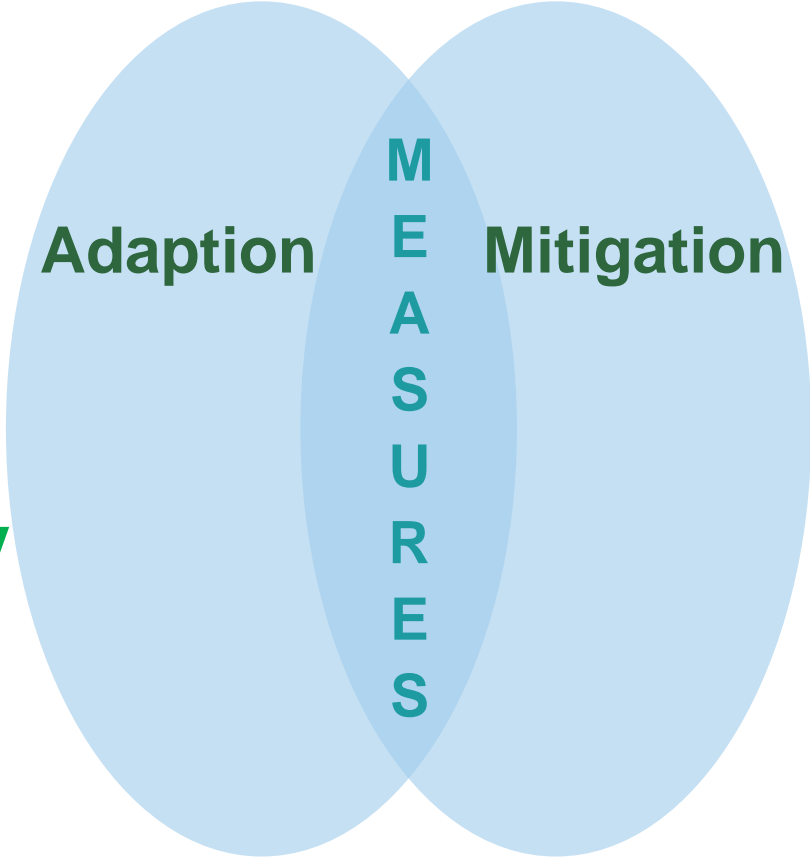
Controls

Electricity

Transport

Energy Efficiency

Petroleum



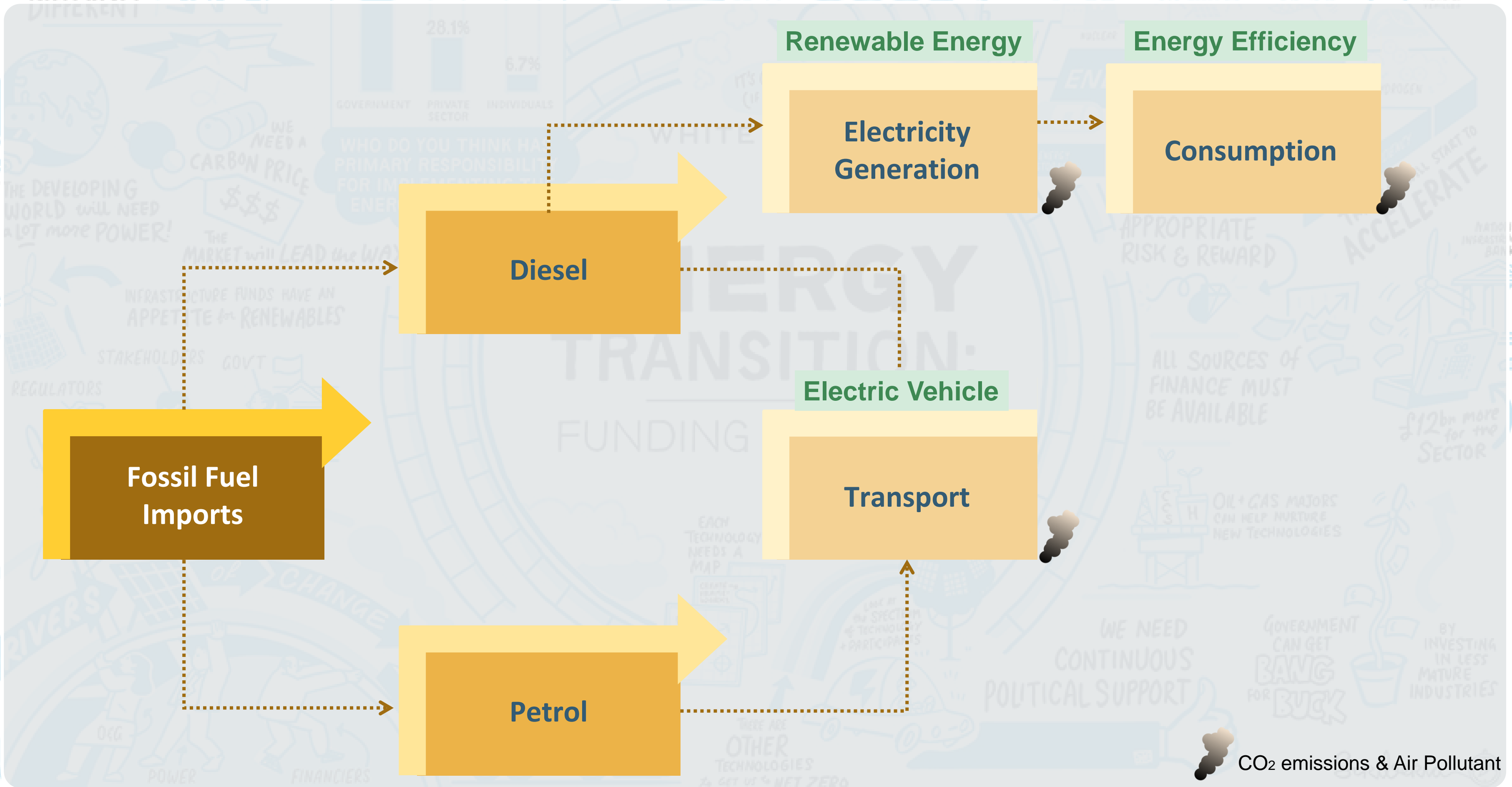
International support and finance to help Pacific Island countries to address the impacts of climate change



Community engagement includes raising awareness, promoting behavior, and engaging communities for climate change

Perils of climate change are higher for Pacific Island countries, and urgent actions are needed to support their efforts to adapt to the changing climate

Systems Approach to Build Robust Energy Transition Roadmap



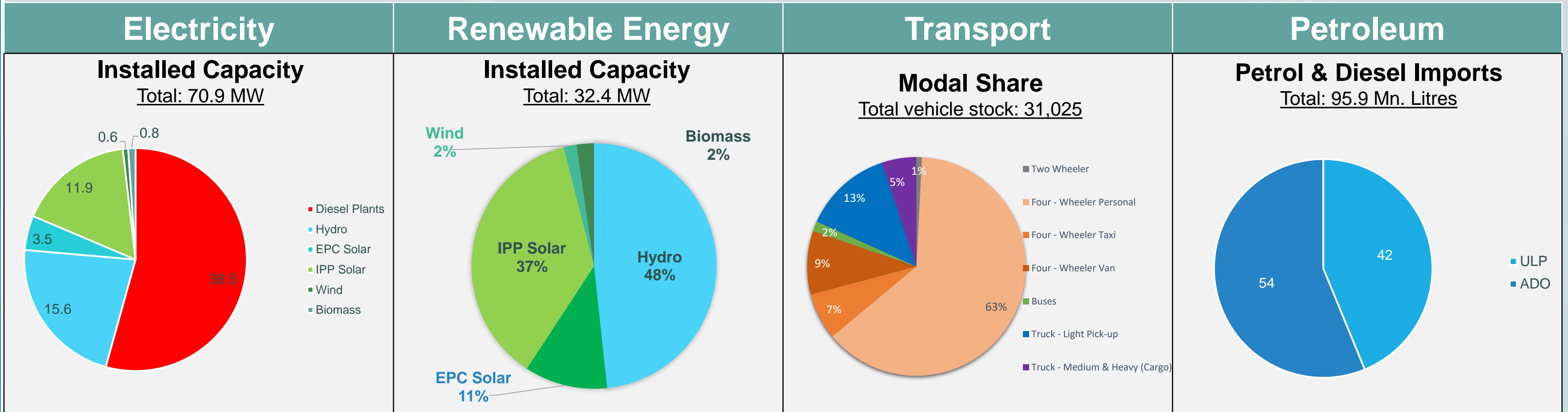


Energy Sector Roadmap Development Case study of Samoa

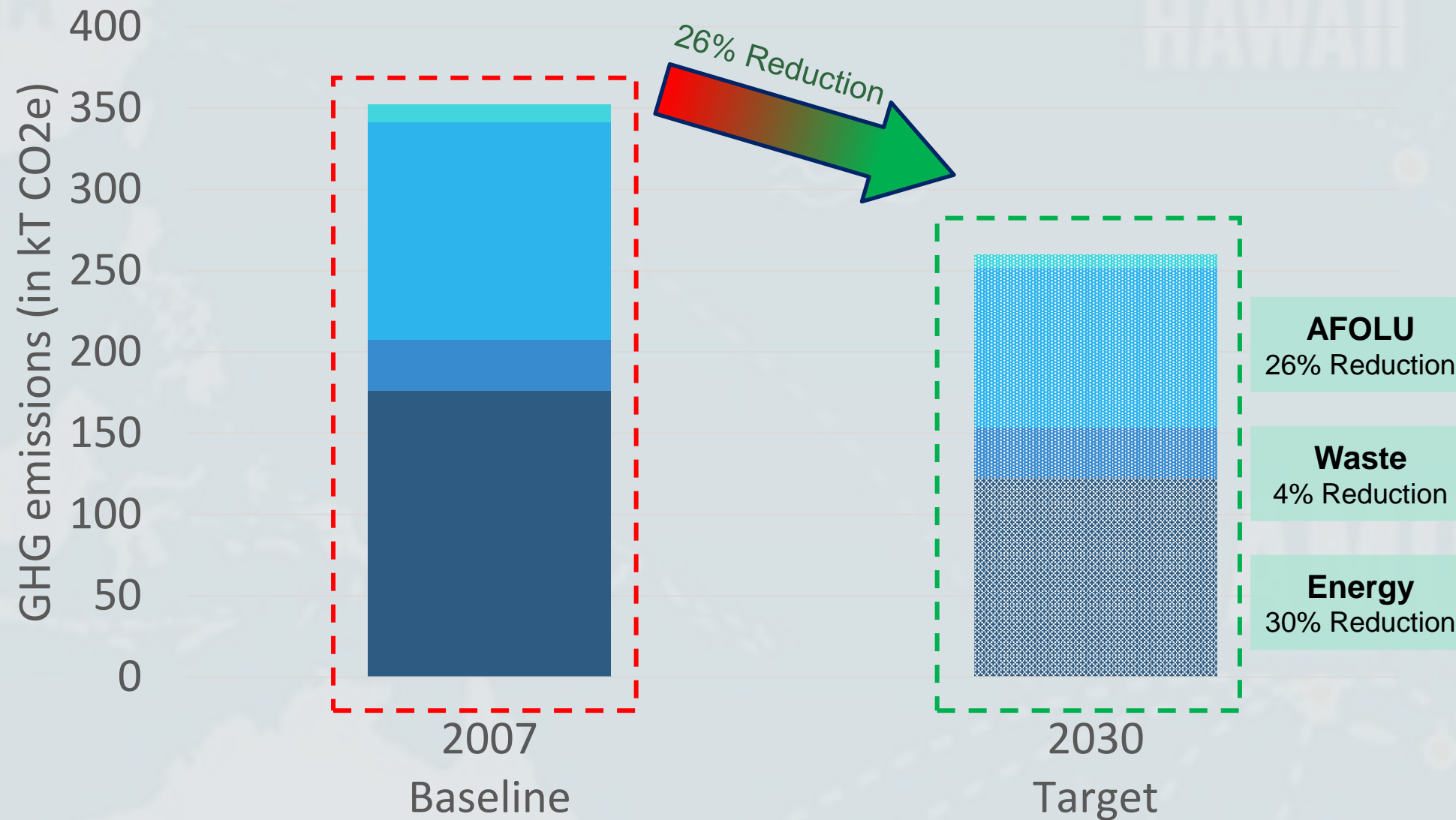
Baseline

Key Stats (2022)

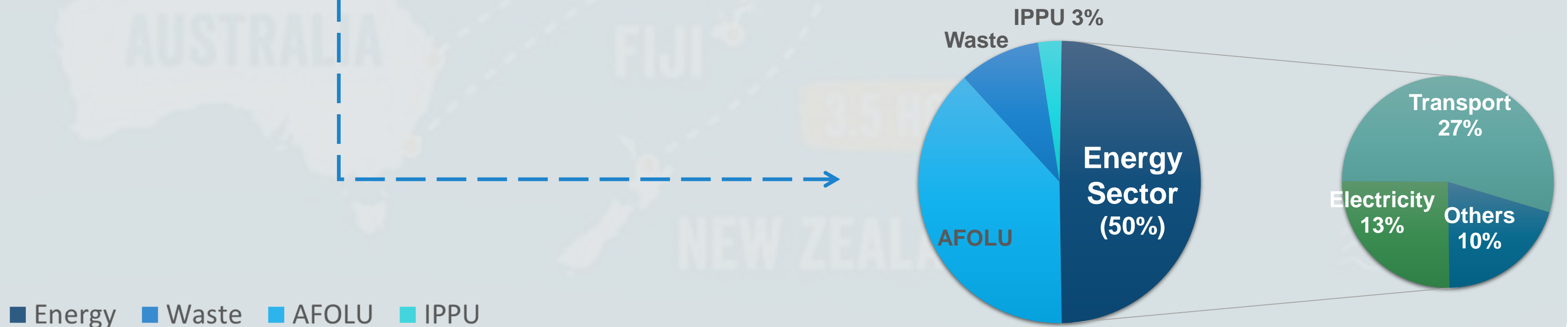
Population	: 222,382
Area	: 2,842 sq. km
GDP	: 1.2 Bn. Tala
Energy Production & Import	: ~130 kTOE
Vehicle stock	: 31,025



Samoa NDC Commitment



Samoa's 2nd NDC (2021) aims to cut GHG emissions by 26% by 2030, out of which Energy sector targets 30% reduction from 2007



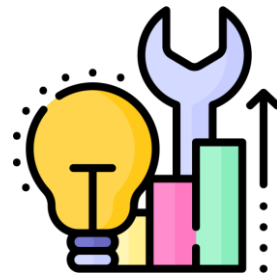
■ Energy ■ Waste ■ AFOLU ■ IPPU

Principles for Energy Sector Roadmap Development

Objectives



Increase Energy Security, Reduce GHG Emissions & Improve Energy Access



Overcome the Identified Gaps of previous ESP



Resilience and Security of Energy Sector



Promote Economic Development



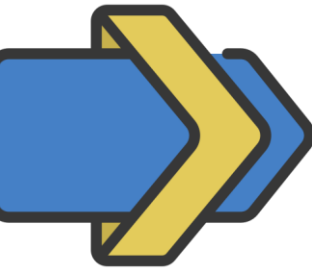
Advance Technologies

Key Considerations

Align with Country's Strategic Documents



Avoid Overlaps & Common Alignment with all Sub-sectors



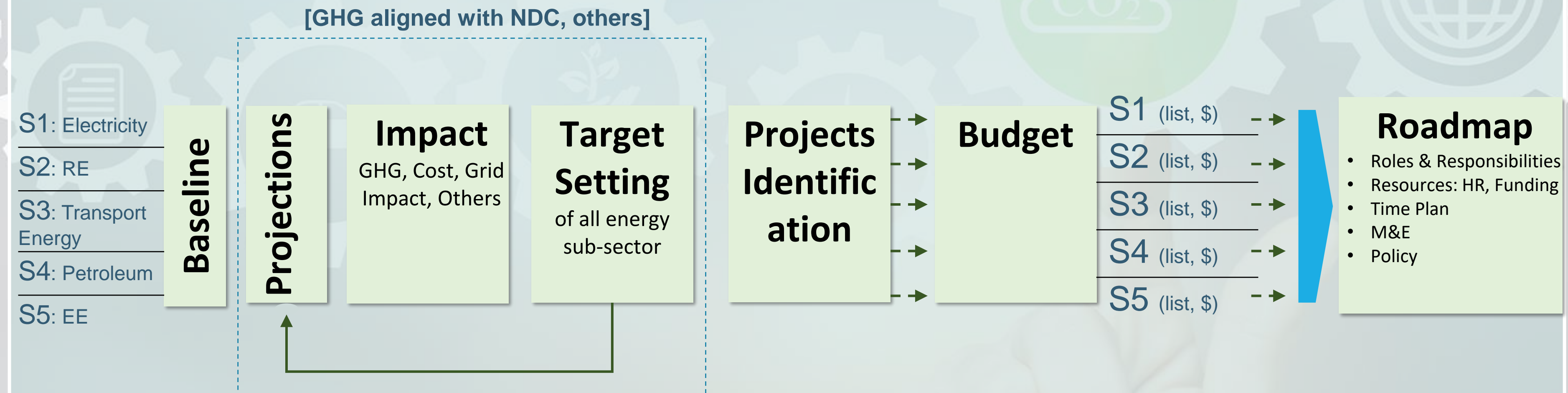
Evaluate Technical & Financial Feasibility
(Country's Resources, Infrastructure, Technical Capacity, Availability of financing and Investment Opportunities)



Consider Policy and Regulatory framework for the Energy sector (including relevant laws and regulations, opportunities e.g., right mix of RE & EV, etc. for the reform)

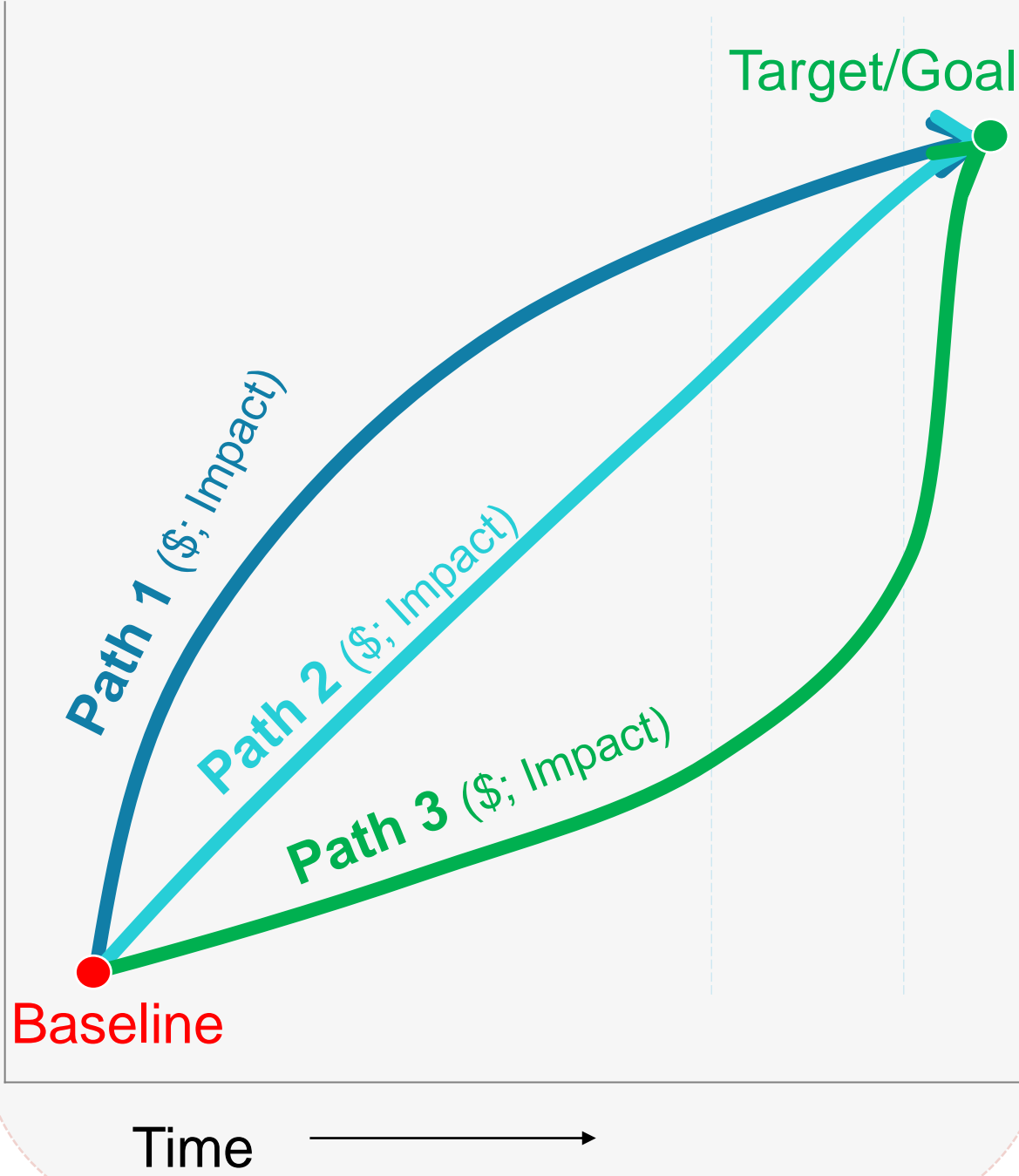


Methodology

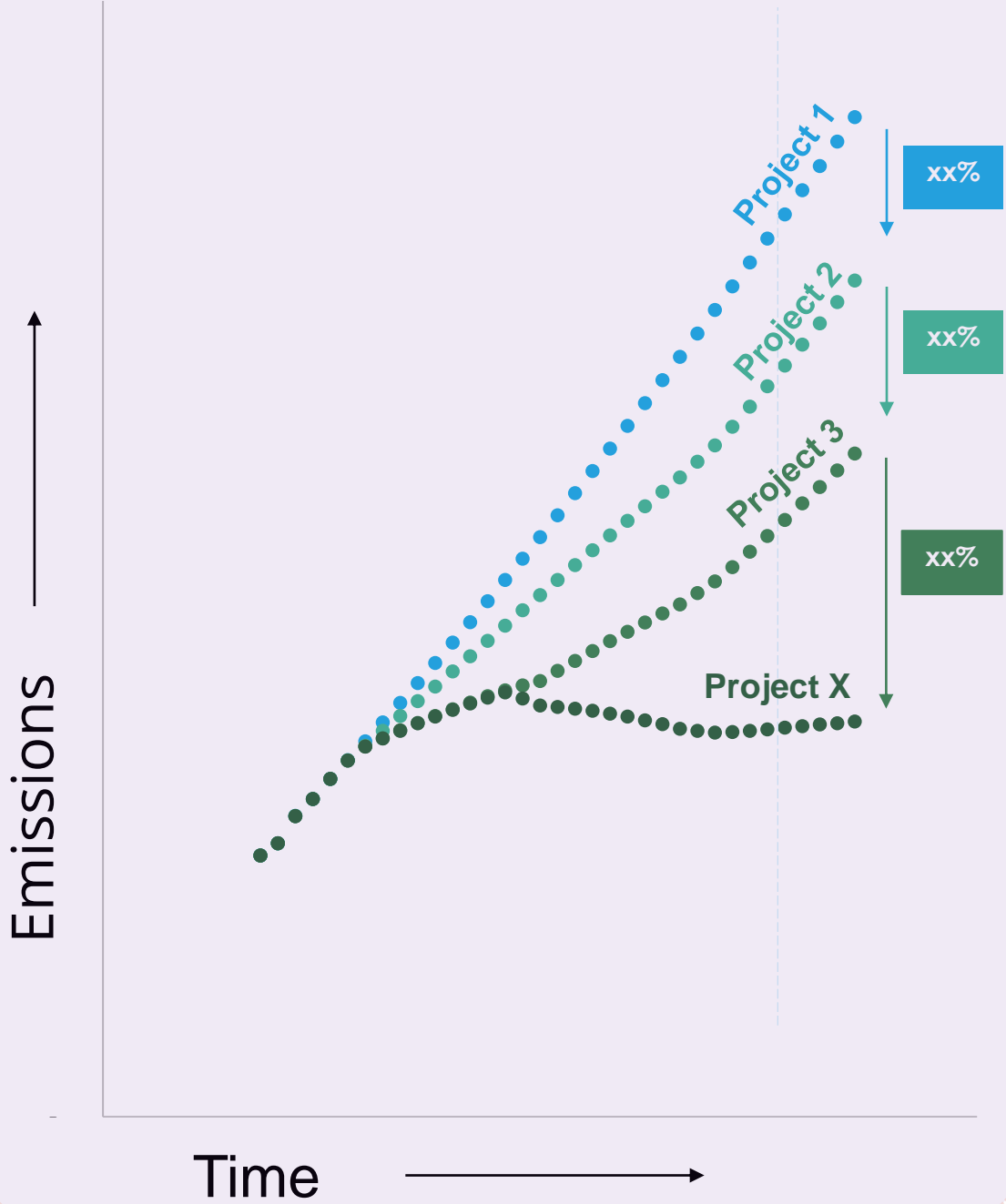


Choosing The Pathway

Target Setting



Project Prioritisation

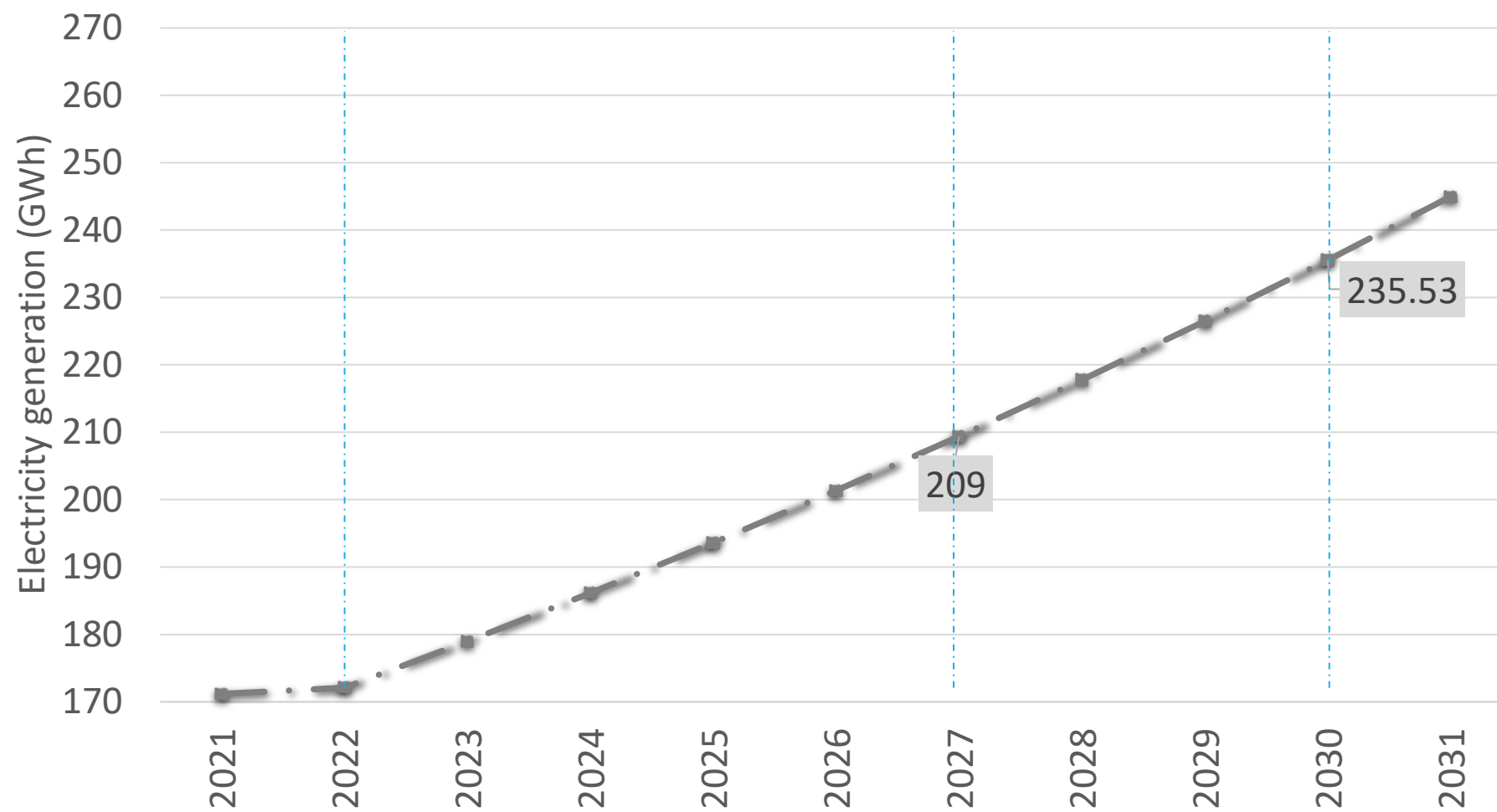


Roadmap

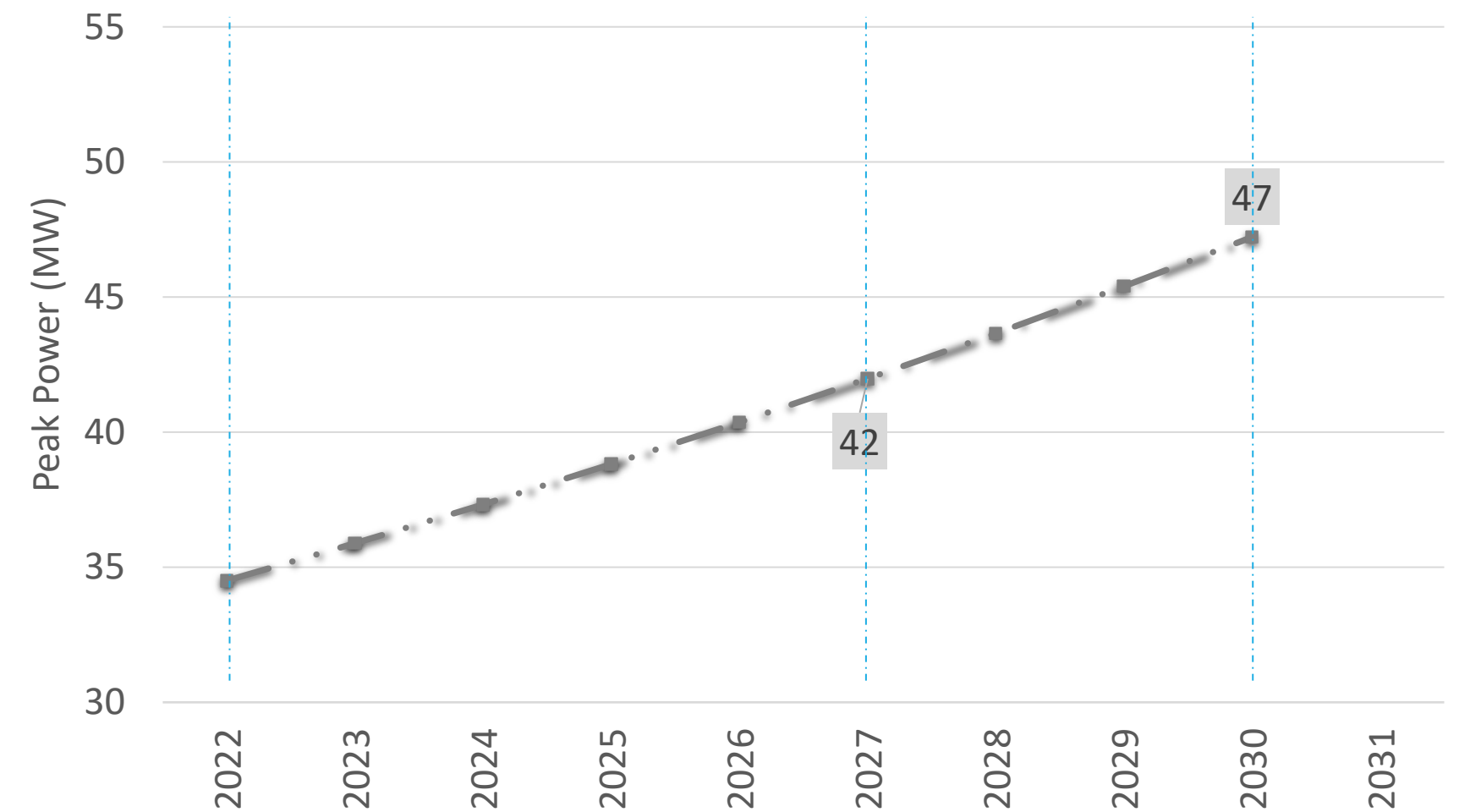
Sectors		\$	Roadmap
Sector - 1	P11	\$	[Bar]
	P12	\$	[Bar]
	P13	\$	[Bar]
	...	\$	[Bar]
Sector - x	Px1	\$	[Bar]
	Px2	\$	[Bar]
	Px3	\$	[Bar]
	...	\$	[Bar]
...			[Bar]

Electricity Sub-Sector Trends

Electricity Generation (without EVs)



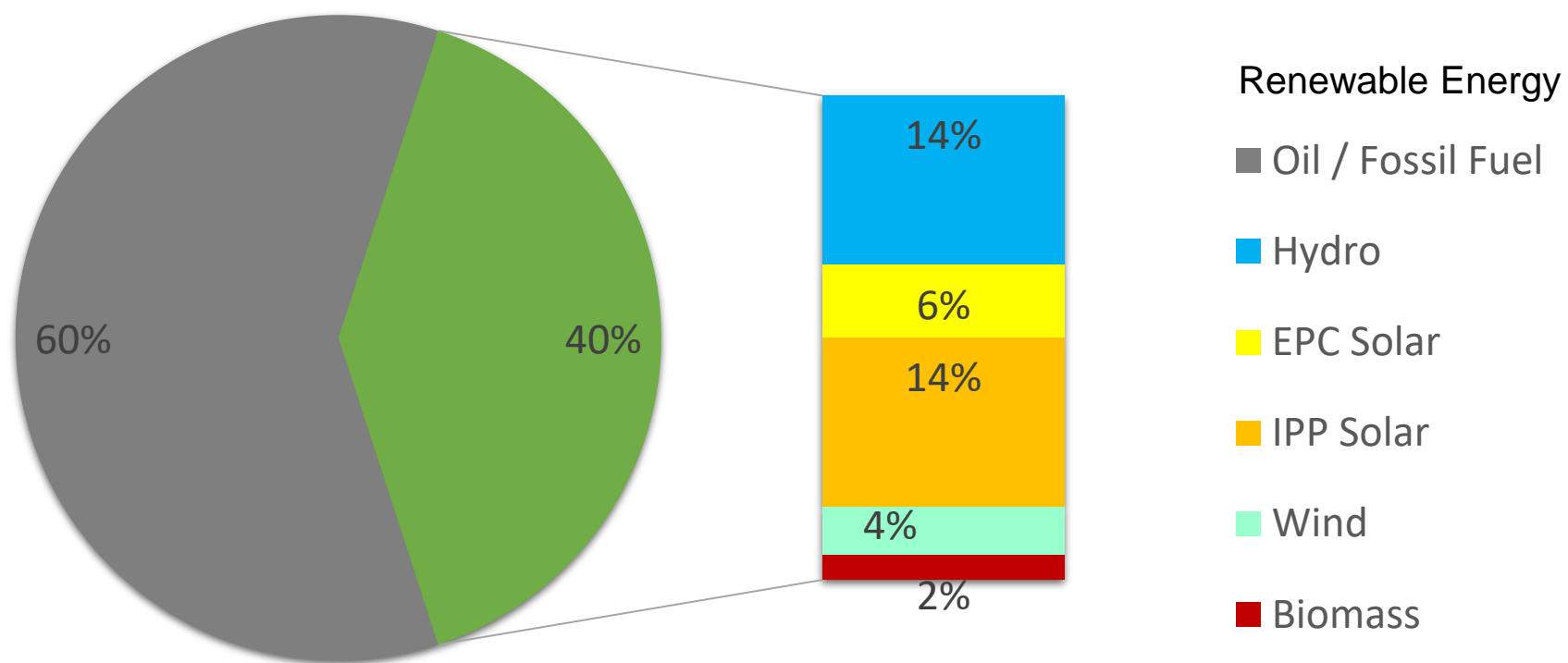
Peak Power (without EVs)



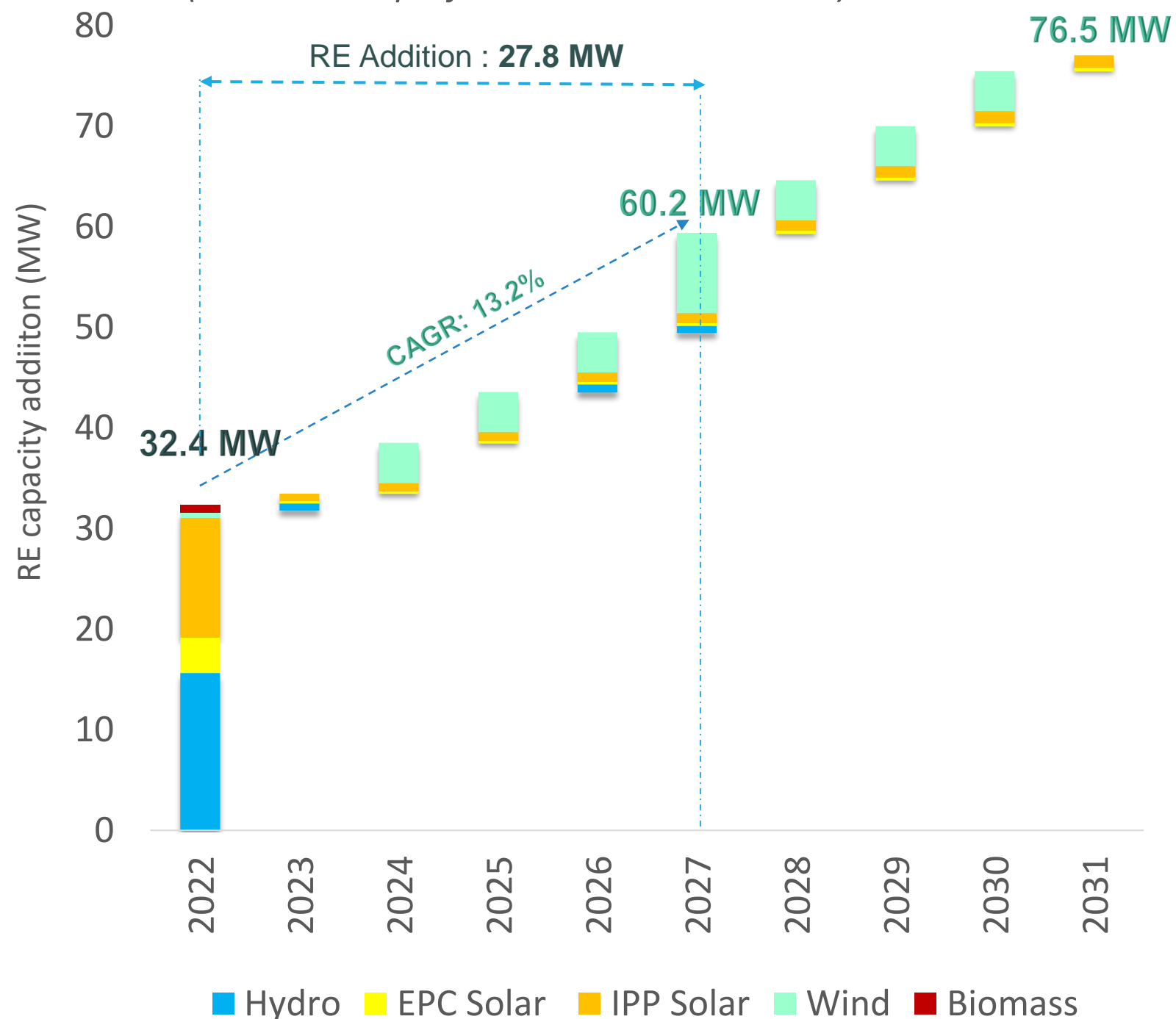
Electricity Consumption of Samoa is expected to grow by 4% annually

Renewable Energy Sub-sector Trends

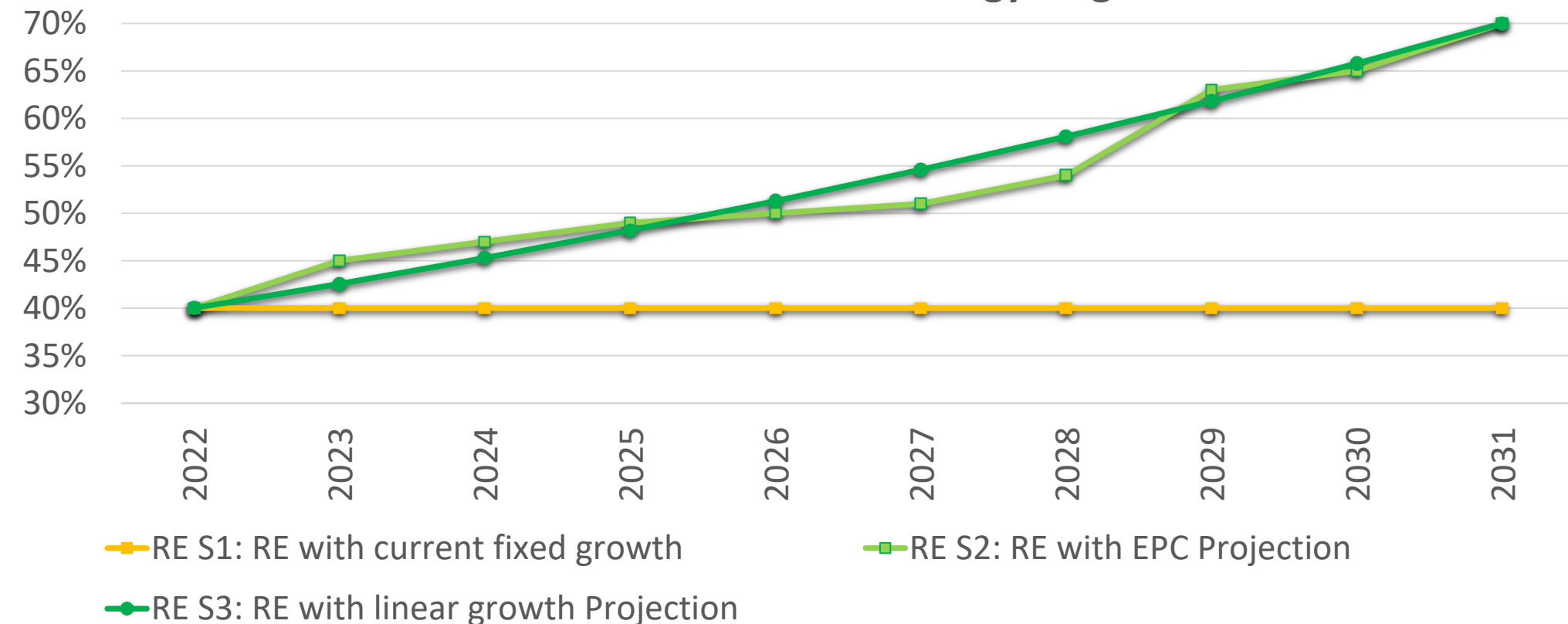
Electricity Production (By Source)
Total: 171 GWh as of 2022



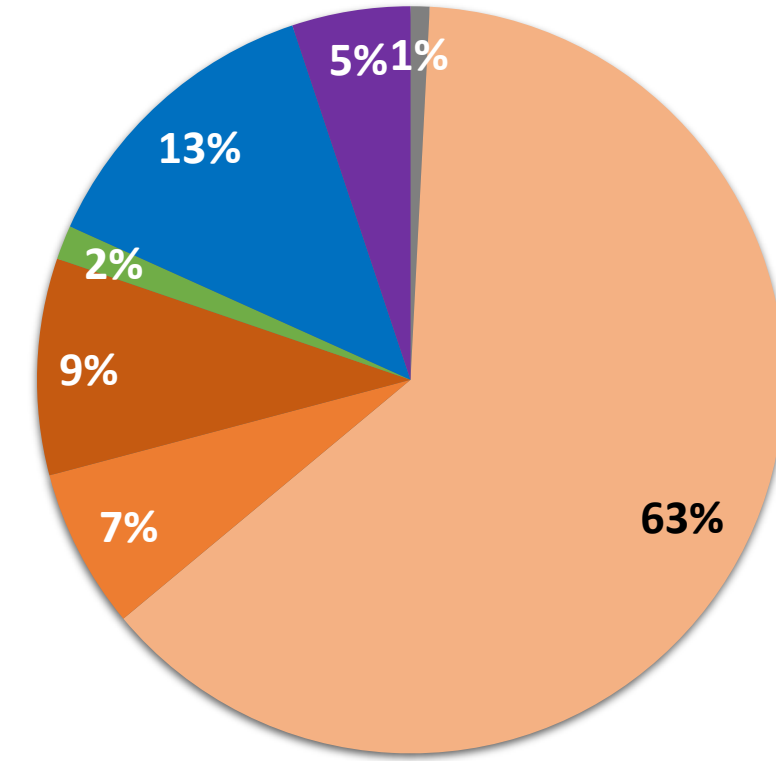
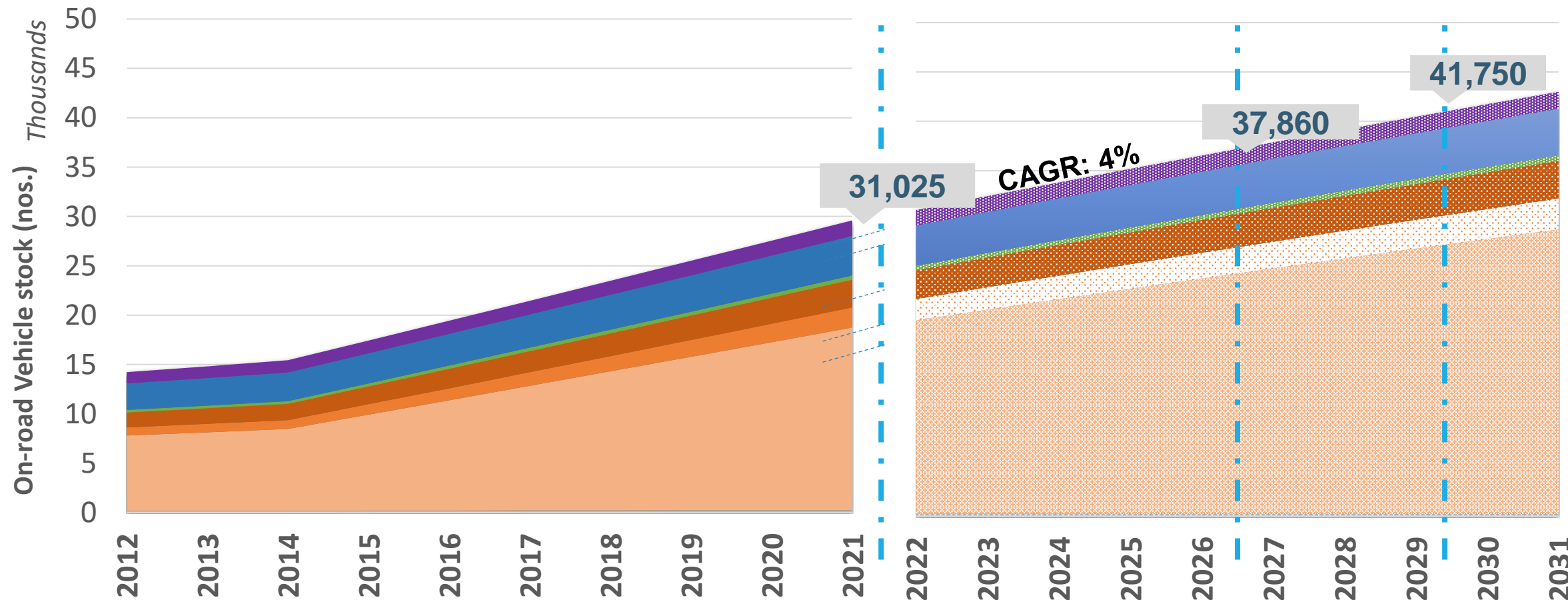
RE Installed Capacity
(with RE EPC projections and without EVs)



Renewable Energy Target

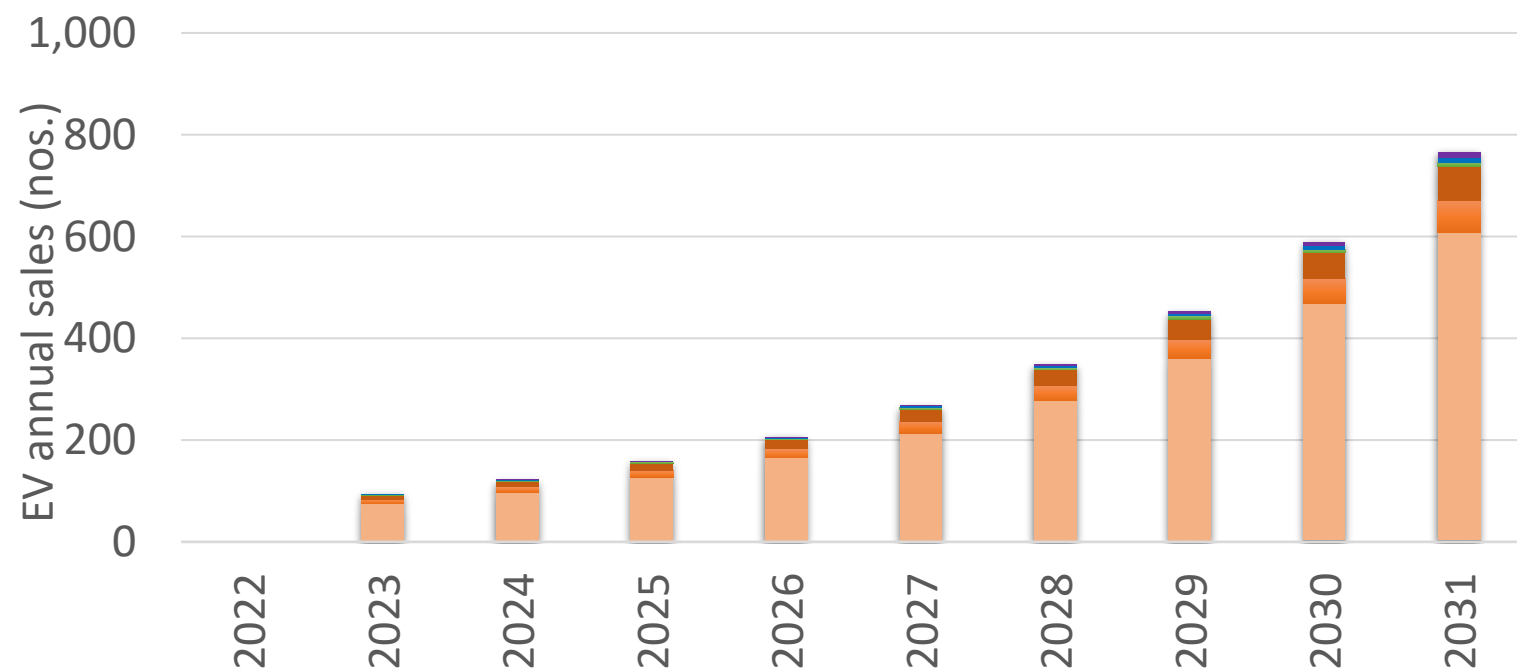


Transport Energy Sub-sector Trends

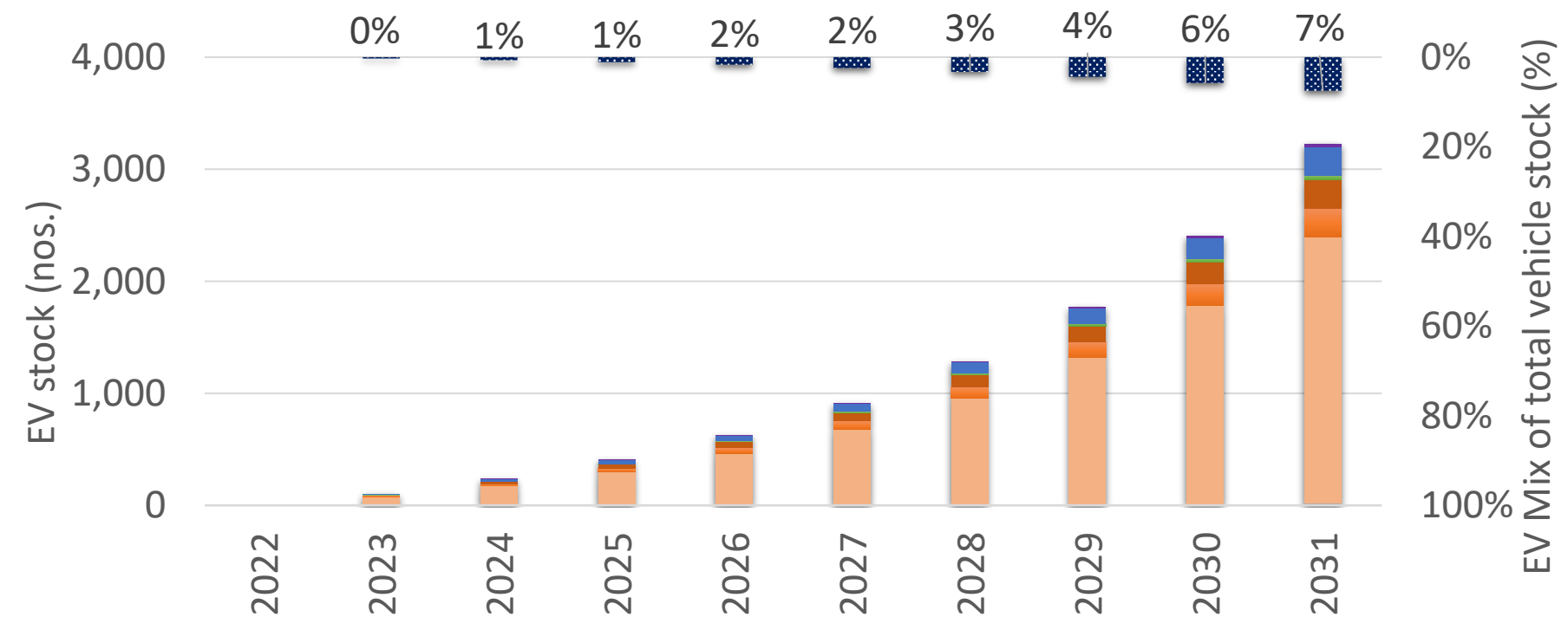


- Two Wheeler
- Four - Wheeler Personal
- Four - Wheeler Taxi
- Four - Wheeler Van
- Buses
- Truck - Light Pick-up
- Truck - Medium & Heavy (Cargo)

EV Annual Sales (EV 30@30)



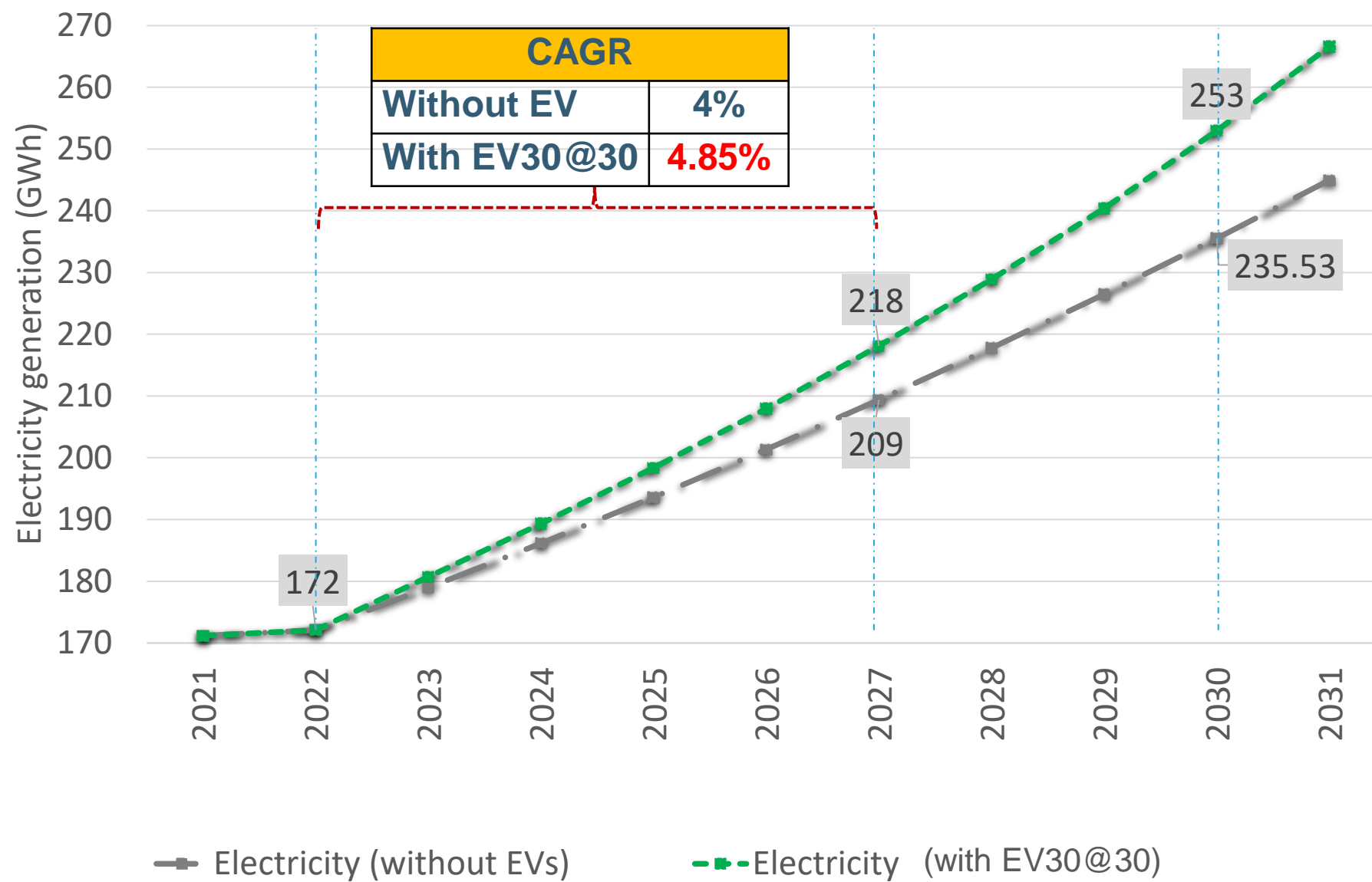
EV On-road Stock (EV 30@30)



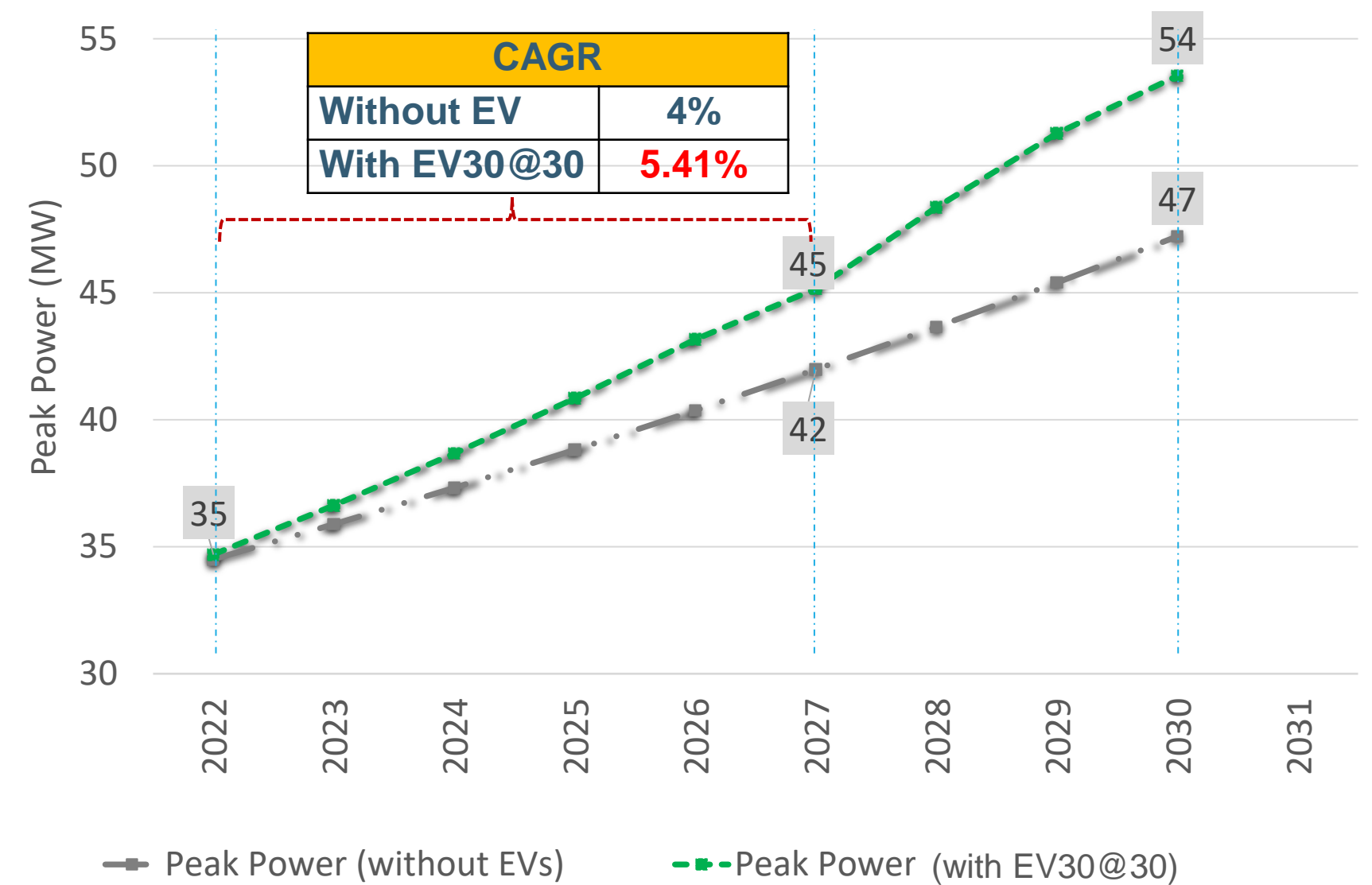
- Two Wheeler
- Four - Wheeler Personal
- Four - Wheeler Taxi
- Four - Wheeler Van
- Buses
- Truck - Light Pick-up
- Truck - Medium & Heavy (Cargo)
- EVs Mix as % of Vehicle Stock

EVs Impact on Grid

Electricity Generation (with & without EVs)

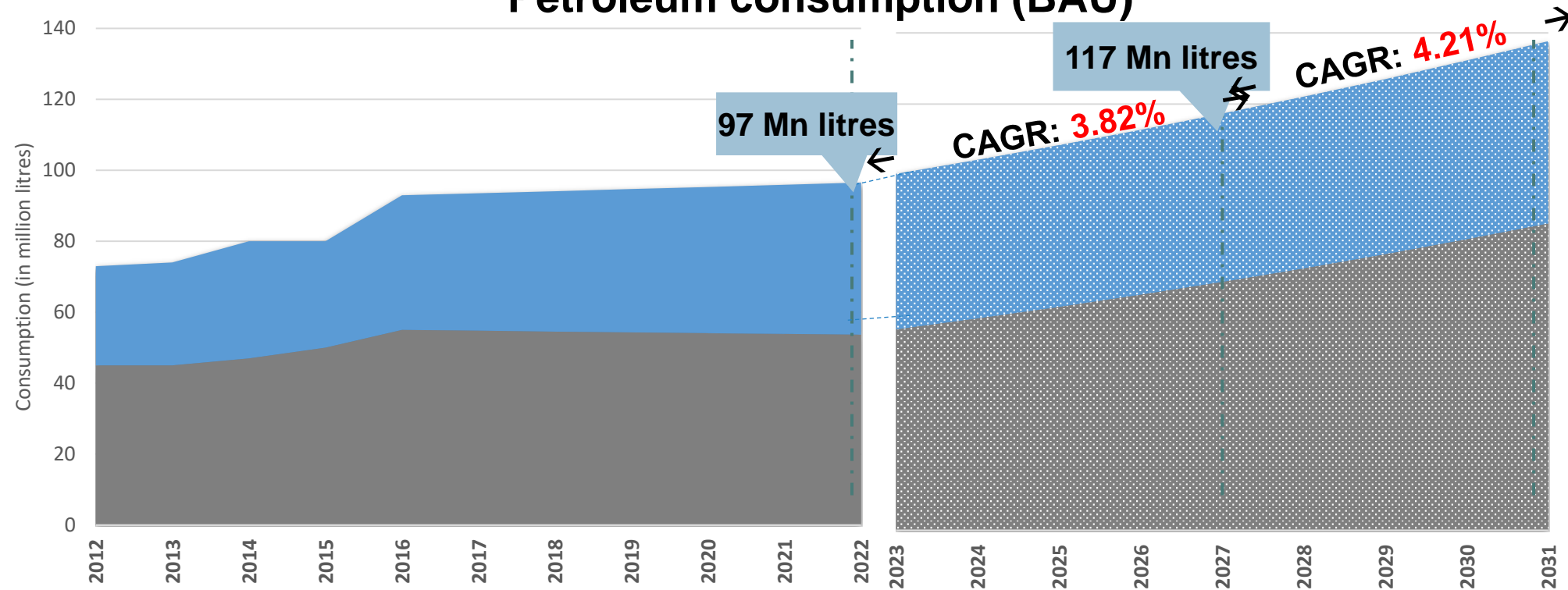


Peak Power (with & without EVs)

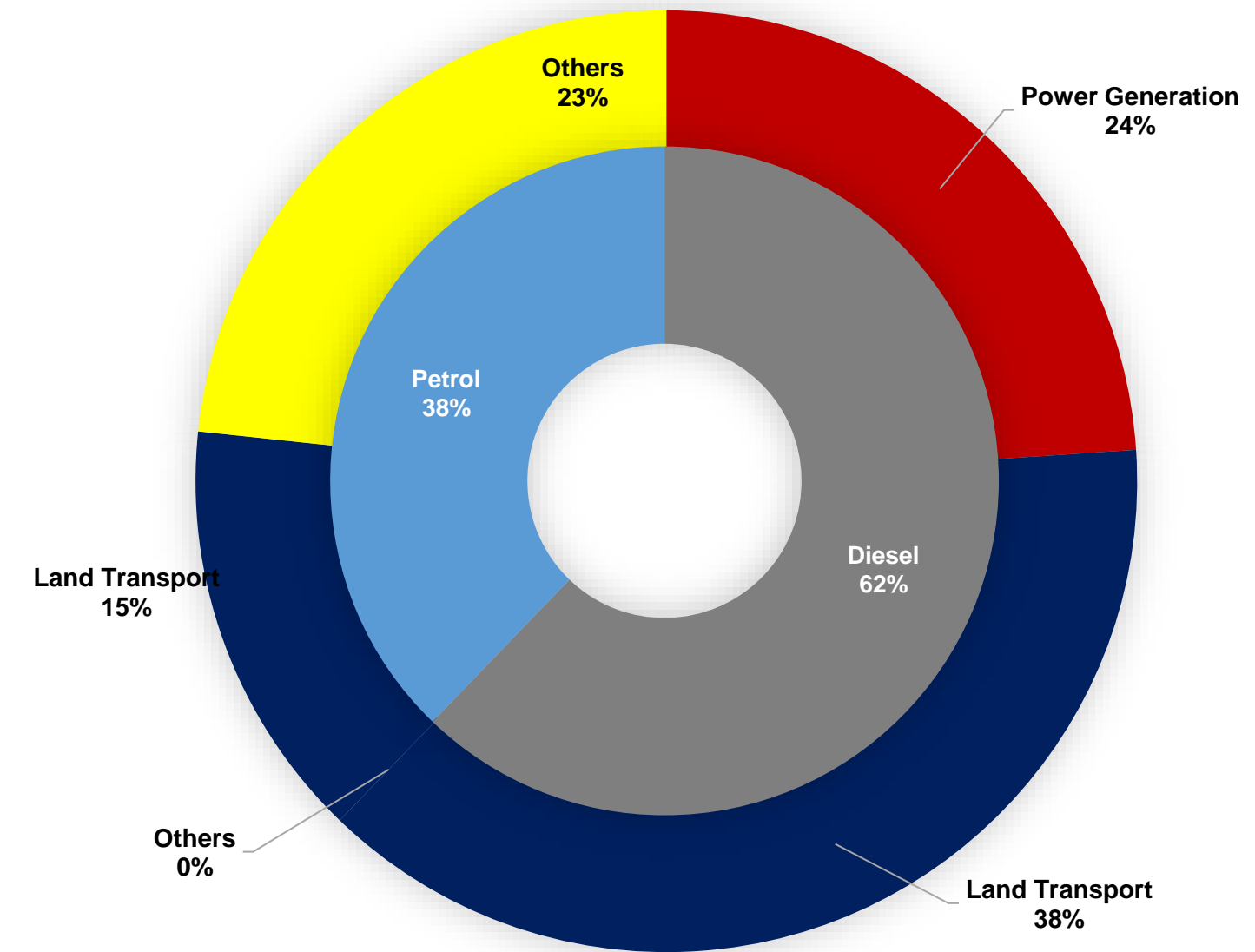


Petroleum Sub-sector Trends

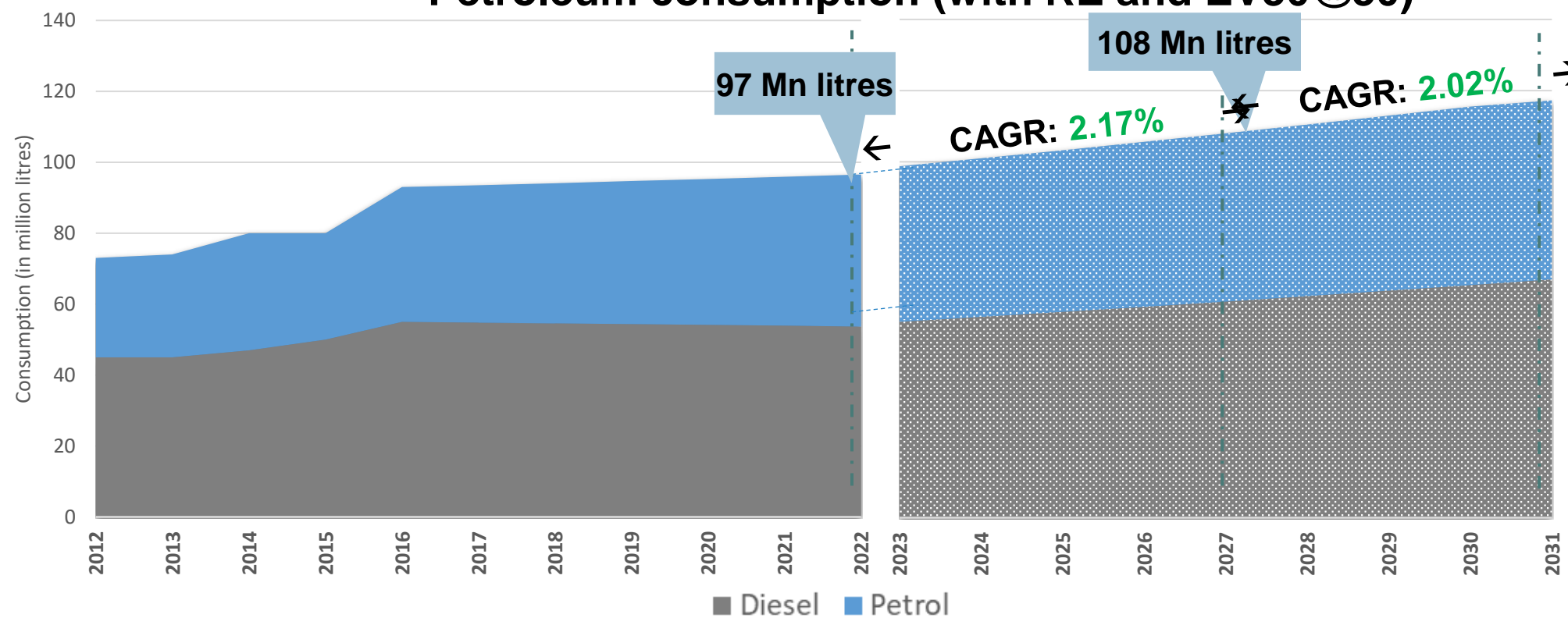
Petroleum consumption (BAU)



Petroleum Consumption - By sector (2022)

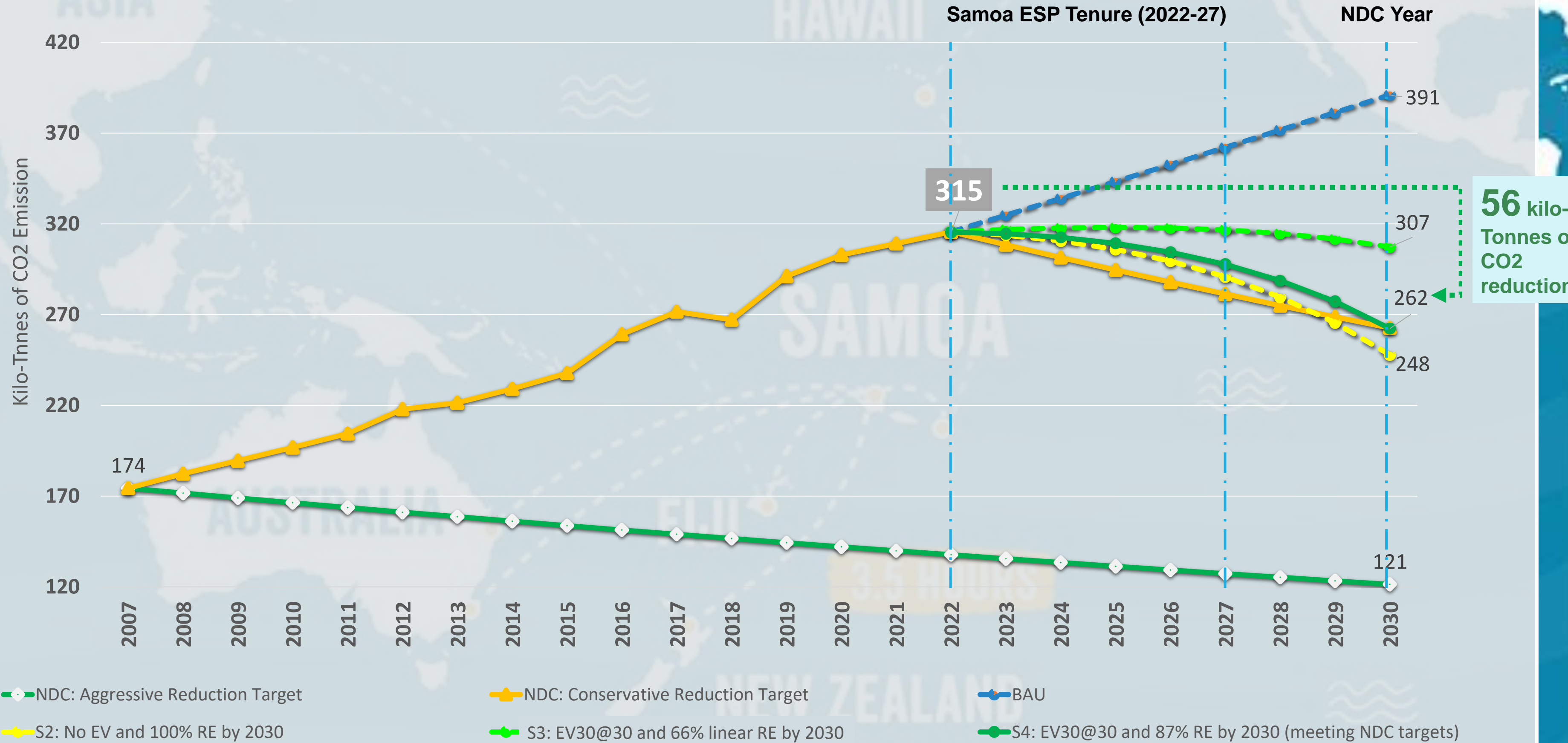


Petroleum consumption (with RE and EV30@30)



■ Diesel ■ Petrol

NDC Projection (Energy Sector)



Targets Setting



S1: Electricity

- Meet Electricity Load Growth rate of **4%**. Add Generation capacity of **32 MW**.
- Increase reliability of power for all (**urban and rural**)
- Make generation efficient



S2: Renewable Energy

- **65%** RE (by production) and **87%** RE by 2030



S3: Transport-Energy

- **15%** EVs registration by 2027; and **30%** EVs registration by 2030;
- **250** Public chargers and **500** home/work chargers by 2027



S4: Petroleum

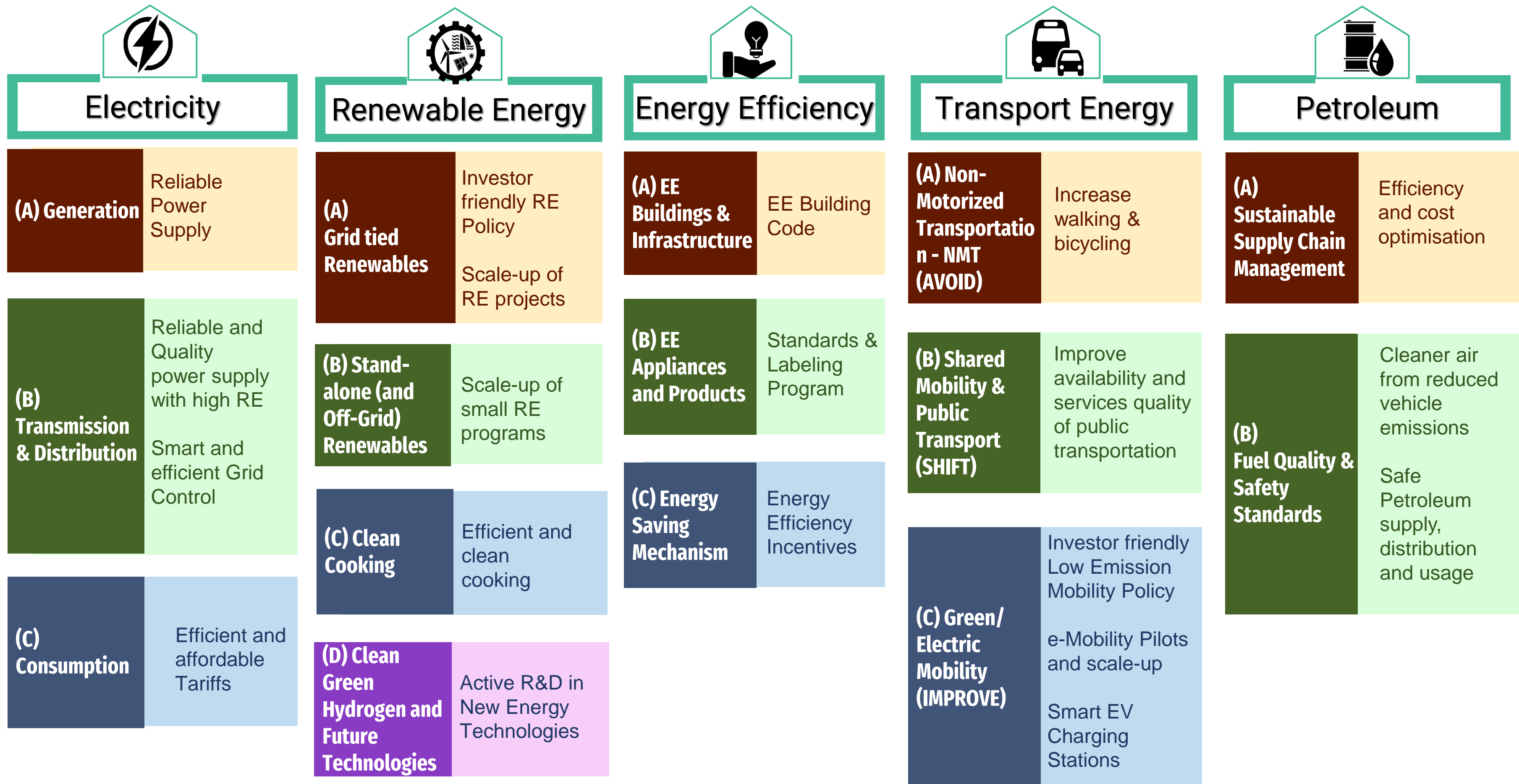
- **0.5%** YoY growth reduction in imports of petrol and diesel



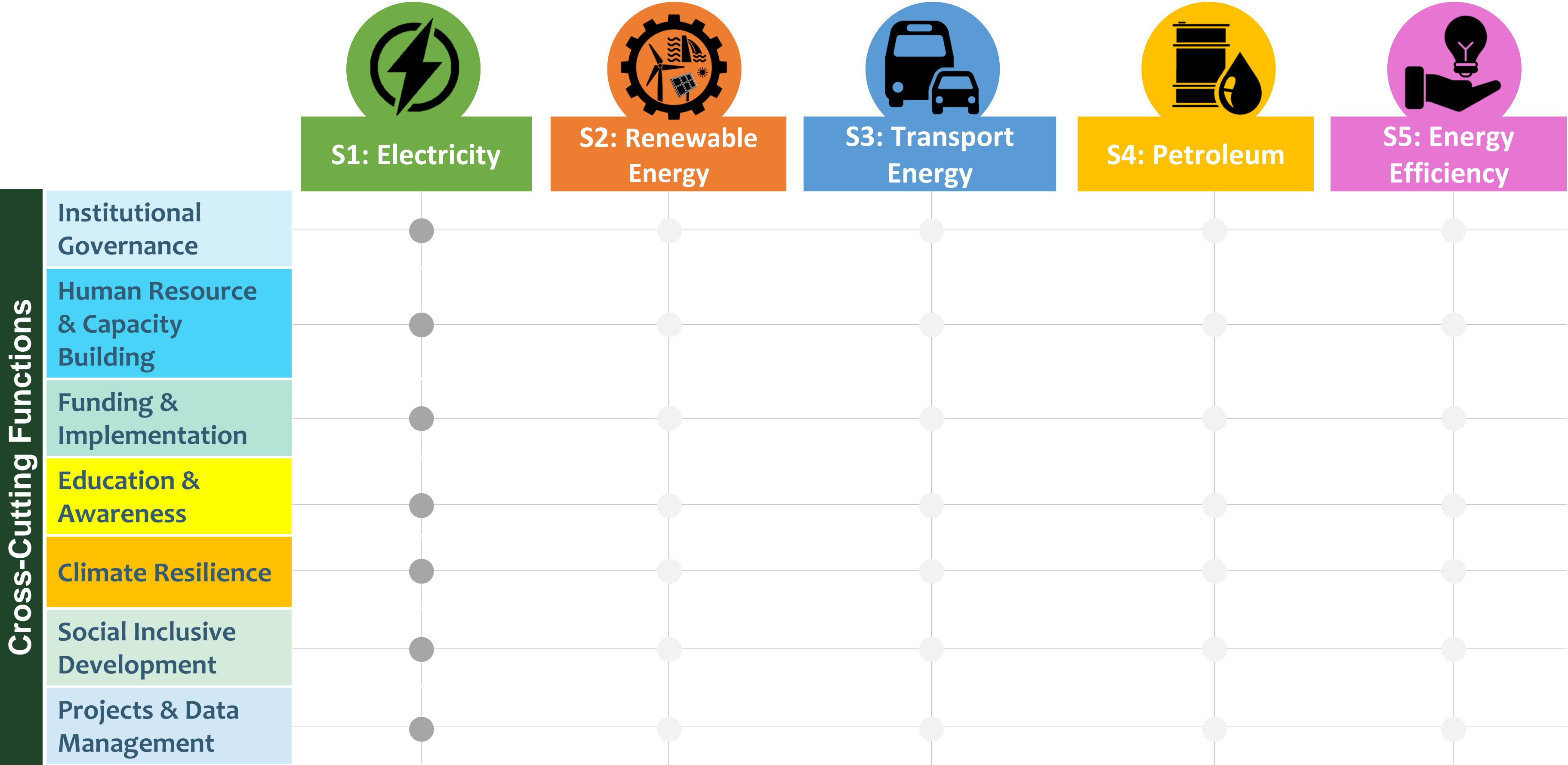
S5: Energy Efficiency

- **5%** Energy efficiency on consumption side (through EE Appliances, Buildings and Infra)

Sectoral Projects Identification



Cross-cutting Enablers



THANK YOU!

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