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Intelligence

De-risking Fuel Supply

32nd PPA Annual Conference

21 September 2025

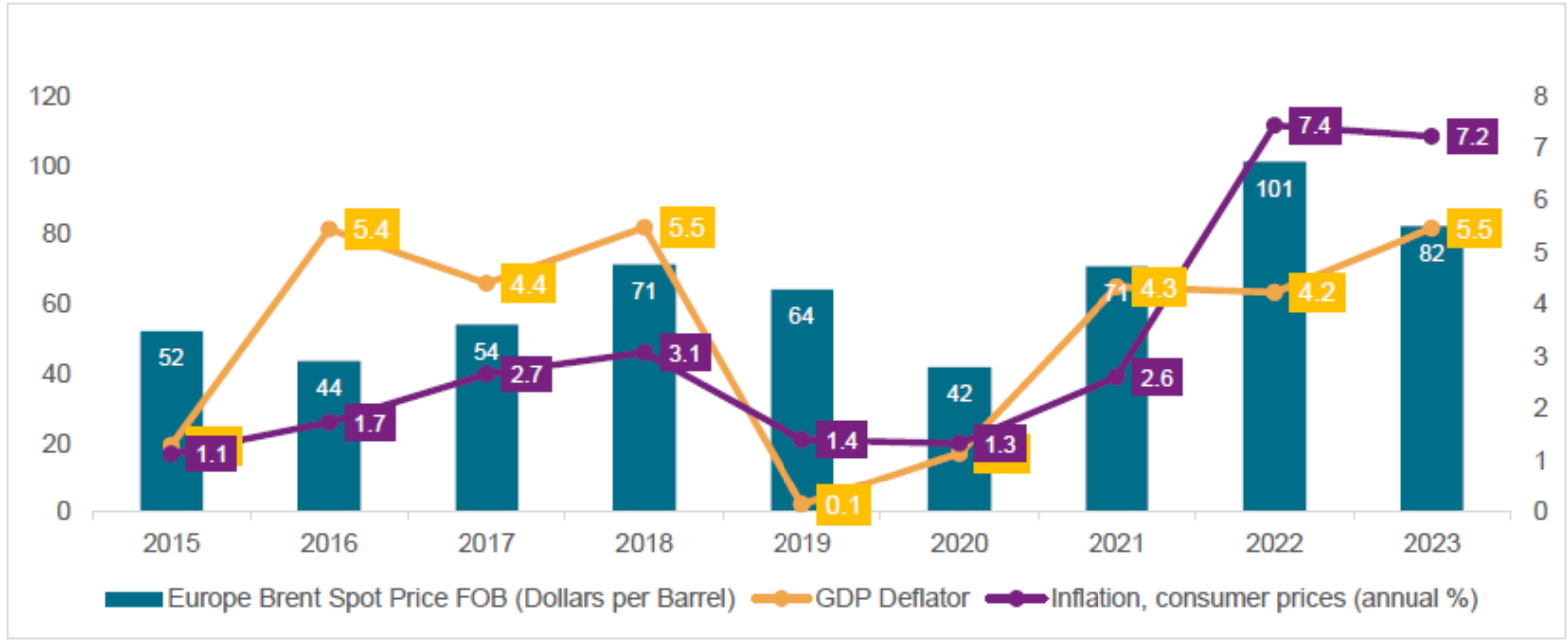
Consulting

by S&P Global

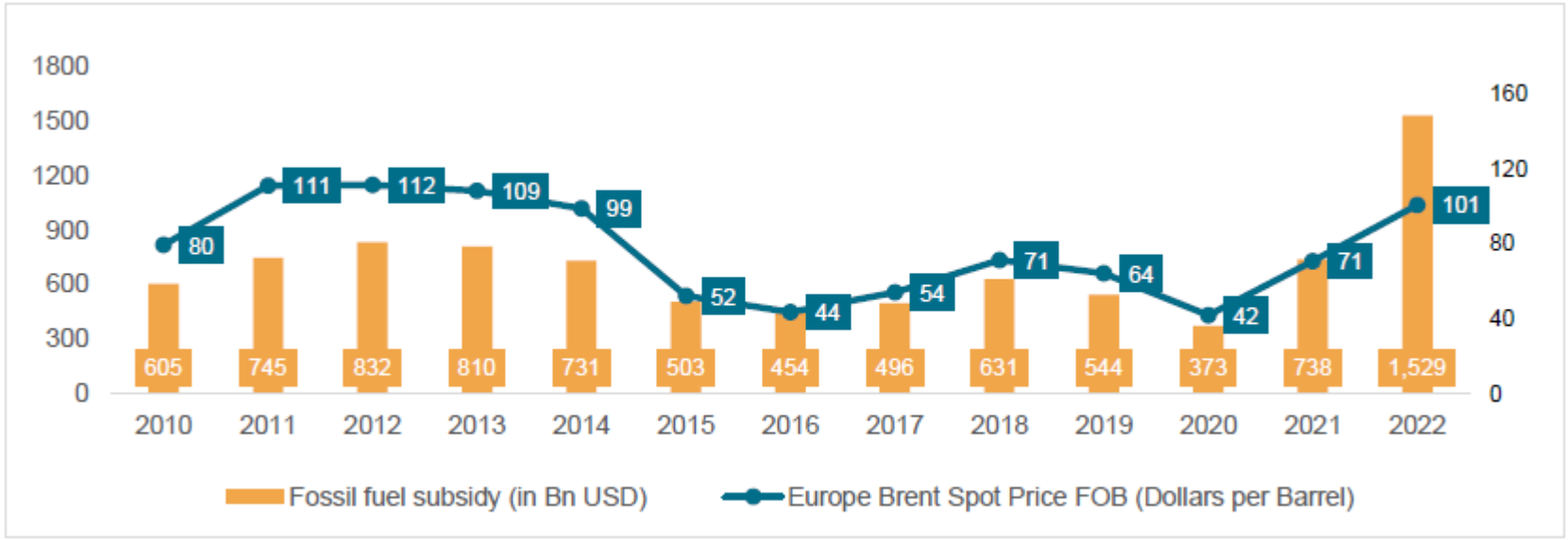
Fuel price volatility creates inflationary impacts and increases subsidy burden for PDMCs …

Inflation

Consumer and Economy-wide



Source: *Inflation* (World Bank), *GDP Deflator* (World bank), *Fuel Price* (U.S. EIA 2025)



Source: Fossil fuel subsidy (OECD, IISD 2025), Fuel Price (U.S. EIA 2025)

Subsidies

Direct and Fast policy response

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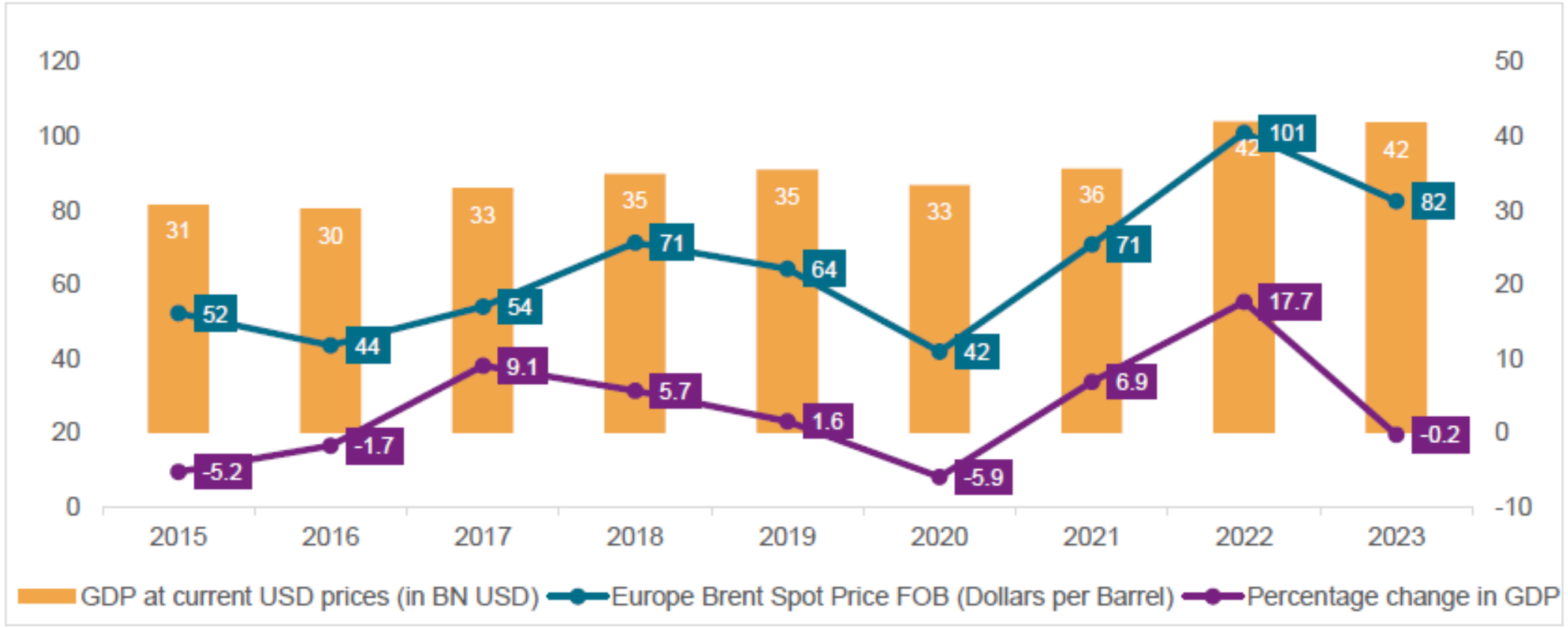
… slowing down GDP growth by impacting ability of public and private sector to undertake growth stimulating capex



The slow down effect is observed with a lag of 2-3 years

Source: GDP (World Bank) , *Fuel Price* (U.S. EIA 2025)

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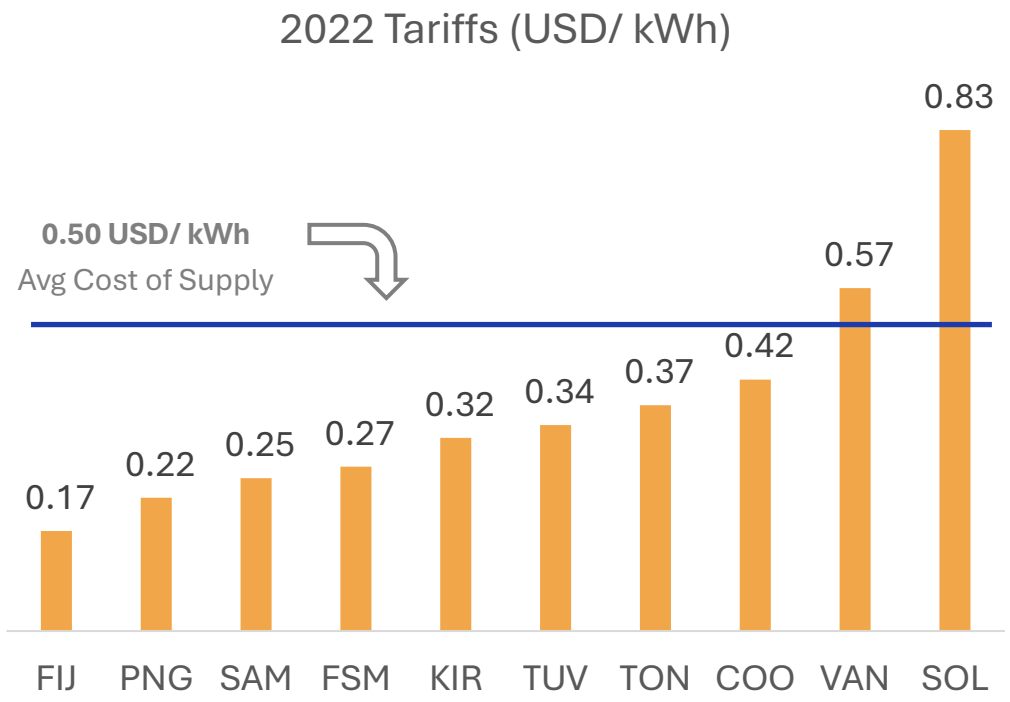
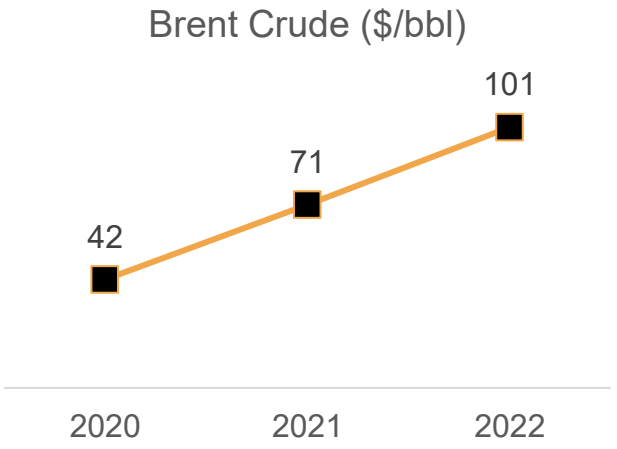
Non cost reflective tariffs have impacted Utility's profits, driven by fossil fuel prices



- *Fuel contributes to 60% of Utility's cost structure*
- *Automatic fuel cost adjustment mechanisms and regularity in tariff reviews are absent in most PDMCs*

Net Profit Margin %	2020	2021	2022
SAM	1%	-1%	-23%
TUV	22%	6%	-14%
PNG	1%	-8%	-29%



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Enabling frameworks to enhance clean energy investments

Best Practice		COO	FIJ	FSM	KIR	NAU	NIU	PAL	PNG	RMI	SAM	SOL	TON	TUV	VAN
Energy Policy	NEP in place	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	NEP aligned with NDC		■	■						■			■		■
	Transition to RE	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	RE tech specific targets														
Regulatory framework	Independent Regulator		■					■	■		■		■		■
Enablers: RE Integration	Grid Code to integrate RE		■			■					■			■	■
	Technical Standards for Mini-Grids, Solar PV systems	■	■		■			■	■	■	■	■	■	■	
Enablers: Private Sector Participation	Policy, Legislation for IPPs/ PPPs	■	■	■					■	■					
	Competitive Bidding Framework	■	■	■							■				
	Feed-in Tariffs for RE					■				■	■				

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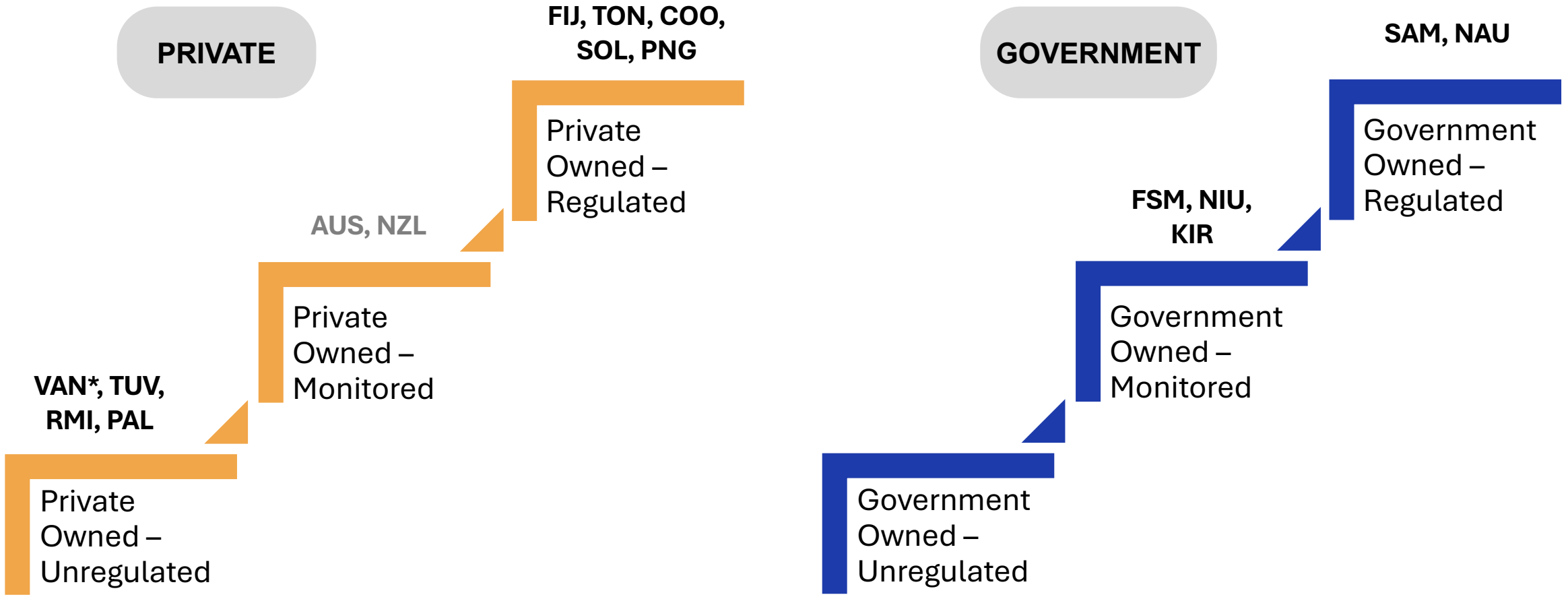
Transition towards Regulated Pricing under different Fuel Market structures



** VAN is transitioning to a regulated market*

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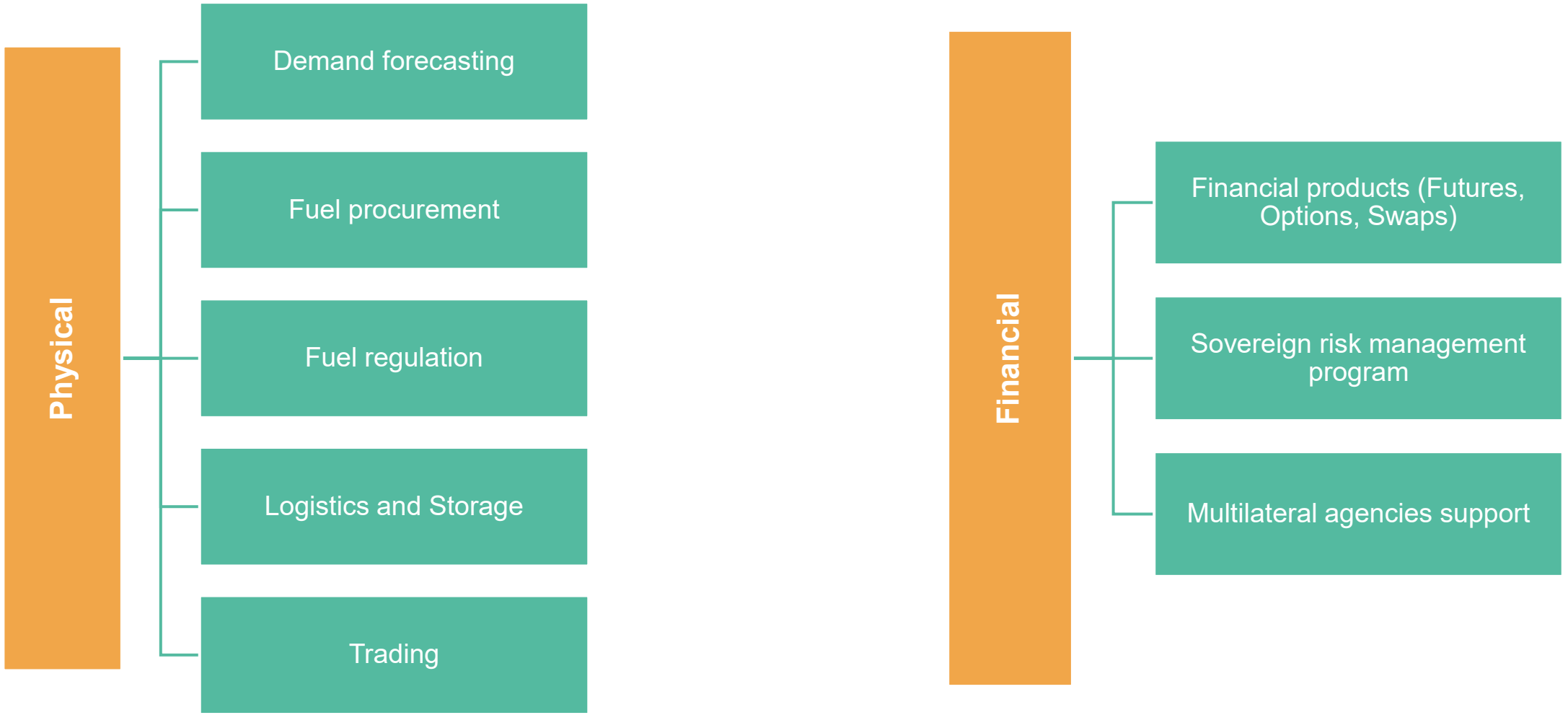
Measures to manage fuel price risk



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Physical measures

Demand forecasting

- ❑ Forecasting fuel demand with greater resolution and accuracy
- ❑ Incorporating energy transition, decarbonization impacts on demand from power, transport and industries sectors

Fuel procurement

- ❑ Clear and comprehensive pricing basis
- ❑ Clear and comprehensive supply expectations
- ❑ Transparent and fair process
- ❑ Supplier engagement

Fuel regulation

- ❑ Pricing
- ❑ Technical standards
- ❑ Operating standards
- ❑ Environmental standards
- ❑ Competitive behavior
- ❑ Compliance & Monitoring

Logistics & Storage

- ❑ Strategic fuel reserves
- ❑ Storage infrastructure
- ❑ Diversifying supply sources
- ❑ Flexible shipping destinations, Discharge ordering

Trading

- ❑ Trading system to manage portfolio shortages or excesses

Financial measures - Derivatives

Derivative

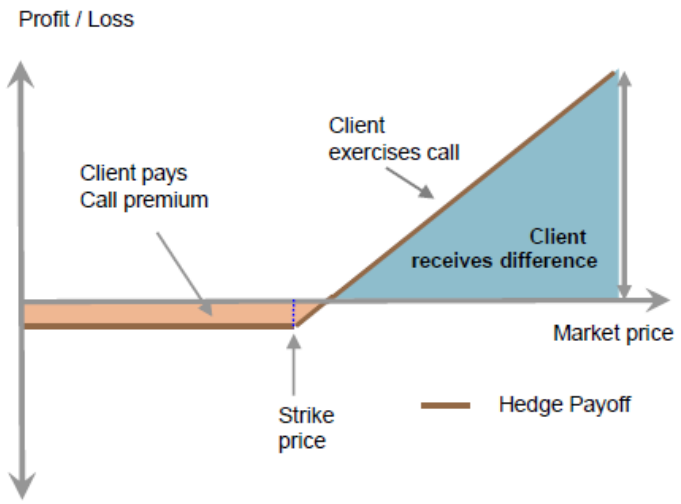
A financial instrument whose value depends on value of an underlying asset like Diesel. It requires little initial investment and is settled at a future date

Futures

- Exchange traded hence liquid
- Standardized and hence lack precision for hedging exact needs
- Limited products offered

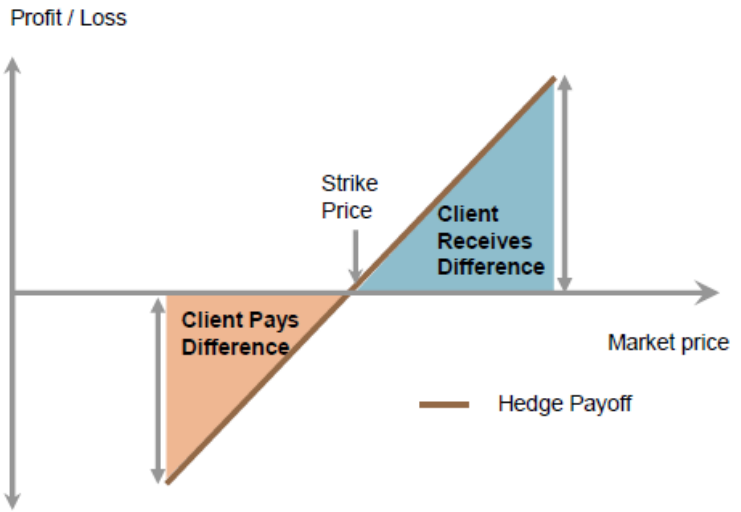
Options

- Useful in rising price scenario to retain upside potential
- Upfront premium makes it expensive
- Limited liquidity



Swaps

- OTC nature and flexible in terms of products offered
- Precise settlement mechanism
- Ability to track specific product benchmark (e.g., Gasoil 10ppm, Jet fuel, Fuel Oil).



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Working of a Swap

- A Pacific Island utility relies heavily on imported diesel. Using a fixed-for-floating swap, the utility locked in a diesel price of $90/barrel.

- With actual market prices rising to $105, the utility physically procured 10,000 barrels of diesel at $105 while the swap generated a compensating cash flow of $150,000 for 10,000 barrels, effectively neutralizing the price increase.

- If the actual market price fell to $75, the utility physically procured diesel at $75 and in addition paid $15 to the swap counterparty, thereby locking in the price at $90.

Why Swaps for Pacific SIDS?

- Given their OTC nature, Swaps are highly customizable for:
  - Small volumes and lot sizes
  - Product types
  - Delivery locations
  - Settlement durations

- As Swaps involve direct settlement, they are cost effective by avoiding intermediary charges such as exchange fees

- No premium payment involved hence Utility's liquidity position does not get impacted

Implementation barriers faced by State Owned Enterprises

- Timelines involved in getting authorization through multiple government stakeholders and entities
- Capacity gaps amongst implementing officials. This could be basic awareness as well as advanced skills like trading
- Institutional readiness and operational setup.
- Margin money to be deposited for carrying out any trade.
- Legal structuring (ISDA/CLS agreements)
- Weak political will, which is the most significant barrier – hedging typically involves upfront cost and if the hedge does not eventually payoff (just like any insurance product), there could be political backlash.

Considerations for implementing a sovereign risk management program

Hedging strategy & structure

- ❑ Identify the commodity which has maximum impact on sovereign budget
- ❑ Max amount willing to be spent by Government on hedging program
- ❑ Payment settlement frequency
- ❑ Identify the entity with the mandate and expertise to do risk management
- ❑ Creditworthiness of the entity
- ❑ Approvals required

Hedging type

- ❑ Mechanical / Rolling OR
- ❑ Market Driven / Opportunistic

Hedging type

- ❑ Defining the instrument to be used
- ❑ Timeframe to complete the transaction
- ❑ Target protection level/ hedging costs within a flexible band based on current market conditions

Role of multilateral agencies in supporting sovereign risk management program

- ❑ Advising sovereigns on hedge structuring and institutional alignment
- ❑ Intermediating the hedge with the market by leveraging existing derivatives documentation, strong credit ratings and execution expertise
- ❑ Providing credit support to the sovereign in the form or premium deferral or uncollateralized derivatives
- ❑ Benefits of associating with a Multilateral agency:
  - Bridging the gap between needs of member countries and the appetite/ offering of the international capital markets
  - Competitive pricing
  - Improvement in credit profile of member country and support with financing
  - Access to the multilateral's capital markets infrastructure and market relationships
  - Access to knowledge of banks and other counterparties related to commodity markets and experience with sovereign hedging programmes
  - Guidance from a trusted institution with whom the member country has a working relationship

ADB’s TA program to support PDMCs with fuel price hedging

Selection of 3 countries for Pilot implementation assistance

Group 1: Large volume (> 200 million liters)	Group 2: Medium volume (80-200 million liters)	Group 3: Small volume (< 80 million liters)
PNG	SAM	RMI
FIJ	VAN	KIR
SOL	**FSM**	NAU
	PAL	**COO**
	TON	TUV
		NIU
SOL has made good progress towards getting hedging ready	*FSM is a unique case of self regulated market; the extent of developmental impact of hedging is expected to be high*	*COO has experience of financial hedging (currency)*

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Progress so far

Solomon Islands

- ❑ Implementing Entity – Solomon Power (Utility)
- ❑ Groundwork for hedging has been started
- ❑ Currently exploring credit line from banks. Key challenges are –

1. Ability to provide margin money/ financial guarantee due to significant cost involved in blocking funds
2. Getting access to banking lines due to lack of credit rating

FSM

- ❑ Implementing Entity – FSM PetroCorp (VITAL) (Fuel Procuring SOE)
- ❑ VITAL, is the entity responsible for procuring fuel from international markets and delivering it to power utilities and retail market.
- ❑ Lack of transparency in fuel pricing and utility tariff setting is a major challenge facing the Government
- ❑ Government has established the Power Tariff and Fuel Surcharge Task Force under the DoRD to address these concerns

Cook Islands

- ❑ Implementing Entity – Te Aponga Uira (Utility)
- ❑ The country has experience in currency hedging for diesel procurement
- ❑ Key stakeholders include Ministry of Finance and Cook Islands Investment Corporation (shareholding entity for TAU)

TOR - Country Readiness for Fuel Price Hedging

The objective is to provide inputs to ensure a country's readiness to implement fuel price hedging. This covers analytical input, stakeholder consultations, institutional capacity building, formulating recommendations and implementation strategy.

Fuel Price Volatility

- ❑ Understand Fuel Price buildup and assess contribution of Volatile component
- ❑ Understand contractual fuel pricing methodology
- ❑ Understand fuel procurement practices
- ❑ Assess product mix and contribution to final pricing

- ❑ Understand price volatility over a 2-3 year period and compare to international benchmarks, to evaluate effectiveness of physical risk mitigation
- ❑ Empirically evaluate impact of a $1/gallon change in fuel price in the international market on the $/gallon final fuel price paid by Utility
- ❑ In case of IPP procurement, examine fuel cost pass through clauses of the PPA

Public Finance consider ations

- ❑ Assess fiscal space available to absorb fossil fuel price volatility:
  - Revenue, Expenditure items susceptible to external shocks (e.g. commodity prices, tourism revenues)
  - Fossil fuel subsidies
  - Preferred fuel price range for the Government

- ❑ Evaluate likely impact of fossil fuel price hedging on reducing subsidy burden.
- ❑ Evaluate likely impact of fossil fuel price hedging on reducing end user electricity tariffs.

TOR - Country Readiness for Fuel Price Hedging

Stakeholder Consultations

- ❑ Ministry of Finance
- ❑ Central Bank
- ❑ Ministry of Energy
- ❑ Energy Regulator

Institutional capacity building

- ❑ Staff training needs assessment
- ❑ External resources needs
- ❑ Knowledge products, Software, Hardware
- ❑ Technical support to design, coordinate and manage study trips for select senior management staff

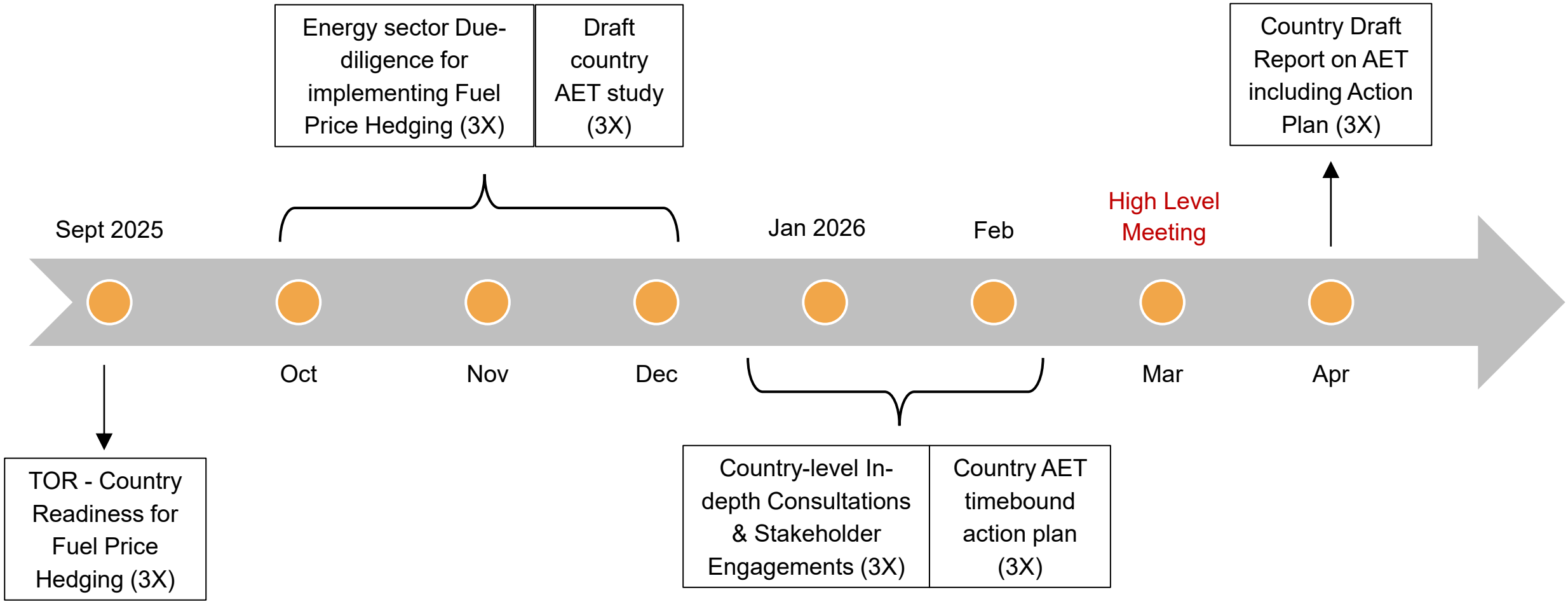
Recommend-ations

- ❑ Legal, Regulatory reforms required to operationalize fuel price hedging
- ❑ Risk management strategy
- ❑ Monitoring and reporting
- ❑ Responsibility matrix, timelines, effort estimate/ budget, and action plan to implement recommendations

Workshop

- ❑ A workshop with Government stakeholders to present key findings and recommendations of the exercise

High level Workplan



Questions for Participants

All Countries

1. How has fossil fuel price volatility impacted the utility and the country?
2. How do you think hedging can benefit you?
3. What preparatory steps would you consider to create a conducive environment for hedging?
4. Which key stakeholders need to be onboarded?

Pilot Countries (3X)

1. Which stakeholders were involved in getting the buy-in to implement hedging?
2. What has been the progress achieved till date?
3. What are some of the key challenges faced?

EFL, Fiji

1. Which derivative instruments did EFL use and what was the rationale for their selection?
2. How did hedging benefit EFL financially?
3. How did EFL meet the financial requirements for hedging (guarantees, margin money, etc.)?
4. What governance mechanisms were used to ensure compliance and adherence to hedging policies?

Thank You

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Connect with us

Rohan Jadhav

Director, Energy & Commodities

Mob: +91-9594914130; Email – rohan.jadhav@crisil.com

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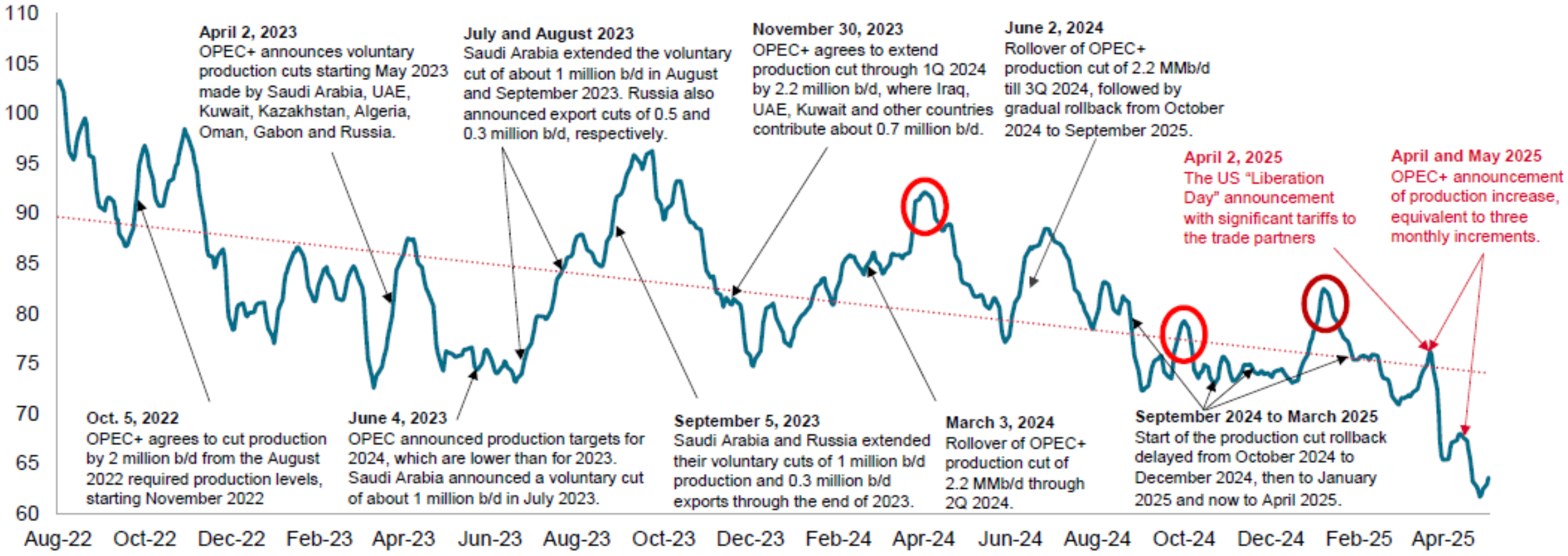
High volatility in Brent crude prices due to geopolitical events and OPEC+ decisions



Considering high unpredictability of global oil prices, risk management strategy is essential for PDMCs

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High fossil fuel dependence creates fiscal challenges on several fronts

Foss. Fuels — % of GDP

13% PAL	13% TUV	12% NIU	10% TON	8% SAM

Source: Pacific Infrastructure performance indicators

Debt — % of GDP

86% FIJ	72% PAL	51% PNG	44% VAN	43% TON

Source: IMF (3-year average from 2021-2023 of General Government Debt)

Fiscal Deficit — % of GDP

32% NAU	11% PAL	9% TUV	8% FIJ	8% PNG

Source: ADB policy paper (2020, Central Government Deficit)

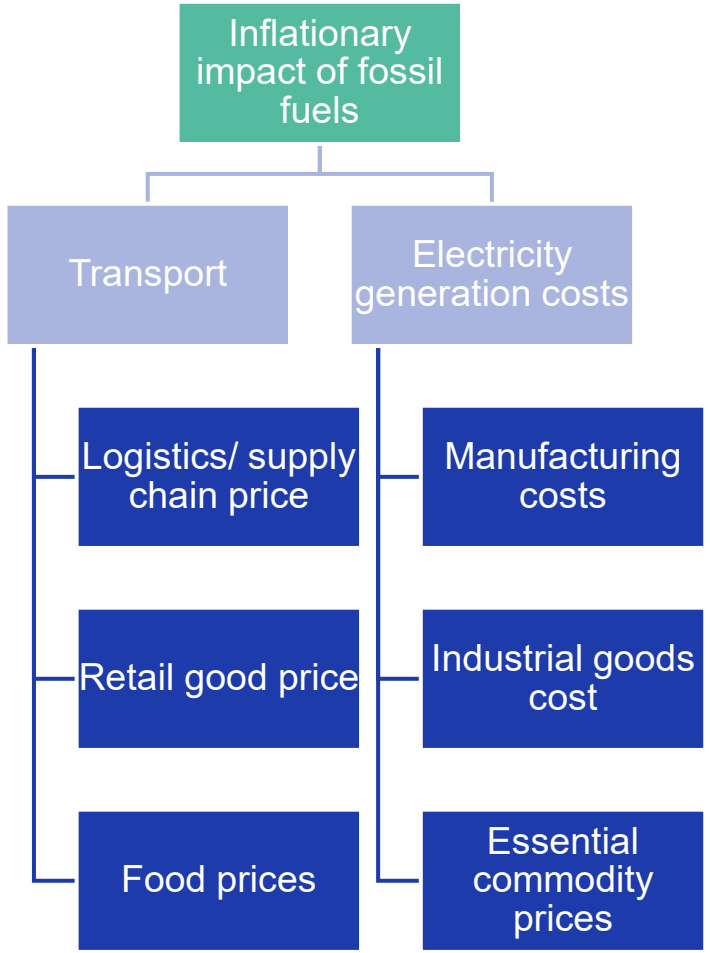
Inflation

6% TUV	6% VAN	5% PAL	4% SAM	4% TON

Source: ADB's ADO (5-year average of 2019-2023)

Subs-idies — % of GDP

> 2% of GDP spent by PDMCs



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PDMC economies are susceptible to external shocks

Tourism

FIJ
COO
PAL

Natural Resources

PNG
SOL
NAU

Agri, Fishing

FSM
KIR
VAN
TON
SAM
RMI
NIU
TUV

Tourist footfall affected by global events (e.g. COVID-19)	*Price of natural resources linked to global commodity markets*
High energy consumption in hotel and airline industries	*High diesel consumption in heavy machinery*

Seasonality in output due to Climate shocks
High cost of climate adaptation

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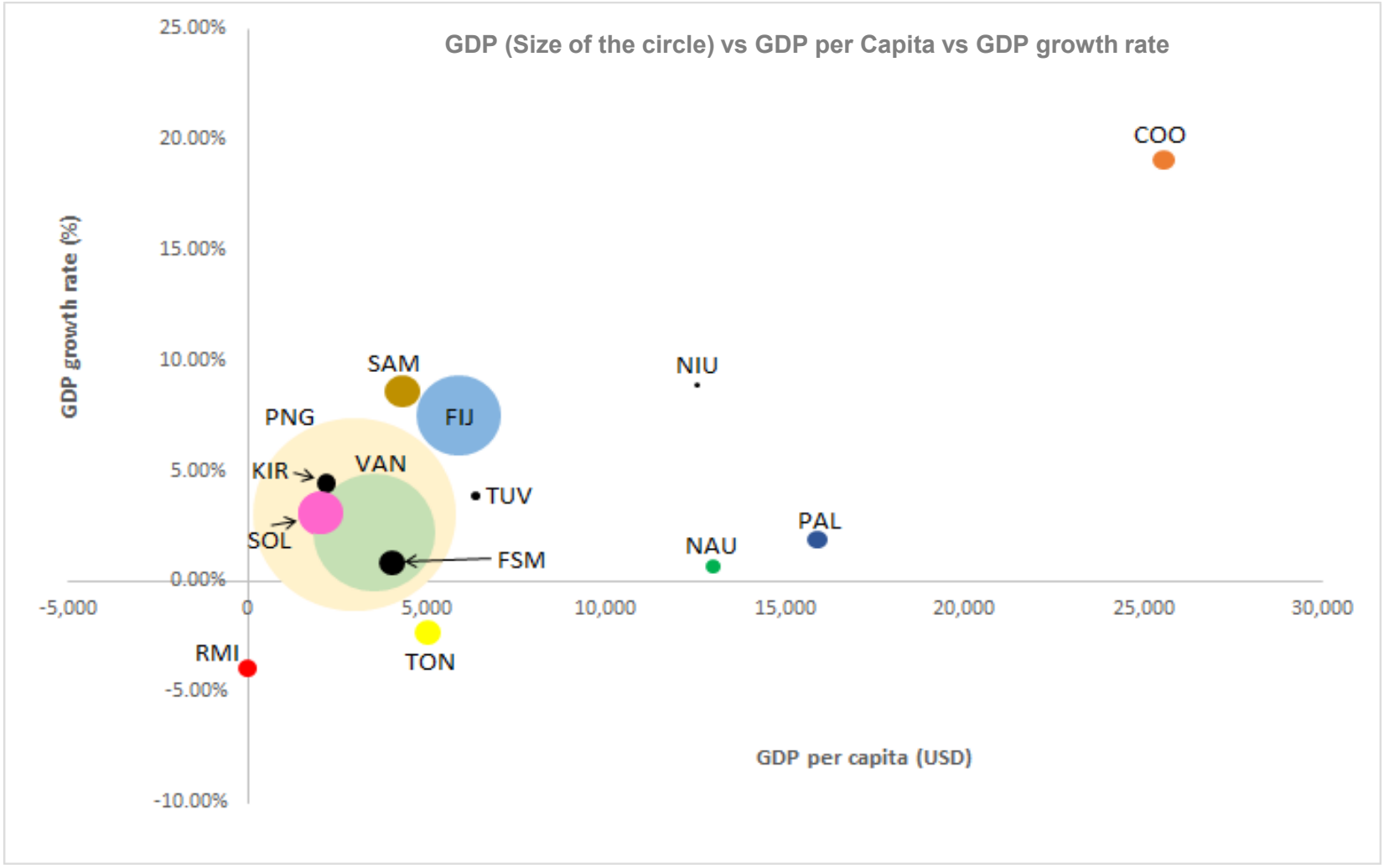
Weak economic performance reduces capacity to withstand external shocks



Economic performance & resilience

COO	SAM	FIJ

PNG	SOL	VAN

FSM	KIR	NAU
NIU	TON	PAL
RMI		TUV

Source: GDP (World Bank Open Data 2023), COO (UNCTAD 2025); GDP Growth rate (World Bank Open Data 2023); GDP per capita (World Bank Open Data 2023)

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Lack of diversification of energy sources, access to modern forms of energy and consumption inefficiency are key challenges

Primary Energy Supply

- ❑ 63% share of Diesel, HFO for PDMCs

Electricity Generation

% Fossil Fuel sources

100% NIU	98% RMI	96% FSM	94% PAL	92% NAU

Source: IRENA reports (2021)

Electricity Access

- ❑ Electricity access mostly in urban /semi urban centers connected through national/ local grids
- ❑ Remote islands often lacks grid connectivity due to high infrastructure costs – there is high reliance on diesel generators or traditional, fossil fuel-based energy sources in these areas
- ❑ PNG, the most populous country, has the lowest electricity access (21%), highlighting a significant development challenge due to geographic spread and low population density

Energy Intensity

MJ per USD of GDP

13.3 PAL	10.3 RMI	6.9 KIR	6.9 NAU	6.5 FSM	*5.0* *World*	*4.0* *Pacific SIDS*

Source: IRENA reports (2021)

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TA objectives

In response to demand from Pacific Ministers, ADB has approved a USD 1 million TA facility to support implementation of market based de-risking solutions. The TA objective is to ensure **fuel price hedging readiness** through:

1. Regional and country-level data gathering and analyses
2. Policy dialogue
3. Facilitating regional senior officials' platform to promote continued dialogue and strong country ownership of the AET
4. Strengthening DMCs' capacity to implement mitigation measures though knowledge inputs and experience sharing

Phase 1
AET regional study and capacity development

Phase 2
Country level AET plan developed for 3 Pacific DMCs

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Phase 1
AET regional study and capacity development

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Country level AET plan developed for 3 Pacific DMCs

No.	Activities	Deliverables
A	Review energy sector policies, institutions, regulatory framework, capital investment program and financing plan, and donors' activities	• Pacific DMCs energy transition assessment report and recommendations for AET • AET regional study presentation and discussions • Final Draft AET regional study for Pacific DMCs (A, B, C, D, E)
B	Assess Pacific DMCs energy transition targets, or equivalent policies, investment programs, financing plans and implementation risks	
C	Conduct at least **5 regional capacity building workshops** for Pacific DMCs presenting preliminary findings and recommendations on AET opportunities, challenges, risks and recommendations	
D	Conduct at least **3 high level regional meetings** with participation of Pacific DMCs senior government officials	
E	Assess regional energy transition commitments and develop recommendations for AET in the Pacific region including opportunities, risks mitigation measures/market solutions, priority investments and reforms.	

Phase 1
AET regional study and capacity development

Phase 2
Country level AET plan developed for 3 Pacific DMCs

No.	Activities	Deliverables
A	Complete energy sector due diligence, including but not limited to sector governance, regulation, investment planning, risks to national energy transition plans and mitigation measures/solutions, including but not limited to hedging fuel price volatility risks.	• Draft country AET study for 3 Pacific DMCs • Country AET timebound action plan for 3 Pacific DMCs • Final Draft Report (A, B, C)
B	AET timebound action plan: - Conduct **three country-level in-depth consultations** and engage stakeholders in designing country AET timebound action plan. - Conduct capacity building workshops on selected subjects for AET design and implementation. - Conduct AET risk assessments and propose mitigation measures/market solutions including but not limited to fuel price volatility and hedging options.	
C	Complete country draft reports on AET for **3 Pacific DMCs**, including timebound action plans.	