

# Papua LNG

## 17<sup>th</sup> PNG Resources & Energy Investment Conference

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# The Energy Transition's Three Challenges

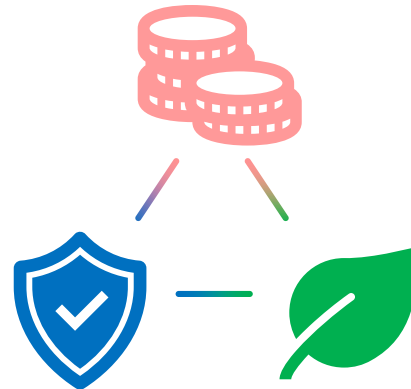


## Affordable Energy

Ensuring that the world's growing population has access to the **affordable energy** necessary for human development

## Energy Security

Ensuring **energy security** in every country (risk of unavailability and soaring prices)



## Decarbonising Energy

**Decarbonising energy** to limit the effects in terms of Greenhouse Gases (~2/3 of which come from energy)

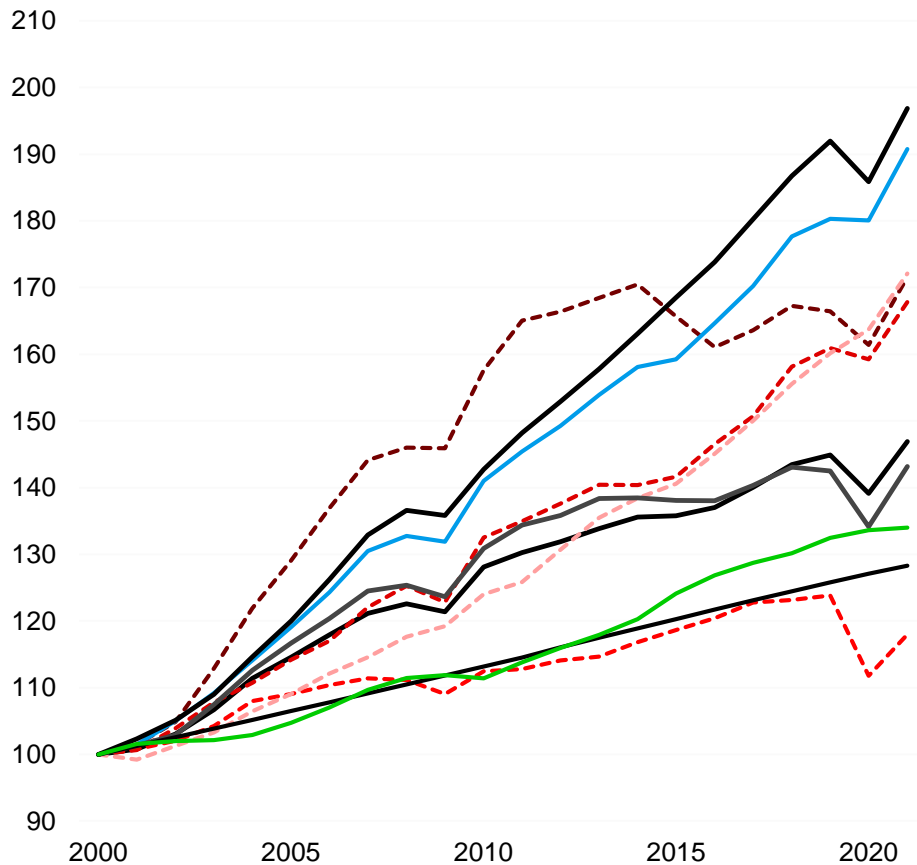
# The Energy Transition has started

Primary energy demand and emissions\* are growing less rapidly than GDP



## Evolution of a selection of indicators

2000=100



### Compound Annual Growth Rate (CAGR) 2000/2021

GDP	3,3%
Electricity demand	
Renewable energy supply	2,6%
Coal demand	2,6%
Natural gas demand	2,5%
Total primary energy demand	1,8%
CO <sub>2</sub> emissions *	1,7%
Energy efficiency	1,4%
Population	1,2%
Oil demand	0,8%

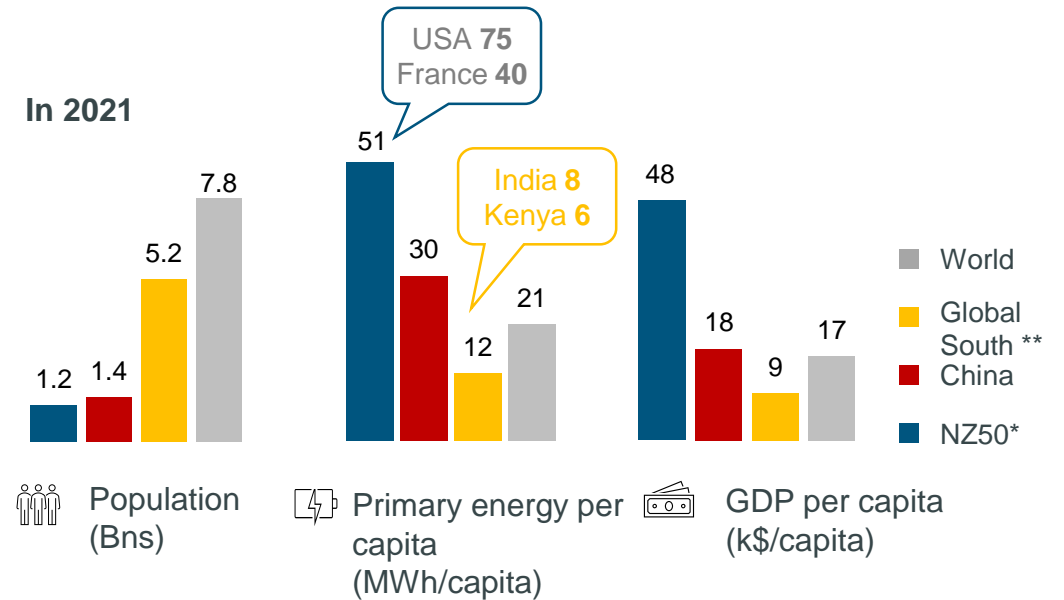
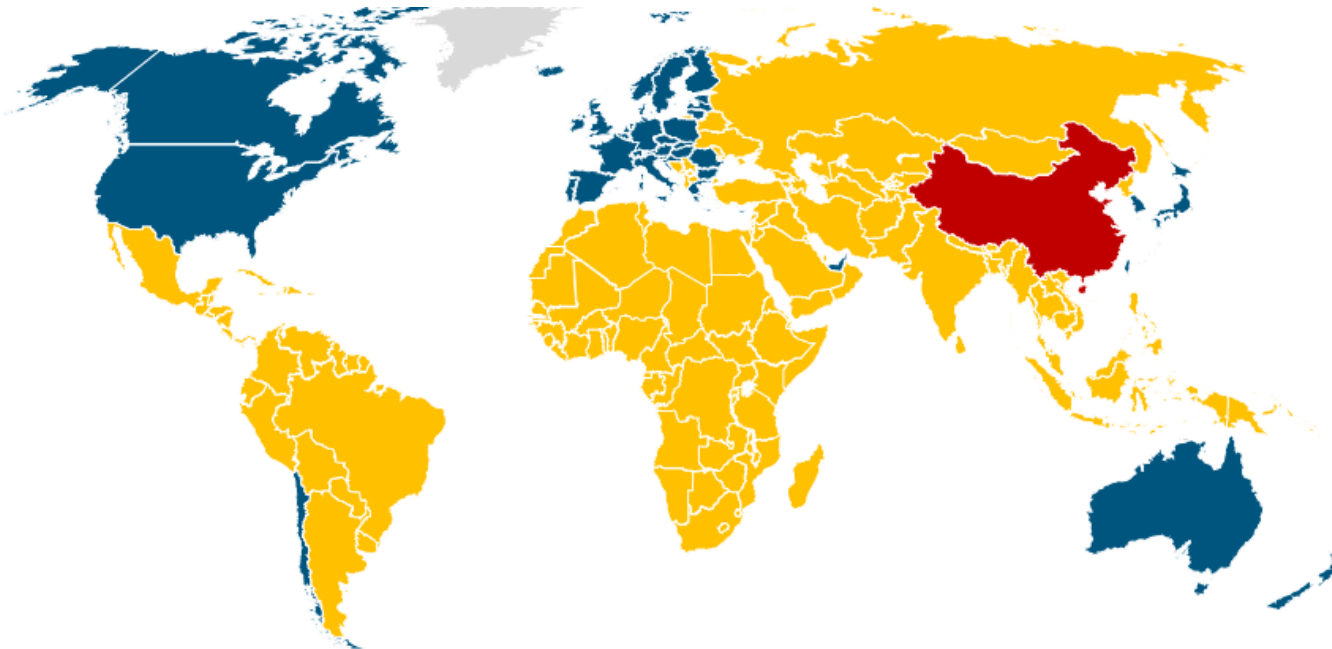
Over the last 20 years, better energy usage has led to decoupling energy demand growth from GDP growth

This decoupling has been visible since 2000 for oil demand which has grown at the same pace as population until 2019, and since 2015 for coal (which, however, has grown at the same rate as renewables over 2000-2021)

Over the past five years, the increase in renewable energy production has met 40% of the growth in primary energy demand

# The Energy Transition will differ across countries

Analysis in three blocks : NZ – Global South - China



- The energy transition does not have the same meaning for NZ50\* countries' inhabitants and those in Global South\*\* who have access to less than 10 MWh/year on average (~4 billion out of 5.2 billion)
- It must meet the Global South's\*\* legitimate aspiration to higher living standards: poverty alleviation, access to health and education, which means first and foremost access to energy

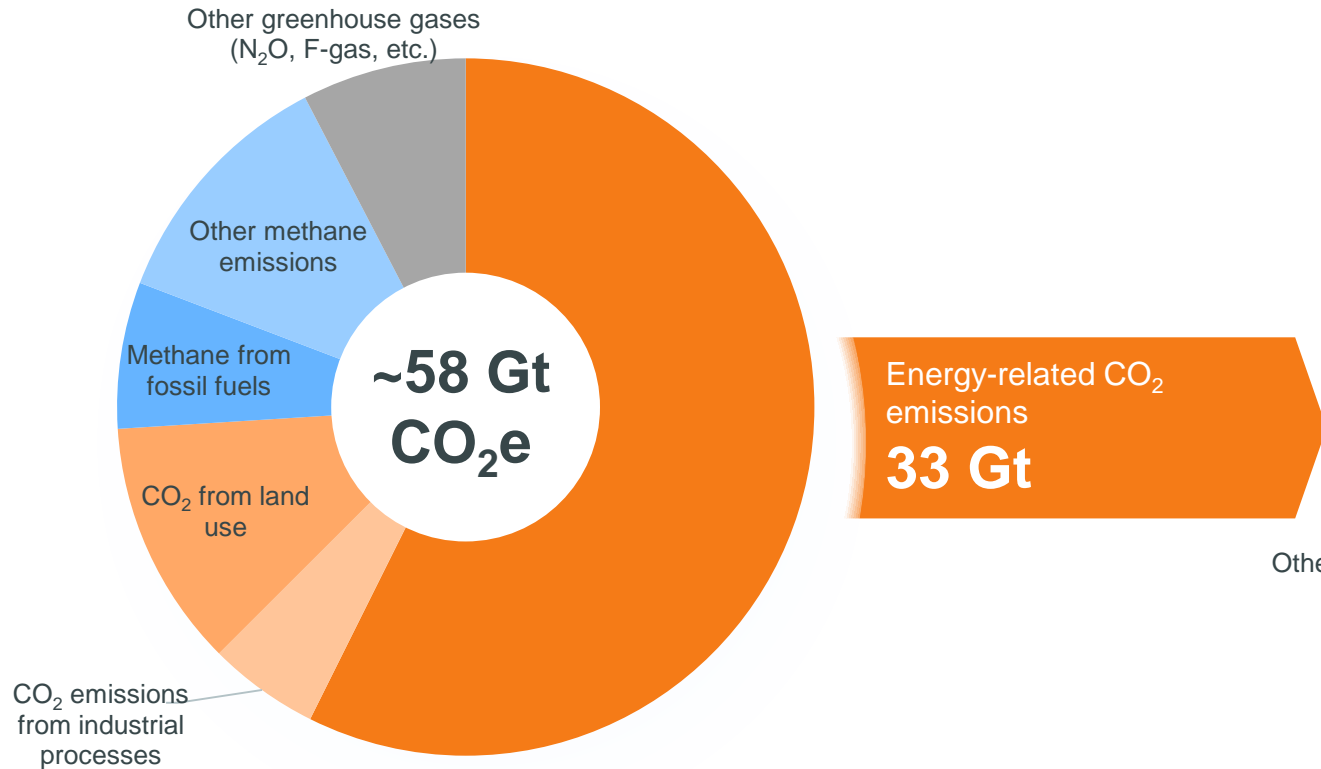
\* The 40 countries, mainly OECD countries, that have committed to net carbon neutrality by 2050

\*\* « Global South » here does not include China, since its energy demand's evolution is now closer to NZ50 countries

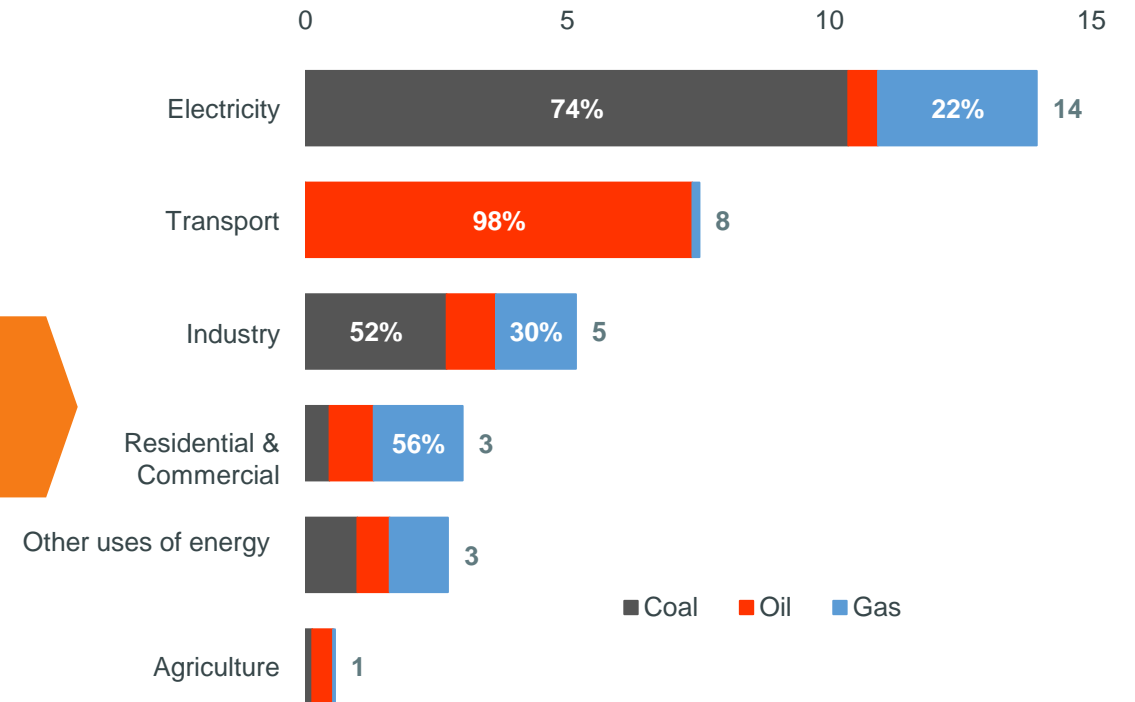
# High impact actions to curb emissions



**Global anthropogenic GHG emissions 2021**  
GtCO<sub>2</sub>e



**Global CO<sub>2</sub> emissions from fossil fuel combustion 2021**  
GtCO<sub>2</sub>



**Eliminate coal from the electricity system (~10 Gt CO<sub>2</sub>)**


**Eliminate methane emissions from fossil fuels production (~4 Gt CO<sub>2</sub>e)**

**Decarbonize transport, in particular the road sector (~80% of emissions, ~6 Gt CO<sub>2</sub>)**

# TotalEnergies – Two pillars: Oil & Gas + Integrated Power



**Oil & Gas**



- Low cost, low emission
- Rich upstream projects portfolio
- Top 3 global LNG integrated portfolio
- Strong LNG project pipeline

2023 key indicators

<b>1.4</b> Mb/d Oil production	<b>&gt; 40</b> Mt LNG sales	<b>~10%</b> Global market share
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**Integrated Power**



- Driving value from integration
- Positive net cash flow by 2028

<b>&gt; 30</b> TWh Electricity generation	<b>100</b> TWh By 2030
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# Papua LNG Project

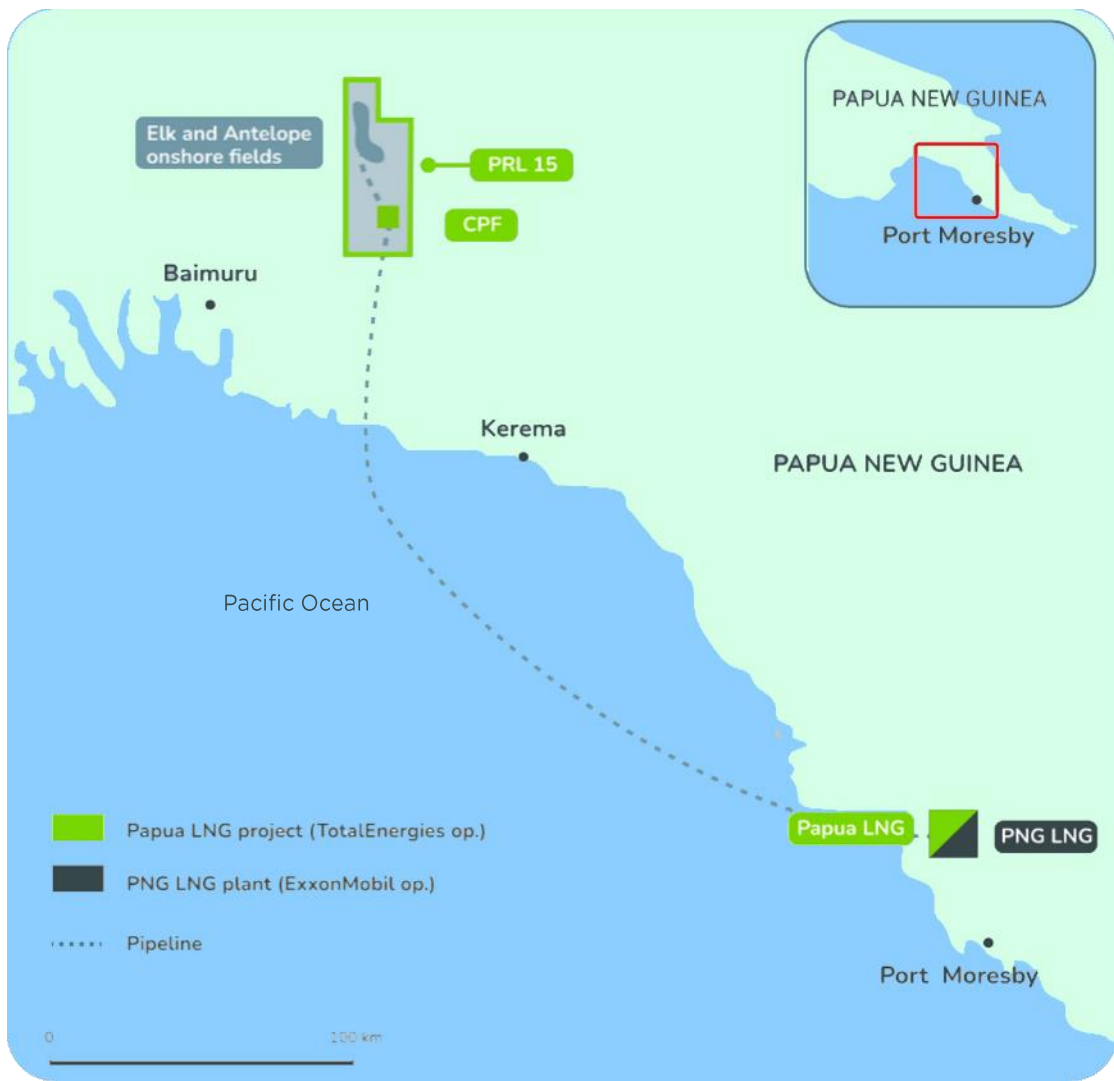
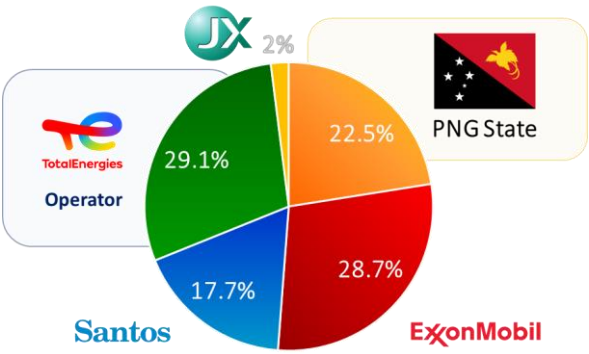


A unique adventure in the land of the unexpected

**A key location**  
To supply Asian growing LNG demand

**A strong partnership**

PAPUA LNG joint venture after final investment decision



**LNG Production ~5.6 Mtpa**

**10+ billions US\$ CAPEX**

**Upstream :**  
Antelope & Elk carbonate fields also used for CO2 re-injection

**Downstream**  
in synergy with PNG LNG (ExxonMobil operated)  
**new e-trains → 4 Mtpa capacity + 2 Mtpa in the existing PNG LNG**

**Key Milestones**

Integrated FEED	2023
FID	2024
First Gas	2028

# Papua LNG : Flagship for Papua New Guineans, for sustainability



## Growing Papua New Guinea economy



- ~36 billions Kina investment
- ~1.4 billions Kina/y revenues in average for the first 10 years of production
- Up to 6000 local jobs at peak of construction
- Sponsor of WAN PNG, national recruitment platform
- Positive business activity for local companies and local employment

## Sharing Benefits



- Led by the PNG State
- Shared Benefits to State, Province, District, Landowners
- Long term fund for future generation

## Emissions and Environment



- Native CO<sub>2</sub> reinjection into reservoir from day 1
- Reducing the initial footprint by 30%, synergies with existing Liquefaction Plant to reduce footprint
- New electric LNG trains: E-trains fed by a solar farm (~70MW) and an efficient CCGT
- Reforestation program, 1000ha within 10y
- Monitoring all species, nurseries for rare species
- Mangrove Nursery and Awareness Center project
- Conservation Areas, in partnership with Communities and Forest Authorities

## Contributing to local welfare



- Constant dialogue:
  - Deployment of Communities and Villages Liaison Officers
  - Transparency and information
- Training and Scholarships :POMTECH, UNITECH, DON BOSCO
- Socio economic projects:
  - Support to Kapuna Rural Hospital and medevac for injured people;
  - Aids posts, water tanks.
  - Adult Literacy Program





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PAPUALNG

**TANKIU TRU  
NAMO**

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