

# STRATEGIC & BUSINESS PLAN

2016 - 2035



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## MESSAGE FROM THE PRESIDENT & CEO

After months of reflections, discussions and planning, we are excited to present TIMOR GAP's Strategic & Business Plan. This is the product of hard work following an inclusive process where all TIMOR GAP staff had the opportunity to contribute and influence the direction for our company, through surveys, workshops and consultations.

We reflected on three key questions that guided our plan to effectively fulfill our mandate to contribute to Timor-Leste's social and economic development:

- Where we are: what is our current situation and the context in which we operate
- Where we want to be: what's our vision for the future
- How to get there: what will we do to make our vision a reality in the next 5, 10, 20 years

This Strategic & Business Plan is a live document: it will be updated as appropriate as we move forward and, most importantly, will be translated into concrete day to day actions, for each unit, team and individual to implement our strategy and fulfill our mission.

As a committed team, TIMOR GAP, together with our partners and other stakeholders, including the Timor-Leste Government and National Parliament, will drive petroleum sector industrialization in Timor-Leste and contribute to strong national development.

**Francisco Monteiro**

President & CEO

## EXECUTIVE SUMMARY

As the national oil company of Timor-Leste, TIMOR GAP received the mandate to optimize the country's economic benefits from petroleum resources and associated activities.

Our vision is to be a regional leader in oil & gas for sustainable national development. Our mission is to contribute to national development (social and economic), creating business opportunities and jobs, respecting quality, health, safety and environmental standards, guaranteeing partners' satisfaction, and promoting innovation and creativity. Our work is founded on key values of integrity, competence, business focus, safety and teamwork.

Our core business, where we believe the best opportunities match our best capabilities, is Exploration & Production. And we envision that pursuing our mission will involve engaging directly in downstream activities and other services over time.

We've defined key strategic goals and ambitions for the next 5, 10 and 20 years:

- Short term (2-5 years): build our exploration portfolio and start operating a refinery
- Medium term (5-10 years): become a producing operator and start operating an LNG\* plant
- Long term (10+ years): grow into upstream abroad, and expand the LNG plant and the refinery

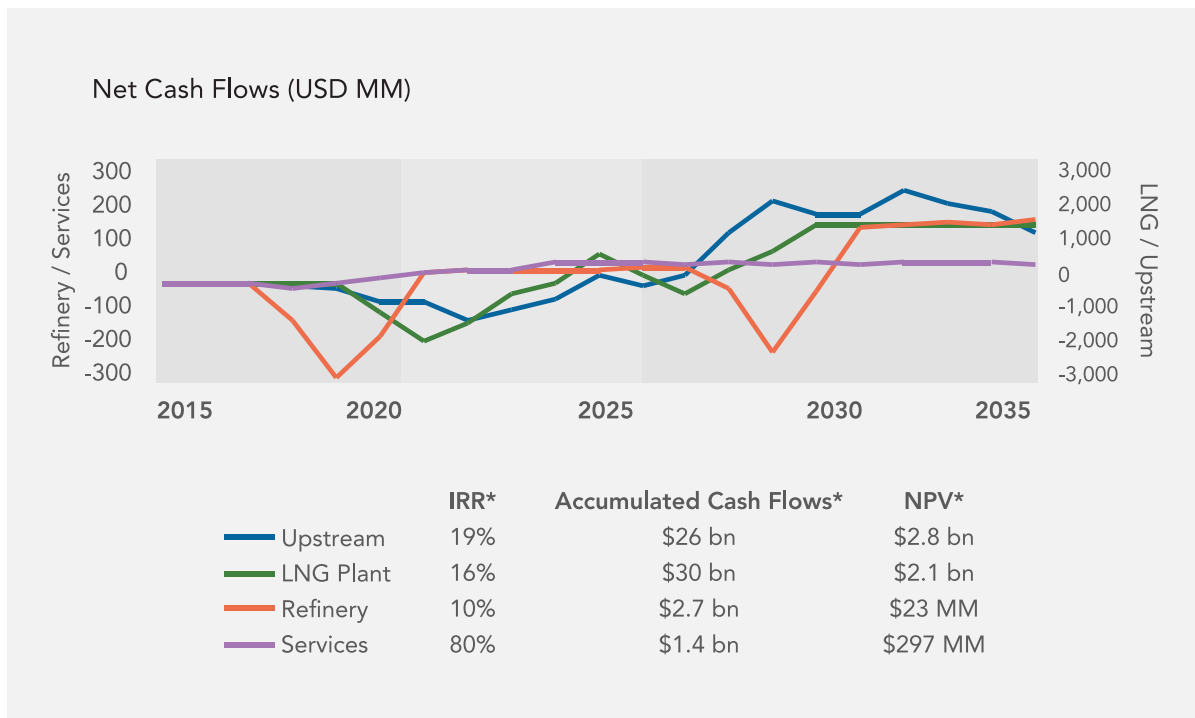
Delivering our plan contributes to Timor-Leste development in several ways: promoting good governance in the sector, ensuring national energy security, developing human capital and local capabilities in petroleum, and building the sector and infrastructure for sound economic growth.

Making all this a reality entails meeting challenging requirements, particularly in terms of financing (USD 8.3 billion by 2024) and human resources (700 new staff by 2020) for the company to accumulate USD 23 billion of positive cash flows by 2035, and USD 60 billion by 2050.

\*LNG = Liquefied Natural Gas

## TIMOR GAP VISION: TO BE A REGIONAL LEADER IN OIL & GAS FOR SUSTAINABLE NATIONAL DEVELOPMENT

TIMOR GAP aims to become a regional leader in the oil & gas sector in Southeast Asia, while contributing to long-term social and economic development of Timor-Leste. In the short term we will build the foundations for an integrated oil & gas company, with upstream and downstream activities. In the medium term we will be operating a refinery, an LNG plant, and producing fields. And in the long term we will grow to international markets and higher value-add products.



	SHORT TERM Foundations: Build the institution & the team	MEDIUM TERM Grow as domestic operator & integrated oil & gas company	LONG TERM Expand internationally with successful businesses
UPSTREAM	Build the exploration portfolio	2023: Become an operator with production	Venture to international upstream opportunities
LNG	Study, negotiate and form partnerships for LNG plant	2025: Start operation of an LNG plant	Explore adding another LNG train
REFINERY	2020: Start operation of a refinery	Expand the refinery	Expand into complex petrochemicals

\*IRR = Internal Rate of Return; NPV = Net Present Value (at 10% discount rate); accumulated cash flows in projects' lifetime  
Source: TIMOR GAP Strategic Plan and financial models







# WHERE WE ARE

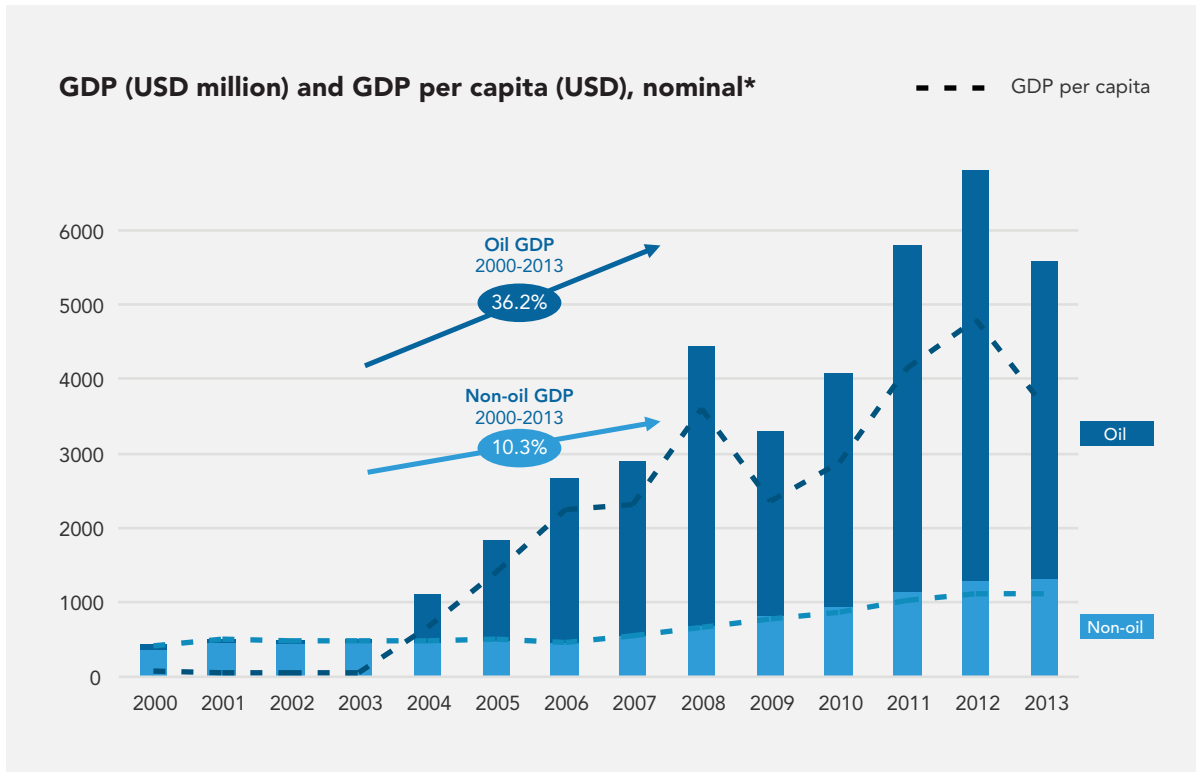
Context  
SWOT Analysis



## TIMOR-LESTE'S GROWTH DRIVEN BY OIL & GAS

Timor-Leste's economy has been growing fast, from a very low GDP per capita of \$500 in 2000. While non-oil GDP has grown

at enviable 10% annually, non-renewable petroleum resources have contributed the most (80% of GDP on average since 2006).

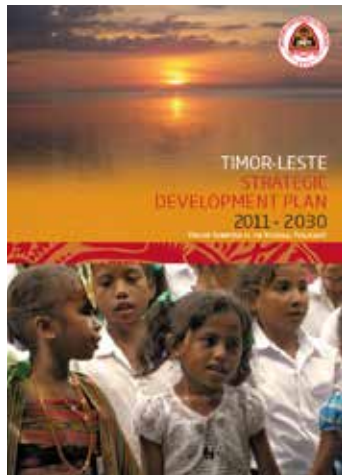


\*GDP = Gross Domestic Product; nominal = not adjusted for inflation || Source: Ministry of Finance of Timor-Leste, Timor-Leste National Accounts 2000-2013

## TIMOR-LESTE STRATEGIC DEVELOPMENT PLAN & TIMOR GAP'S MANDATE

Petroleum is a key sector for Timor-Leste development, according to the Strategic Development Plan 2011-2030, and TIMOR GAP has a clear mandate to manage the

country's petroleum resources and activities for the best economic benefits, according to Decree Law no. 31/2011.



“The petroleum sector in Timor-Leste is designated by the Strategic Development Plan as a key pillar of our future development. (...) While developing the sector, we must ensure that Timor-Leste’s natural resource wealth is used to build our nation and support our people. ”

Strategic Development Plan 2011-2030



“It is envisaged that TIMOR GAP, EP may, when fully operational, optimize the economic benefits derived from the petroleum resources and from the associated activities available to Timor-Leste, attracting technologies, developing qualified human resources and also ensuring the country’s energy security, taking on the role of one of the main drivers of economic and social development. ”

Government Decree Law no. 31/2011 on 27 July 2011

## REGIONAL SETTING: ASIA PACIFIC

Timor-Leste is a small country surrounded by bigger nations like Indonesia and Australia, which have much more developed petroleum sectors. Logistical distances to potential suppliers and customers need to be taken into account for planning in each area of business.



## TASI MANE – SOUTH COAST PROJECTS

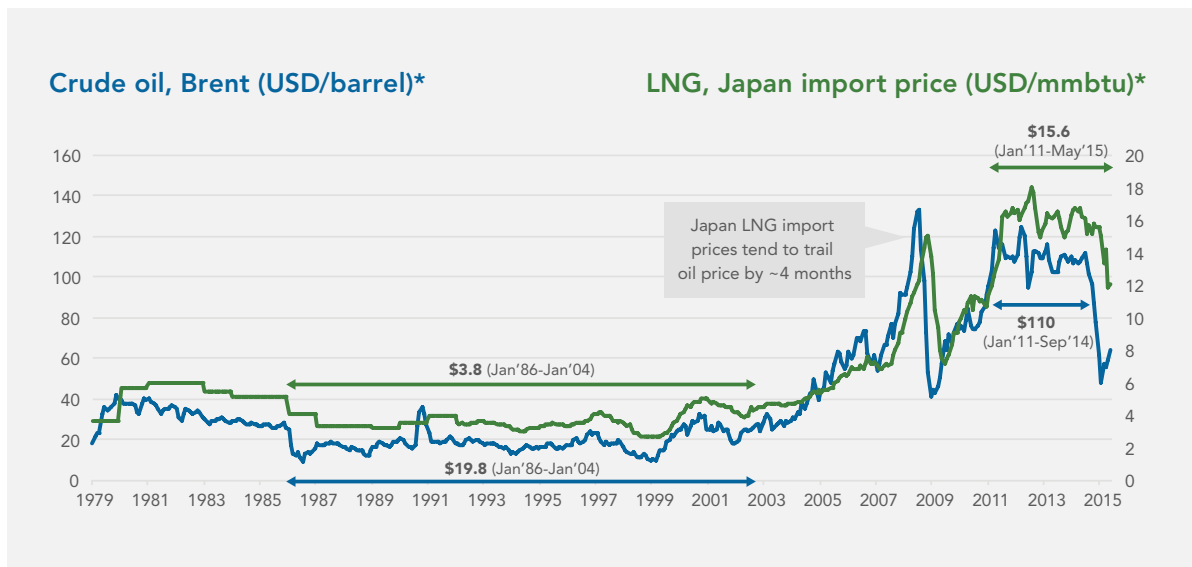
TIMOR GAP has been mandated to, on behalf of the Timor-Leste Government, implement the “Tasi Mane” projects – three clusters of development along Timor-Leste’s southern coast: the Suai Supply Base, the Betano Refinery and Petrochemical complex and the Beaco LNG Plant and Marine Facilities.



## OIL & GAS PRICES

Oil and gas prices have been historically high in the last five years. Even after the fall since June 2014, prices are higher than historical averages. Lower oil and

gas prices can make some projects uneconomic, especially when they require significant investments with some risk.



\*Nominal prices (i.e., not adjusted for inflation); mmbtu = million British Thermal Units || Source: World Bank

## KEY STAKEHOLDERS

TIMOR GAP needs to take into account multiple stakeholders with diverse interests on the company's activities and impact, in the public and private sectors.



Source: TIMOR GAP Strategic Planning Workshop

## SWOT ANALYSIS

To better understand TIMOR GAP’s current situation, including its internal characteristics and capabilities as well as external factors, we performed a SWOT analysis, summarized here.

<div style="text-align: center;"> <h1>S</h1> <h2>STRENGTHS</h2> <hr/> <p>What are the characteristics of our company that give us an advantage over others?</p> <hr/> <ul style="list-style-type: none"> <li>• National Oil Company, with special rights and responsibilities over Timor-Leste’s petroleum resources</li> <li>• Backed up by the Government, with mandates to manage large projects</li> <li>• Building a solid Timorese team, enthusiastic and committed to learn and excel</li> </ul> </div>	<div style="text-align: center;"> <h1>W</h1> <h2>WEAKNESSES</h2> <hr/> <p>What are the characteristics of our company that place us at a disadvantage relative to others?</p> <hr/> <ul style="list-style-type: none"> <li>• Challenging to finance all projects</li> <li>• New player in a very competitive industry, with a lot to establish and in the process of developing the team and its capabilities</li> <li>• No exclusive/automatic rights over resources</li> <li>• Uncertainty about key fields (e.g., Greater Sunrise development)</li> </ul> </div>
<div style="text-align: center;"> <h1>O</h1> <h2>OPPORTUNITIES</h2> <hr/> <p>What are the elements in the external environment that our company could explore for our advantage?</p> <hr/> <ul style="list-style-type: none"> <li>• Participation in PSCs* in TLEA** &amp; JPDA***</li> <li>• Joint ventures in ASEAN and CPLP</li> <li>• Manage Tasi Mane projects</li> <li>• Be the leading oil &amp; gas group in Timor-Leste</li> <li>• Ensure national energy security</li> <li>• Transform the “extractive” nature of the petroleum sector into transformative</li> </ul> </div>	<div style="text-align: center;"> <h1>T</h1> <h2>THREATS</h2> <hr/> <p>What are the elements in the external environment that could cause trouble for our company?</p> <hr/> <ul style="list-style-type: none"> <li>• Political impact/influence</li> <li>• Potentially not favourable legal framework</li> <li>• Competition from large established players</li> <li>• Lack of land and property law</li> <li>• Evolving taxation system</li> <li>• Technological developments – e.g., unconventional oil &amp; gas</li> </ul> </div>

\*Production Sharing Contracts || \*\*Timor-Leste Exclusive Area || \*\*\*Joint Petroleum Development Area || Source: TIMOR GAP staff survey and workshops





# WHERE WE WANT TO BE

Vision, Mission & Values

Our Core Business

Strategic Goals



## VISION, MISSION & VALUES



TIMOR GAP's strategic planning process created the opportunity to obtain alignment on what we aim to be (vision), why we exist (mission) and how we work (values, summarized in our corporate spirit: "CAN DO").

### VISION

To be a regional leader in oil & gas for sustainable national development

### MISSION

- To contribute to national development by securing and adding value to energy resources
- To create business opportunities and jobs, improving skills and technological transfer
- To support social and economic development by maximizing local capacity and participation
- To operate according to quality, health, safety and environmental best standards
- To guarantee customer and partner satisfaction through our products, services and projects
- To promote innovation and creativity through research and development

### CORPORATE VALUES

**INTEGRITY** – We are committed to the highest standards of integrity, behaving ethically and professionally at all times

**COMPETENCE** – We are capable, confident and committed, delivering high-quality, accurate and innovative products and services

**BUSINESS FOCUS** – We are business oriented, always seeking new opportunities and adding value to resources and stakeholders

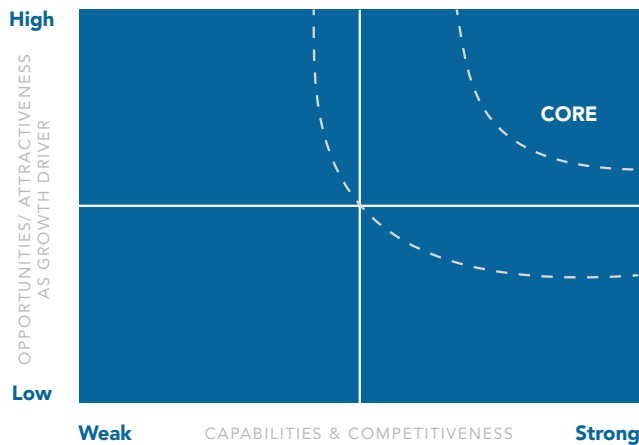
**SAFETY** – We care for the health and safety of employees, communities and the environment, aligned with international best practices

**TEAMWORK** – We work together with an open mind and respect for diversity, and connected by a family spirit

## OUR CORE BUSINESS

To identify TIMOR GAP’s core business, we adapted the following framework to the situation of a national oil company, whose

key purpose is national development, and who obtains market advantages from its privileged relationship with the State.



**OPPORTUNITIES/ ATTRACTIVENESS AS GROWTH DRIVER**

- National development/ Net social benefit
- Market growth
- Revenue & profit contribution
- Revenue & profit growth

**CAPABILITIES & COMPETITIVENESS**

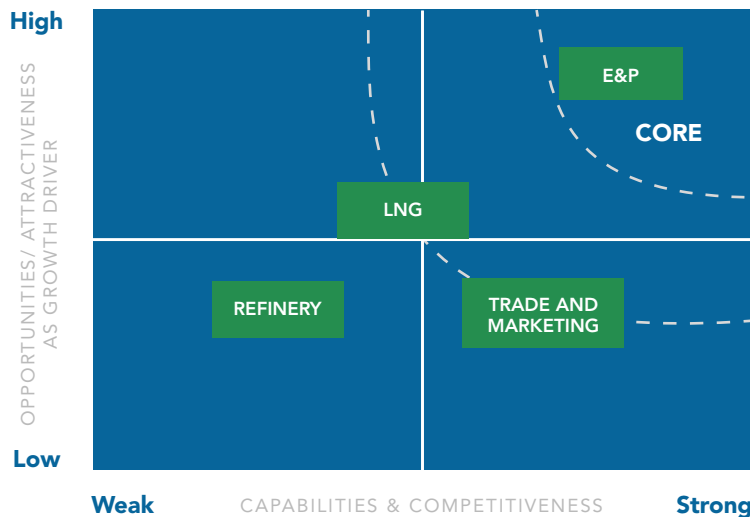
- Market dominance: market share; cost and/or quality advantage  
Value to Government/State/Nation
- Customer dominance: brand power, loyalty  
Preference from Government/State/Nation  
Preference from business partners (international oil companies, etc.)
- Technology dominance/Ability to implement

Source: Adapted from Bain & Co. ‘Profit from the core & Beyond the core’ presentation

## OUR CORE: EXPLORATION & PRODUCTION

Based on this analysis, Exploration & Production is TIMOR GAP’s core business. Not only it is the likely main source of income and growth, but also TIMOR GAP

has privileged participation in Timor-Leste PSCs, and it already has or can more easily develop the required capabilities.



## CORE BUSINESS IDENTIFICATION

Each of the key business areas was analyzed according to each axis, in order to assess how “core” they are to TIMOR GAP’s business:

	Opportunities/ Attractiveness as growth driver	Capabilities & competitiveness
<b>E&amp;P</b>	<p><b>High</b> Expected to be the key source of profitable income for the company and for the State</p>	<p><b>Strong</b> Existing capabilities or more straightforward to build in-house  Competitive advantage since the national oil company has priority for Timor-Leste PSC participation</p>
<b>LNG</b>	<p><b>Medium</b> Attractive project economics, assuming access to feedstock (from Greater Sunrise and/or other fields)</p>	<p><b>Medium</b> Some existing capabilities, complemented by potential KOGAS partnership  Feedstock needs to be secured</p>
<b>TRADE &amp; MARKETING</b>	<p><b>Medium/Low</b> Thin margins (commodity trading)</p>	<p><b>Medium/Strong</b> Some internal capabilities, which should be straightforward to improve</p>
<b>REFINERY</b>	<p><b>Medium/Low</b> Less attractive project economics, given the small project scale at this stage (microeconomics)</p>	<p><b>Medium/Weak</b> Uncertain access to required feedstock at this stage  Limited internal capabilities</p>

Source: TIMOR GAP analysis

## STRATEGIC GOALS

### TIMOR GAP 2035 STRATEGIC GOALS

TIMOR GAP will build its foundations in the short term: a solid organization, participating in E&P, and starting to operate a supply base and a refinery. In the medium term we will become

an integrated company, with upstream operation and an LNG plant. In the long term we will grow to international markets and higher value-add products.





# HOW TO GET THERE

Upstream Strategy & Business Plan  
Downstream Strategy & Business Plan  
Services Strategy & Business Plan  
Key Requirements





# UPSTREAM STRATEGY & BUSINESS PLAN

## UPSTREAM STRATEGIC GOALS

In the upstream, TIMOR GAP will focus on building the capabilities and exploration portfolio in the short term, in order to become

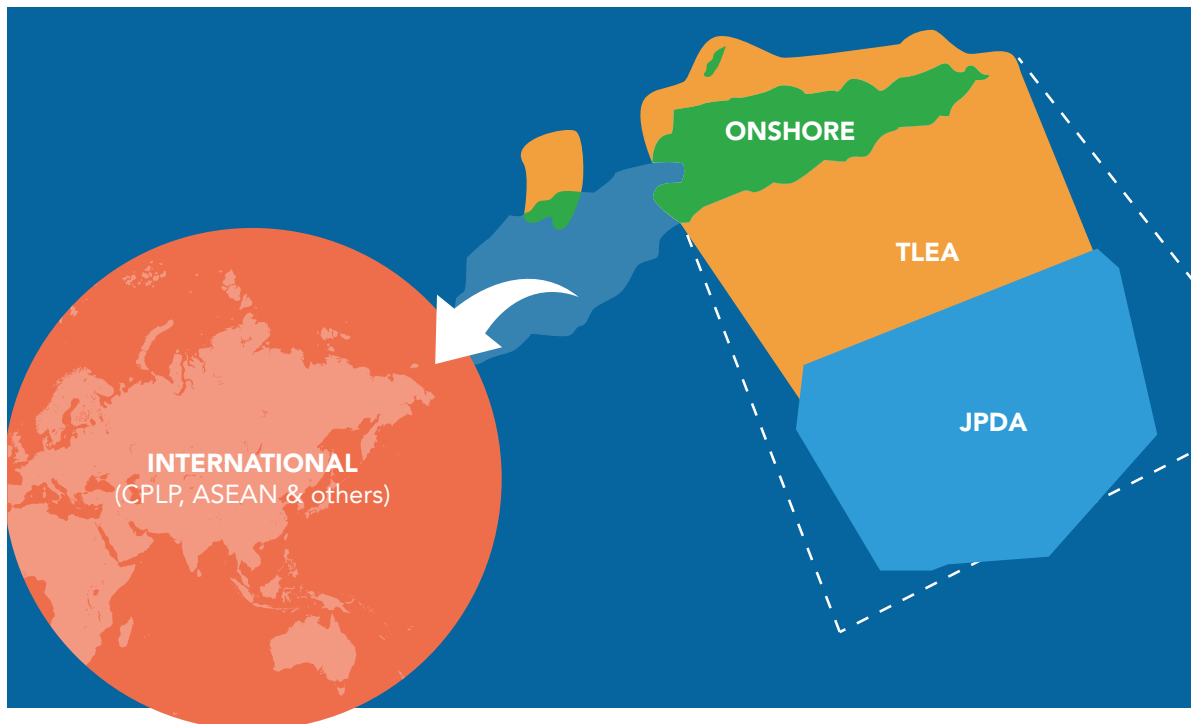
an operator in the medium term, and lay the foundations to expand internationally in the long term to grow reserves and revenues.



## UPSTREAM DEVELOPMENT AREAS

As national oil company, TIMOR GAP has privileged access to PSCs onshore, in the offshore Timor-Leste Exclusive Area, and in the Joint Petroleum Development Area.

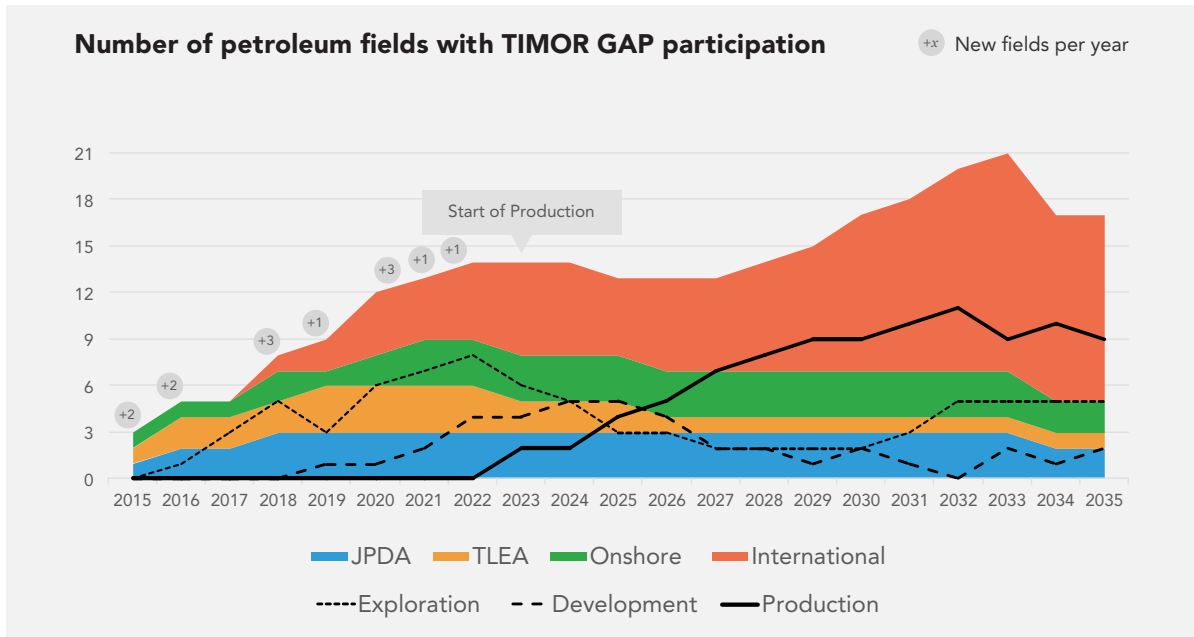
Medium term, as domestic opportunities become scarce, TIMOR GAP will look for E&P options internationally.



## E&P TARGET: FIELDS

Based on the estimated prospectivity of the key areas more directly available to TIMOR GAP (Timor-Leste Exclusive Area, Joint Petroleum Development Area, and onshore), as well as potential international opportunities, we'd expect TIMOR GAP

to take part in around 12 petroleum fields by 2020, still mostly in exploration phase, and to start production from its first field by 2023, with around 10 producing fields in the longer term.

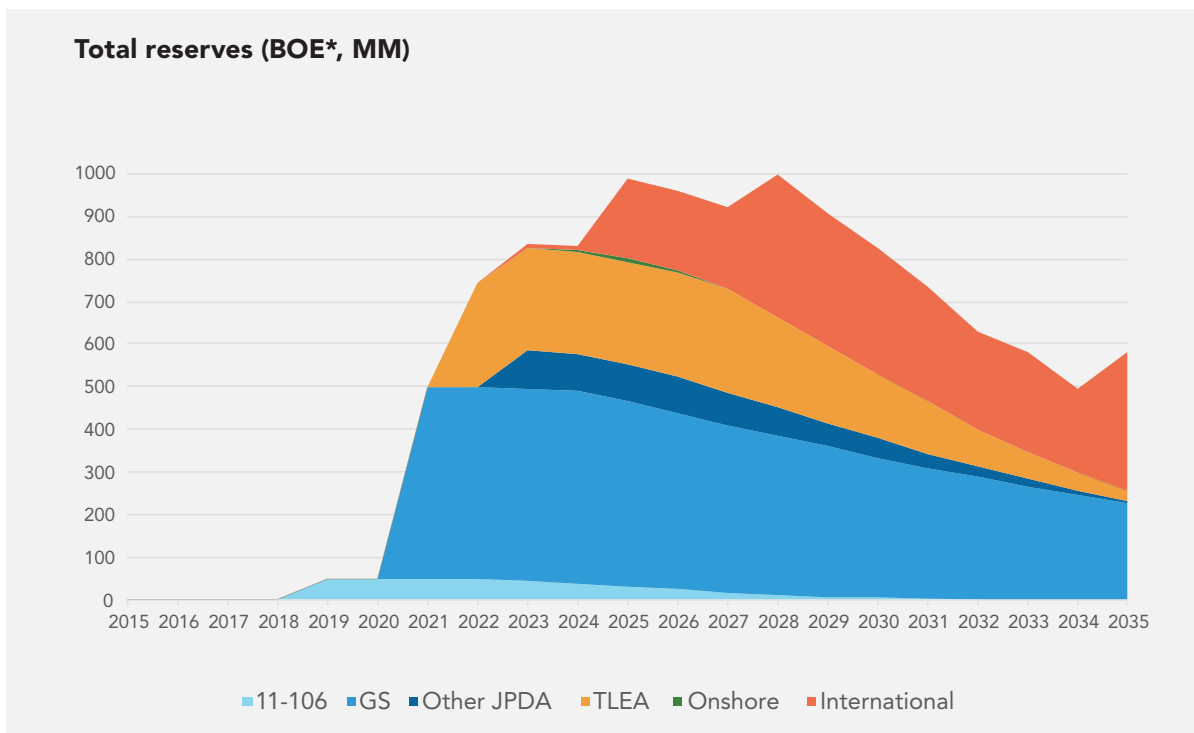


Source: TIMOR GAP analysis

## E&P TARGET: RESERVES

Based on assumed reserves in each kind of field, the year of exploration conclusion, and production rates, total TIMOR GAP reserves in barrels of oil equivalent (BOE – i.e., including both oil and gas together) could grow to

about 500 million BOE by 2021 (mostly from Greater Sunrise) and 1 billion BOE by 2025. In a scenario delaying Greater Sunrise, reserves would be reduced by 450 million BOE.

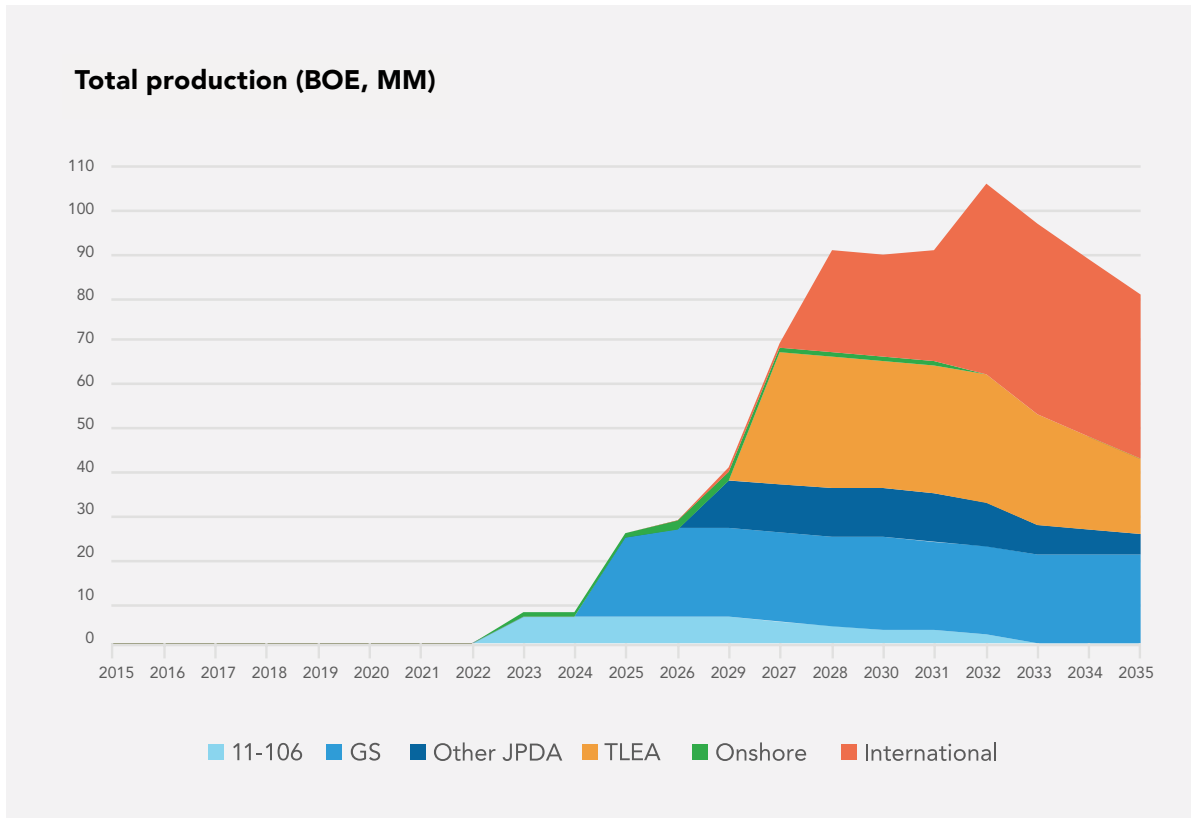


Note: Total Recoverable Reserves (P2) associated with TIMOR GAP's share of each field; Onshore reserves not visible due to the small relative size || \*Barrels of Oil Equivalent (1 million cubic feet = 185.7 barrels of oil equivalent) || Source: TIMOR GAP analysis

## E&P TARGET: PRODUCTION

Based on assumptions about development time per type of field, TIMOR GAP’s share of oil & gas production in fields where it participates is projected to start in 2023,

reaching 26 million BOE by 2025, and 90 million BOE by 2030 (about 250 thousand barrels per day).



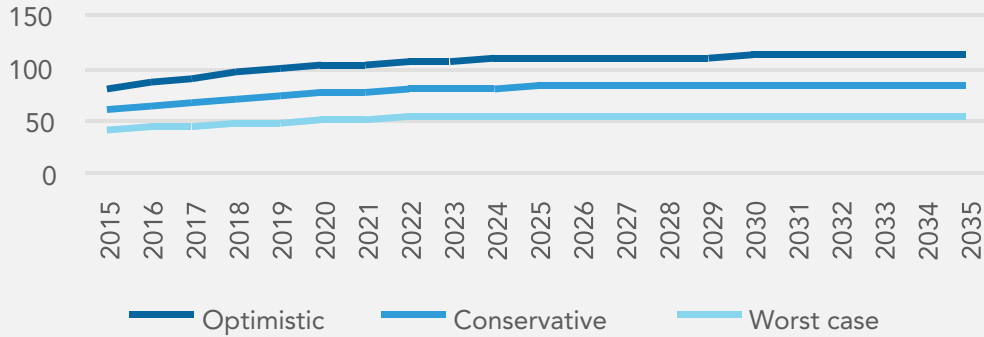
Note: Showing TIMOR GAP’s share of Production (based on its share of each field) || Source: TIMOR GAP analysis

## OIL & GAS PRICE FORECASTS

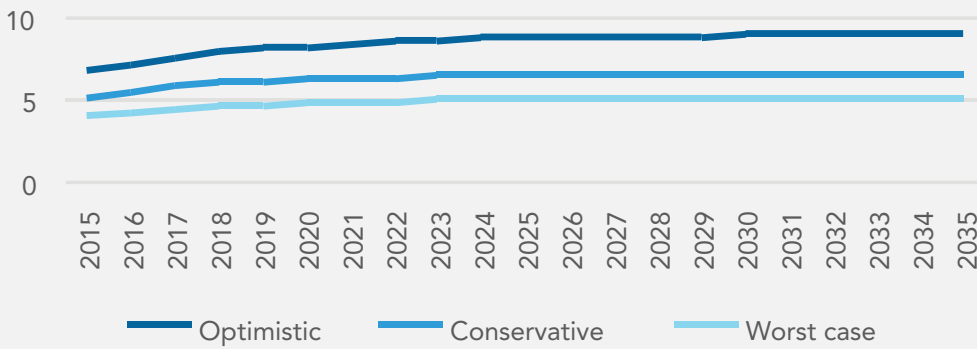
Revenue and cash flow projections are based on oil & gas price forecasts according to the following Optimistic (high price), Conservative (average price) and Worst (low price) case scenarios. Calculations in this document use the Conservative

Case, unless otherwise indicated. Since petroleum prices tend to affect opex and capex, in financial models we assume that for each USD 20-per-barrel variation in oil price costs move 15% in the same direction.

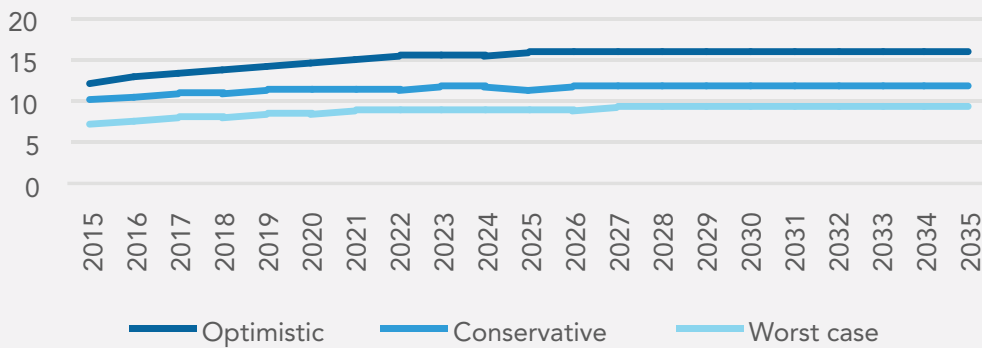
**Crude (USD/bbl)**



**Natural gas (USD/mmbtu)**



**LNG (USD/mmbtu)**

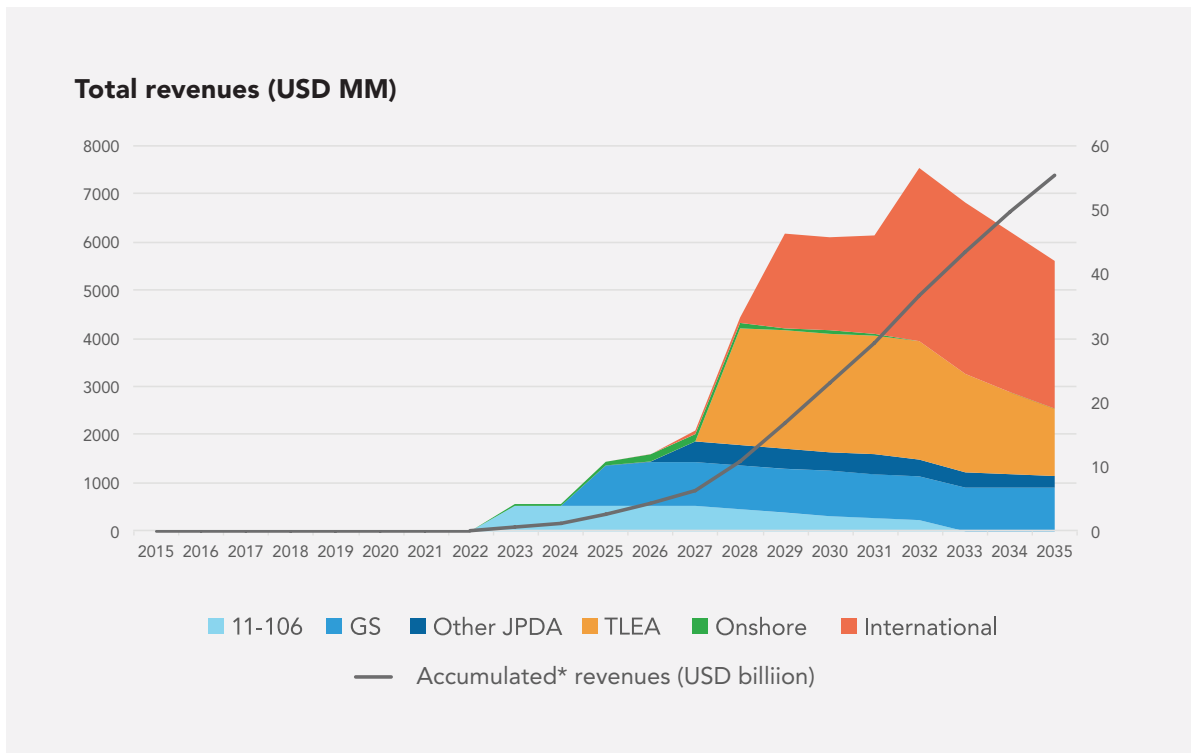


Note: Conservative case is the expected case used in most projections in this Strategic Plan; it is the average of World Bank and RPS forecasts || Source: World Bank, RPS, TIMOR GAP analysis

## E&P TARGET: REVENUE

TIMOR GAP’s share of production at the projected oil & gas prices could generate petroleum revenue of almost USD 1.5 billion by 2025 and over USD 6 billion by

2030. Accumulated revenues (i.e., adding all years’ revenues) could reach USD 55 billion by 2035.

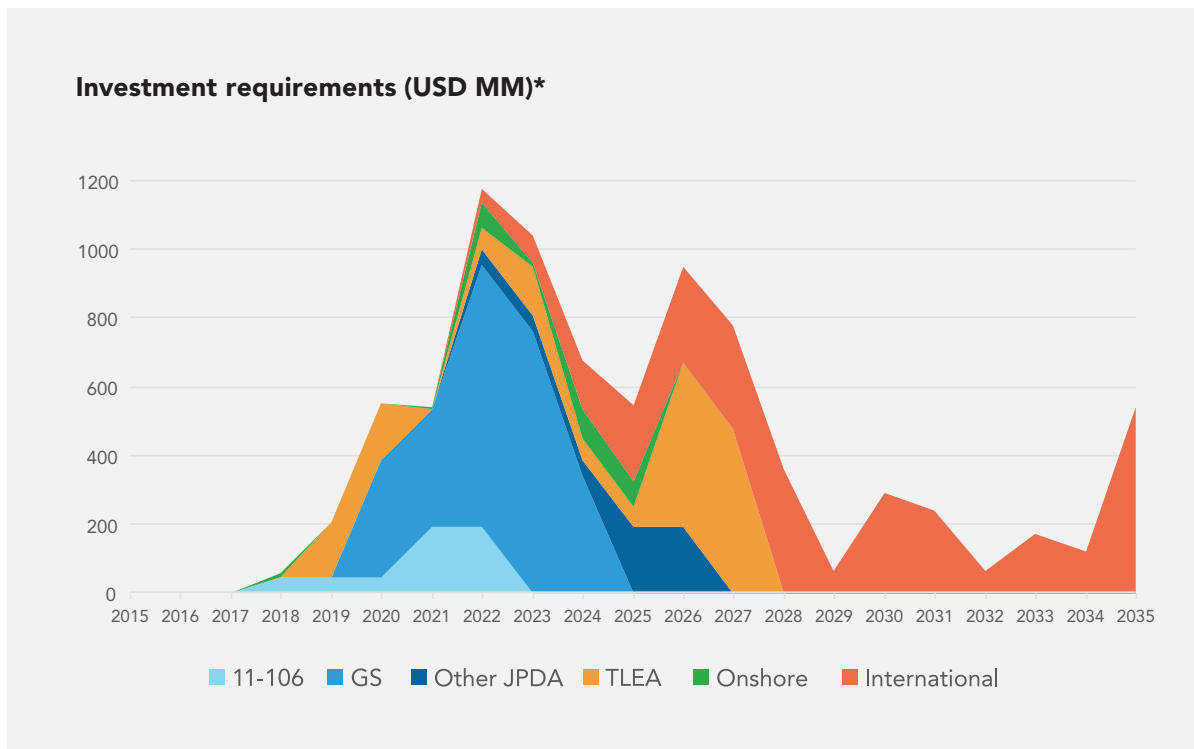


\*For each year, the line represents the accumulated revenues until that year || Note: Showing TIMOR GAP’s share of Revenues = Production volume x Price x TIMOR GAP share || Source: TIMOR GAP analysis

## E&P TARGET: INVESTMENTS

TIMOR GAP will need to make significant investments in the coming years in the form of exploration and development expenditure to take fields to production:

over USD 6 billion by 2027. A large share corresponds to Greater Sunrise’s development expenditure of USD 2.5 billion in the period from 2020 to 2024.

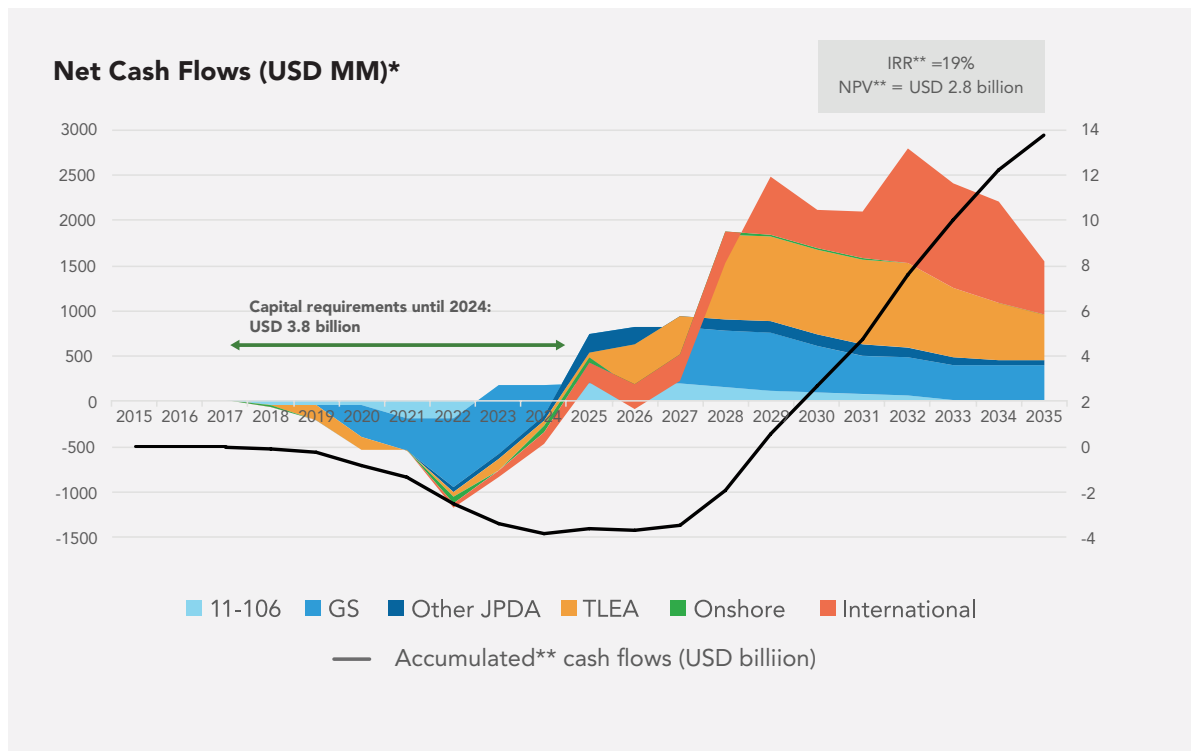


\*Assumptions: TIMOR GAP invests according to its share; free carry in Greater Sunrise Expex || Source: TIMOR GAP analysis

## E&P TARGET: CASH FLOWS

We projected net cash flows by estimating TIMOR GAP’s take for each field and deducting the required investments. Until 2024, accumulated cash flows total minus USD 3.8 billion, mostly due to Greater Sunrise development expenditure. Starting

in 2025 TIMOR GAP should be able to fund its operations and new investments through positive cash flows from producing fields, estimated to be around USD 2 billion per year from 2029 onwards.



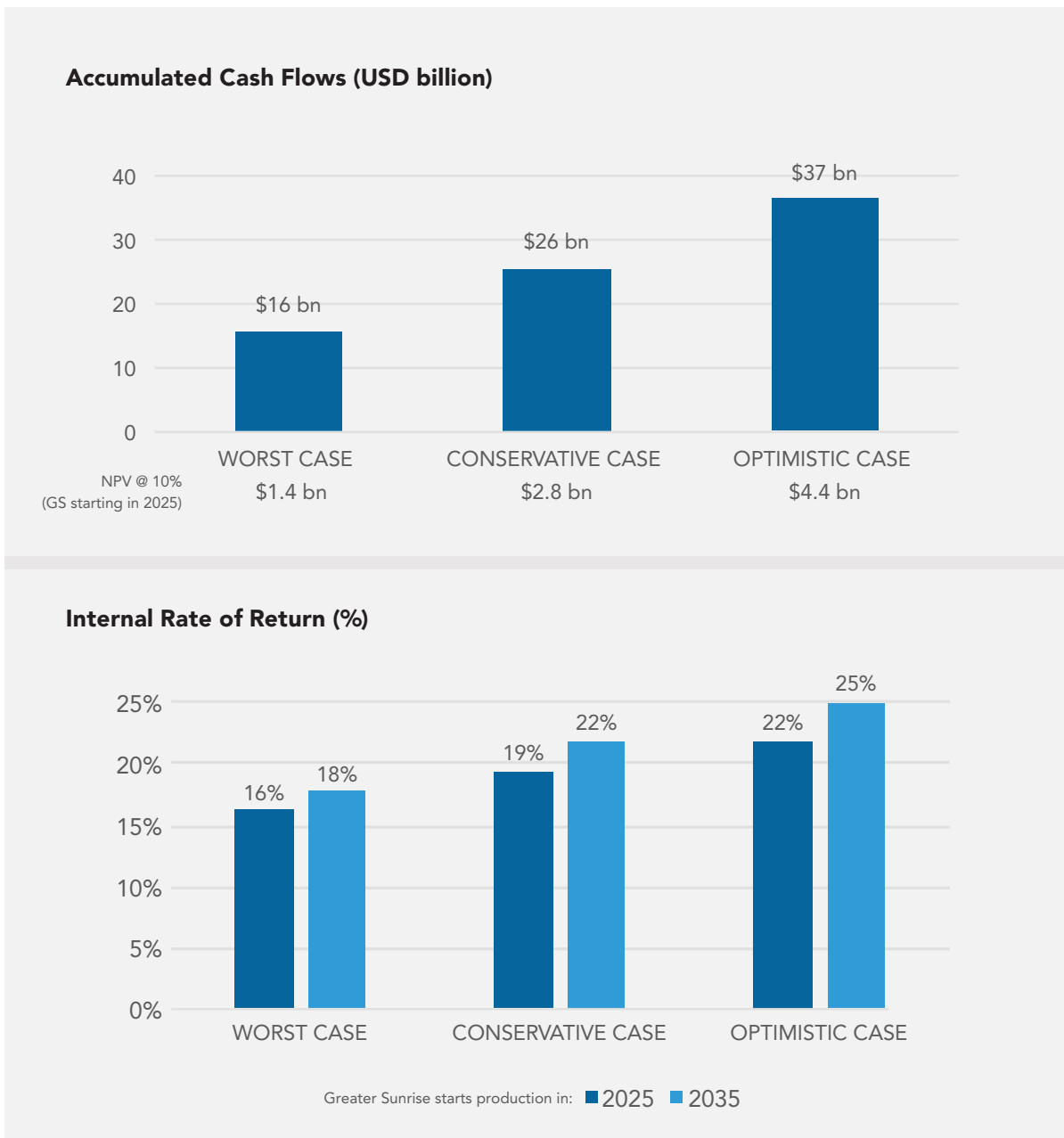
\*TIMOR GAP’s take is simplified as (Revenues – Opex) x 40%, except for GS (follows expected PSC rules) || \*\*Over projects’ lifetime: NPV = Net Present Value (at 10% discount rate); IRR = Internal Rate of Return || Source: TIMOR GAP analysis



## SCENARIO ANALYSIS

Price scenarios have a strong impact on accumulated cash flows (from USD 16 billion in the Worst Case to USD 26 billion in the Conservative and USD 37 billion in

the Optimistic). Delaying Greater Sunrise production to 2035 increases IRR due to its larger size and lower IRR (15%) compared to other projects (22% on average).



Source: TIMOR GAP analysis

## KEY E&P INPUTS & ASSUMPTIONS

E&P projections are based on a set of key inputs and assumptions that significantly affect the model outputs (NPV and IRR, in particular):

	ONSHORE	SHALLOW	DEEP	ULTRA DEEP	UNCONVENTIONAL	
TIMINGS	Exploration start year:	2017-32	2016-34	2021	2017-18	2032-35
	Exploration (years):	2	3	4	5	3
	Development (years):	1	4	6	6	3
	Production (years):	6	10 (GS:25)	20	20	10
RESERVES	Condensate (MMbbl*):	4-20	50-600	0	600	0
	Natural gas (Tcf)*:	0	7.67 (GS)	0	0	3
EQUITY	TIMOR GAP share of field:	30-50%	20-30% (GS:30%)	20%	40%	30%
	Cost of capital:	10%				
COSTS**	Capex (USD MM):	150	2,000	2,000	3,000	3,000
	Expex (USD MM):	20	200	200	400	200
	Opex (USD MM/year)	10	300	300	300	300
TIMOR GAP share of profit oil (after royalties, taxes, etc.): 40% of (Revenues – Opex)						

\*MMbbl = million barrels; Tcf = trillion cubic feet || \*\*At Optimistic Case. For each \$20/bbl price reduction we assume a 15% cost reduction

## KEY UPSTREAM REQUIREMENTS

Turning the Upstream strategy and business plan into reality entails a series of requirements, especially in terms of human resources and capabilities, as well as capital and key partnerships.



**Human Resources**

- E&P team with appropriate skills and knowledge, through on-the-job and formal training, etc.
- New ventures team skilled at scouting and negotiating new deals to feed TIMOR GAP's upstream portfolio
- Legal & commercial support to properly address contractual and other issues
- International QHSE standards to minimize risks
- Financing solutions for initial investments before production: approx. USD 3.8 billion
- National regulations favoring TIMOR GAP as joint venture partner in TLEA and JPDA blocks



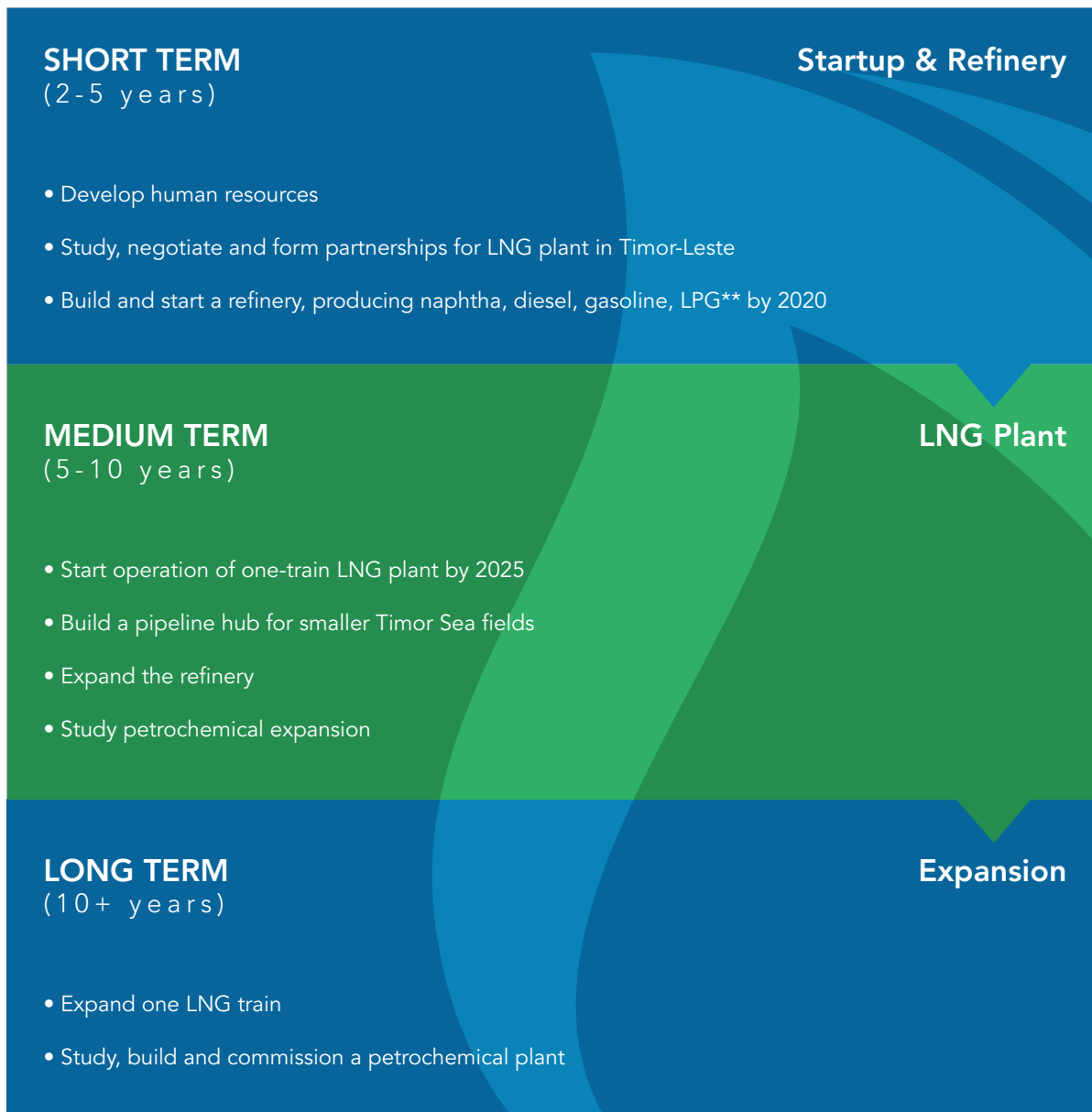
**Capital & Partnerships**

## DOWNSTREAM STRATEGY & BUSINESS PLAN

### OVERALL DOWNSTREAM STRATEGIC GOALS

In the downstream, TIMOR GAP will focus on building a 30,000-barrels-per-day refinery in the short term, and a 5-mtpa\* LNG plant in the medium term. Over time,

the refinery will expand to produce higher-value products and the LNG plant will grow with one additional train.



\*mtpa = million tonnes per annum || \*\*LPG = Liquefied Petroleum Gas

## LNG PLANT GOALS

The LNG team is focusing on completing the necessary studies so that the LNG plant, pipeline and marine facilities start operation of a 5-mtpa train in the medium

term, together with one LNG tanker. Long term, the business will grow with a new 5-mtpa train and international expansion.

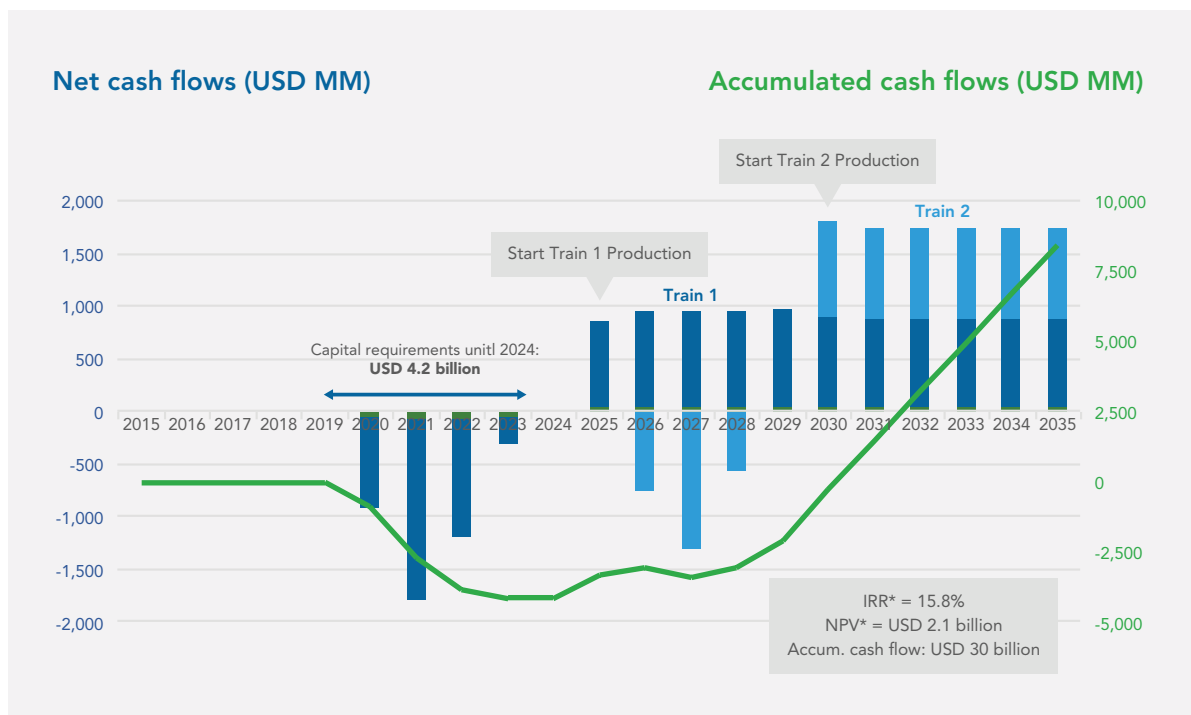


\*EPCI = Engineering Procurement Construction Installation || \*\*mtpa = million tonnes per annum

## LNG CASH FLOWS

Until 2024, the LNG project is expected to produce negative cash flows due to the significant investments (USD 4.2 billion) required to build the plant, pipeline, marine facilities and tanker. When the first train

starts operation, it should generate almost USD 1 billion per year in positive net cash flows, which would be sufficient to fund the second train expansion.

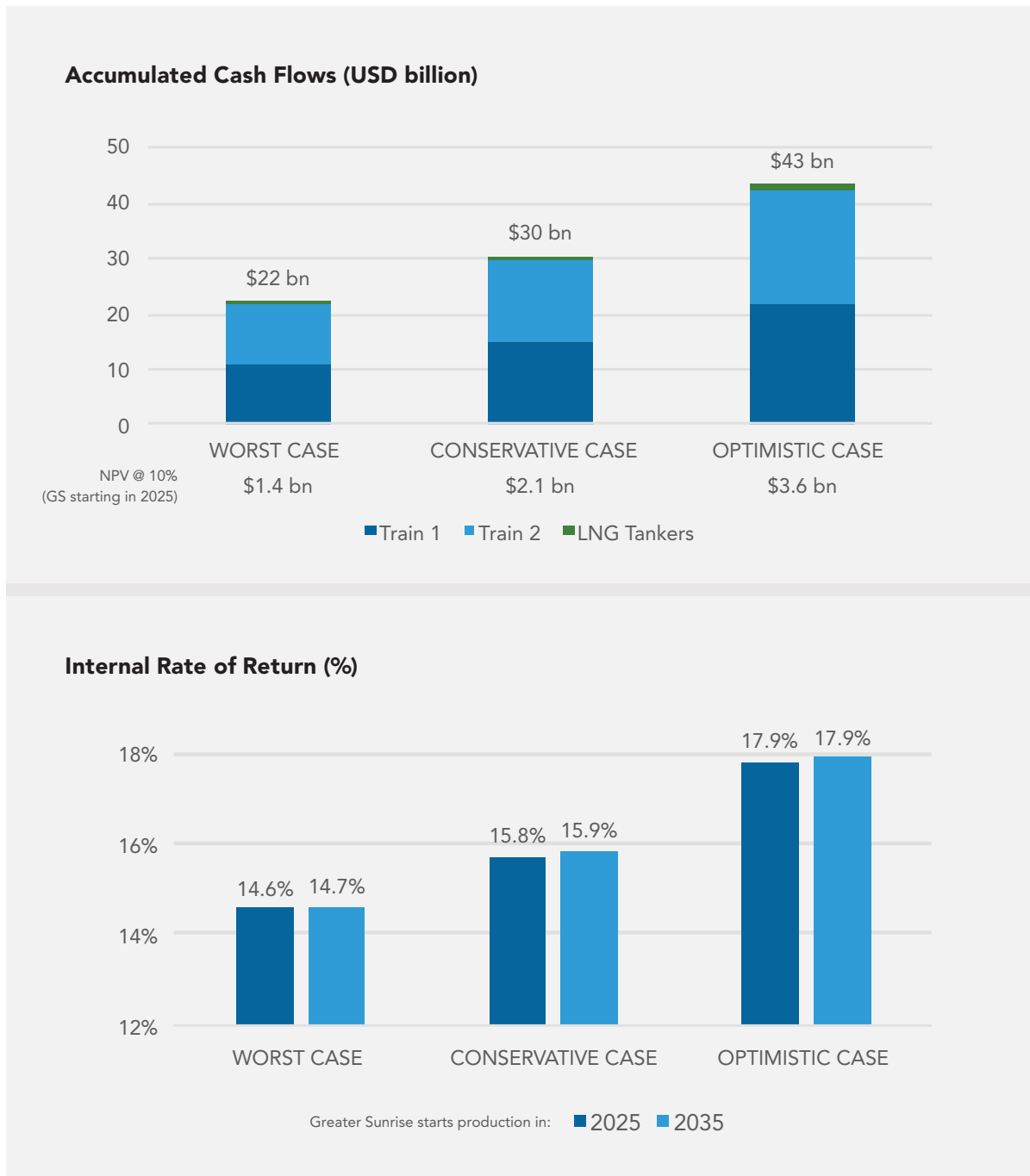


\*NPV = Net Present Value (at 10% discount rate); IRR = Internal Rate of Return || Note: NPV and IRR calculated over the project's lifetime; assumes 70% TIMOR GAP ownership || Source: TIMOR GAP analysis

## SCENARIO ANALYSIS

The year when Greater Sunrise starts production has a strong impact on accumulated cash flows: from USD 22 billion

in the Worst Case to USD 43 billion in the Optimistic Case. IRR varies across scenarios from 14.6% to 17.9%.



Source: TIMOR GAP analysis

## KEY LNG PROJECT INPUTS & ASSUMPTIONS

The LNG plant economic model is based on a set of key inputs and assumptions that significantly affect the model outputs (NPV and IRR, in particular):

	TRAIN 1		TRAIN 2			
<b>TIMINGS</b>	Construction start year:	2020	2026			
	Production start year:	2025	2030			
	Production life (years):	25	20			
	Operating: 340 days					
<b>VOLUMES</b>	Reserves (Tcf):	6.63	6.0			
	Plant capacity (each train): 5 mtpa* of LNG; 0.665 mtpa of LPG					
	Feed gas flow rate into plant: 900 MMscfd*; LNG plant output rate: 716.7 MMscfd*					
<b>PRICES</b>	According to TIMOR GAP price forecasts					
<b>COSTS** (BASE CASE)</b>		<b>PIPELINE CAPEX</b>	<b>PIPELINE OPEX</b>	<b>PLANT CAPEX</b>	<b>PLANT OPEX</b>	<b>MARINE FACILITIES</b>
	Train 1:	\$702 MM	3% of capex	\$ 3,706 MM	\$25 MM/year	\$1,201 MM
	Train 2:	\$1,053 MM	3% of capex	\$ 2,675 MM	\$15 MM/year	-
	Corporate Income Tax for Government of Timor-Leste: 10%					
<b>EQUITY</b>	TIMOR GAP share of LNG business: 70% for both Trains					
	TIMOR GAP share of LNG tankers: 100%					
	Cost of capital: 10%					

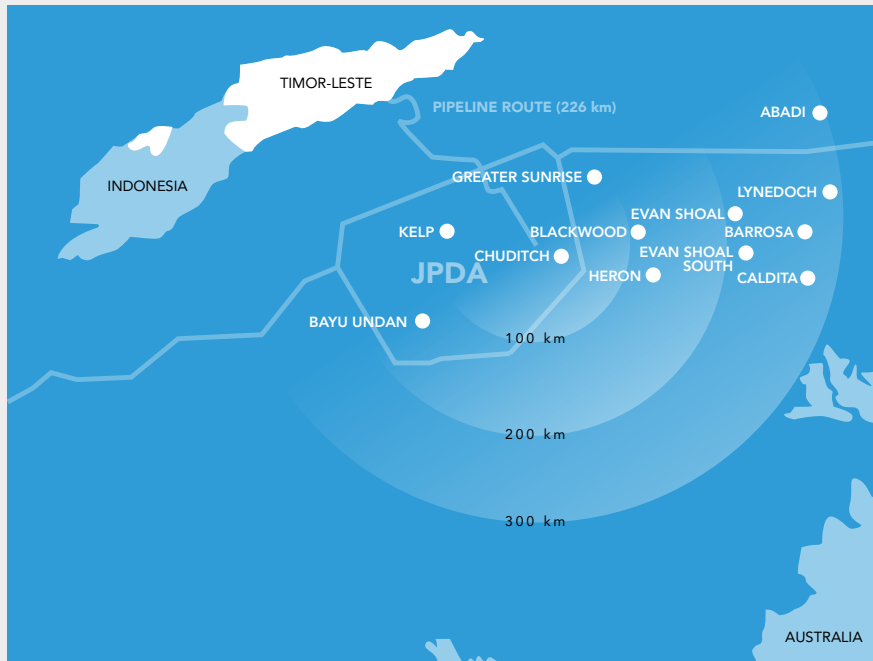
\*mtpa = million tonnes per annum; MMscfd = million standard cubic feet per day || \*\*At Conservative Case. For each \$20/bbl price reduction we assume a 15% cost reduction

## FEEDSTOCK SOURCES IN THE TIMOR SEA

Natural gas feedstock to the LNG plant may come from several fields in the Timor Sea. The first train is planned to source gas from Greater Sunrise, through a dedicated pipeline. The second train would be fed

through a second pipeline coming from a pipeline hub in JPDA, which by aggregating feedstock from several fields would make smaller fields commercially feasible.





FIELD	RESERVES (Tcf)	DISTANCE FROM PIPELINE HUB (km)
GREATER SUNRISE	6.63	94 (231 GS-Beaço)
ABADI	10	312
BAYU UNDAN ♦	8	144
KELP DEEP ♦	8	98
EVAN SHOAL	6.6	236
LYNEDOCH/BARROSA/CALDITA	6.5	286-310
HERON	4.96	119
BLACKWOOD	1.4	113
CHUDITCH ♦	0.7	40
EVAN SHOAL SOUTH	N/A	246

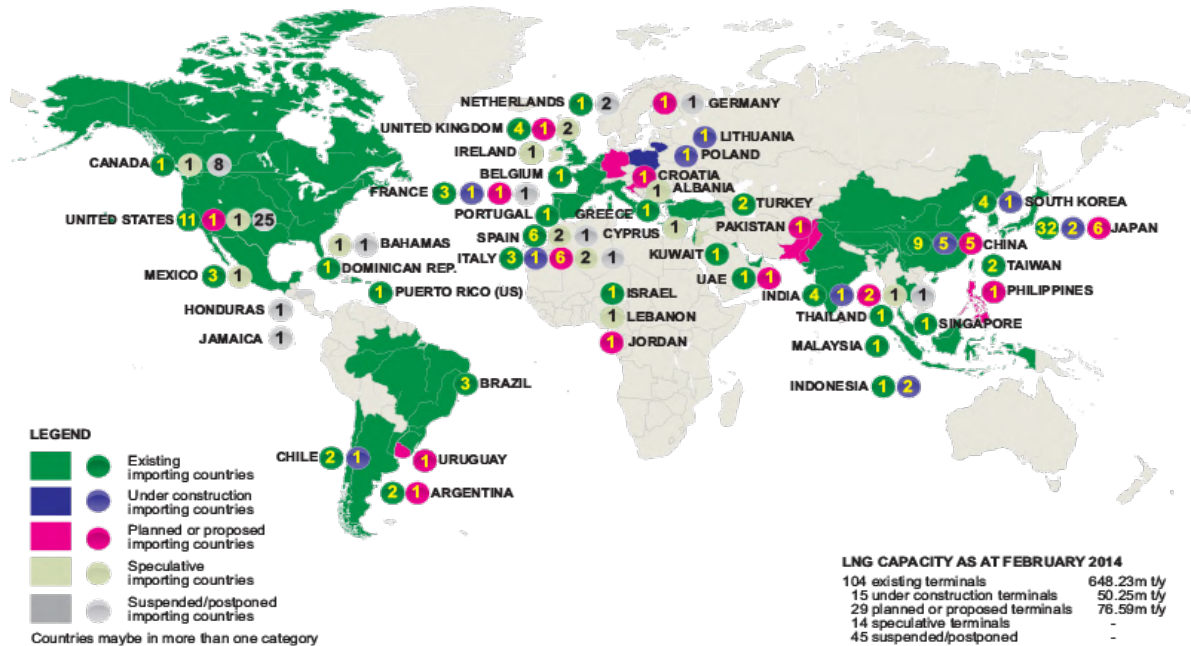
Likely fields to feed through Pipeline Hub ♦

Source: TIMOR GAP analysis and assumptions; press clippings

## LNG DEMAND: IMPORTING COUNTRIES

Globally, there are many countries in Asia, Europe and the Americas importing LNG with appropriate terminals to receive LNG

tankers. TIMOR GAP is likely to focus on customers in Asian countries like Japan and South Korea.

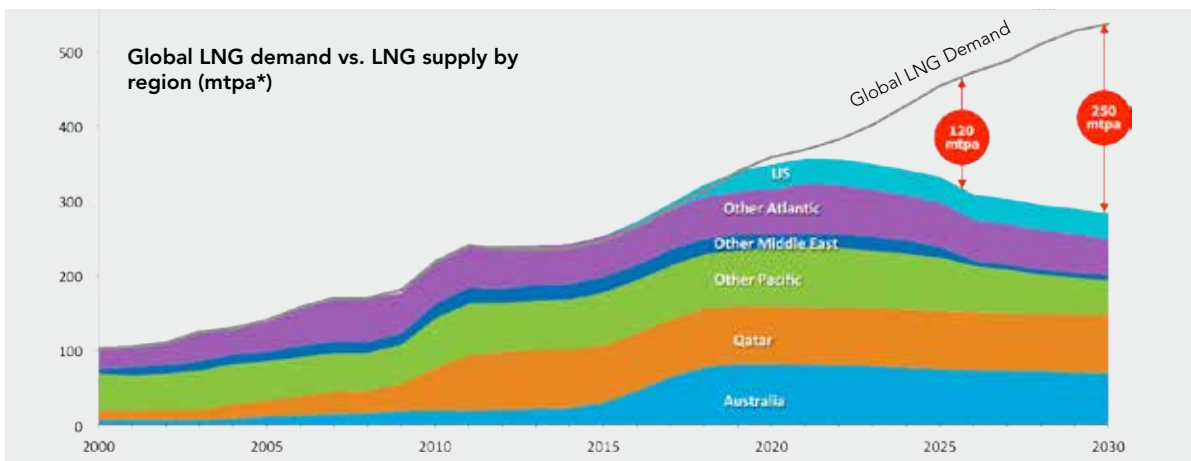


Source: Petroleum Economist

## GAP BETWEEN LNG SUPPLY & DEMAND

Global LNG demand is projected to more than double in the coming 15 years to over 500 mtpa. When compared to expected LNG supply from different regions based on

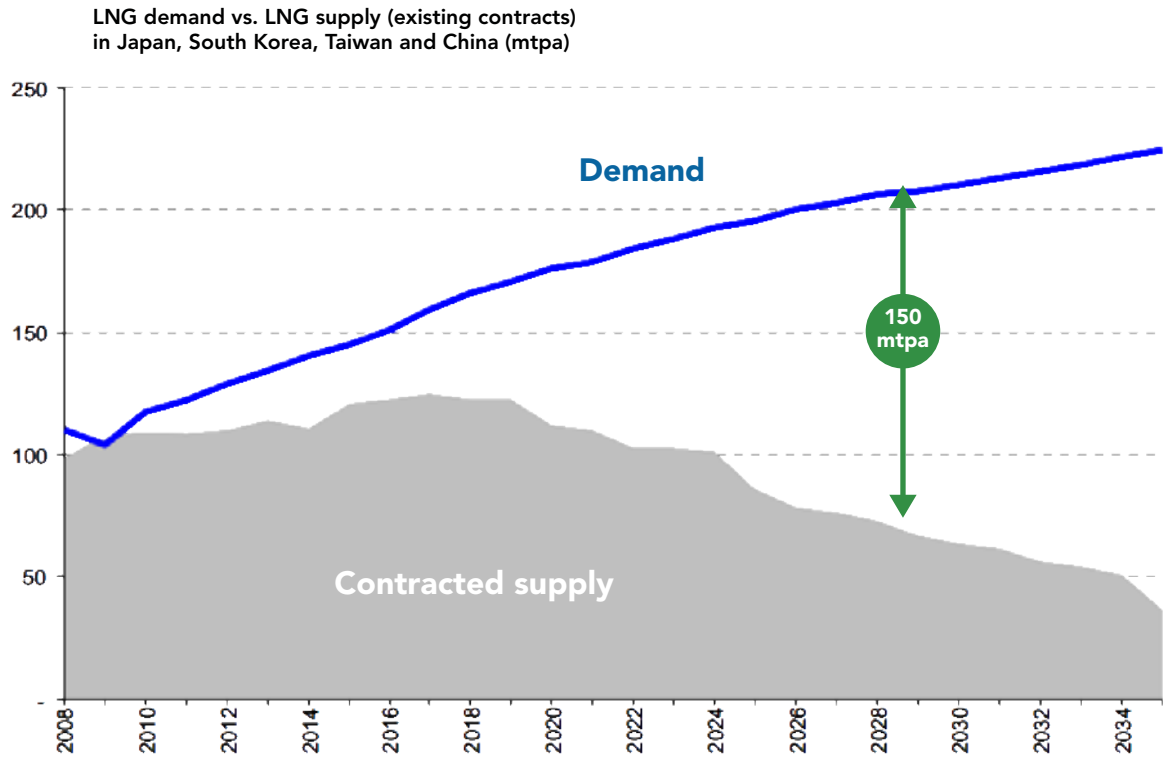
available data, by 2030 there could be a gap between supply and demand equivalent to about current global production.



\*mtpa = million tonnes per annum || Source: Santos – 2014 Investor Seminar (from Wood Mackenzie LNG Tool 2014 Q3 data)

In particular, based on existing supply contracts and forecasted demand, North

Asia countries will have growing demand for new contracts, up to 150 mtpa by 2030.



Source: Poten & Partners (2010) - 2015-2035 LNG Market Assessment Outlook for the Kitimat LNG Terminal

## KEY LNG REQUIREMENTS

Implementing the LNG plant, pipeline and marine facilities generates important requirements in terms of human resources, capital and key partnerships to form.



Human Resources

Boost Human Resources development:

- Chemical Engineers / Process Engineers
- Mechanical Engineers
- Electrical Engineers
- Process Control / Instrument Engineers
- Civil Engineers
- Operators
- Technical Supports



Capital & Partnerships

- Capex (TIMOR GAP share): USD 6.7 billion
  - First Train: USD 5.6 billion (TIMOR GAP share at 70% = USD 3.9 billion)
  - LNG Tanker: USD 0.25 billion (100% TIMOR GAP owned)
  - Second Train: USD 3.7 billion (TIMOR GAP share at 70% = USD 2.6 billion)
- Engage appropriate project partners (Technical and Financial)
- Improve strategic cooperation (Government to Government)

## REFINERY & PETROCHEMICAL GOALS

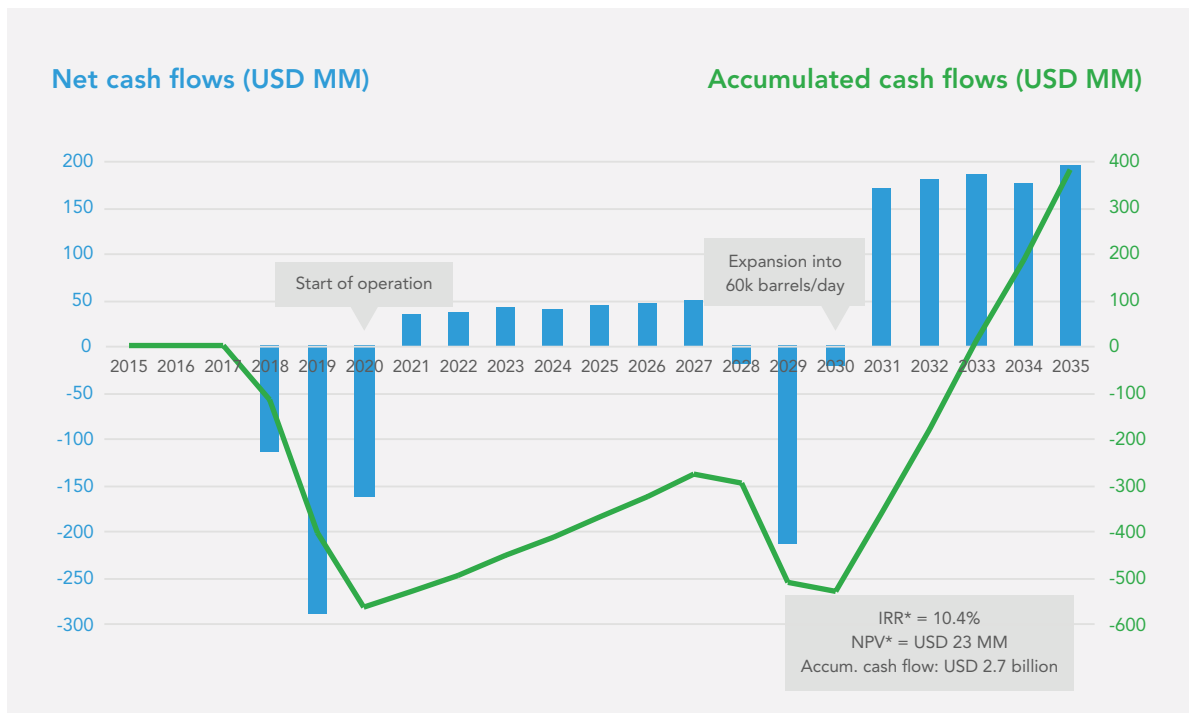
The refinery & petrochemical complex is divided into three phases: a refinery producing naphtha, diesel, gasoline and LPG in the short term, expanding to

produce reformer in the medium term, and expanding further into a petrochemical complex producing aromatics in the long term.



## REFINERY CASH FLOWS

The refinery project requires significant investments in the coming 5 years and is expected to have a payback with positive accumulated cash flows in the long term.



\*NPV = Net Present Value (at 10% discount rate) ; IRR = Internal Rate of Return || Source: TIMOR GAP analysis

## KEY REFINERY INPUTS & ASSUMPTIONS

The Refinery economic model is based on a set of key inputs and assumptions that significantly affect the model outputs (NPV and IRR, in particular):

<b>TIMINGS</b>	<b>Construction start year: 2018</b> <b>Production start year: 2020</b> <b>Operating: 333 days, with 30-day turnaround every 5 years</b>								
<b>VOLUME</b>	<b>Plant capacity (barrels/day):</b> <table border="1"> <thead> <tr> <th>2020</th> <th>2030</th> <th>2040</th> </tr> </thead> <tbody> <tr> <td>30,000</td> <td>60,000</td> <td>100,000</td> </tr> </tbody> </table>			2020	2030	2040	30,000	60,000	100,000
2020	2030	2040							
30,000	60,000	100,000							
<b>PRODUCTS</b>	BTX (Benzene, Toluene, Xylenes) starting in 2040								
<b>PRICES</b>	According to TIMOR GAP price forecasts								
<b>COSTS**</b>	<table border="1"> <thead> <tr> <th>2020</th> <th>2030</th> <th>2040</th> </tr> </thead> <tbody> <tr> <td>\$552 MM</td> <td>\$501 MM</td> <td>\$952 MM</td> </tr> </tbody> </table> <b>Capex:</b> <b>Opex: 3% of capex</b> Corporate Income Tax for Government of Timor-Leste: 10%			2020	2030	2040	\$552 MM	\$501 MM	\$952 MM
2020	2030	2040							
\$552 MM	\$501 MM	\$952 MM							
<b>EQUITY</b>	<b>TIMOR GAP share: 100%</b> <b>Cost of capital: 10%</b>								

\*mtpa = million tonnes per annum; MMscfd = million standard cubic feet per day ||\*\*At Conservative Case. For each \$20/bbl price reduction we assume a 15% cost reduction

## INITIAL SOCIO-ECONOMIC IMPACT ANALYSIS

Given the poor economics of a small-scale refinery project, it is necessary to conduct a cost-benefit analysis, or socio-economic impact analysis, to evaluate the overall impact of the project, beyond the purely direct profits. According to a simple, initial analysis by WOOD MACKENZIE, the refinery might be contributing 1.4% to Timor-Leste GDP by 2022, and is expected to generate hundreds of jobs.

### Expected Gross Value Add (GVA)

- Total GVA USD 69.9 million/year
  - Direct GVA from the refinery

operation: USD 68.1 million/year

- Indirect GVA coming from supporting facilities: USD 1.8 million/year
- Contribute approx. 1.4% to Timor-Leste GDP estimated for 2022 of USD 3.67 billion

### Employment opportunity

- Construction phase (3 years): approx. 2,000 people at the peak
- Operation phase
  - Direct employment: 223 jobs
  - Indirect & induced employment: 379 jobs

## POSSIBLE FEEDSTOCK SOURCES

The refinery will use condensate as raw material, which is expected to be sourced from a JPDA producing field. It could be Bayu Undan or Greater Sunrise if

available, or, more likely in the expected timeline, North West Shelf or other fields in the region.

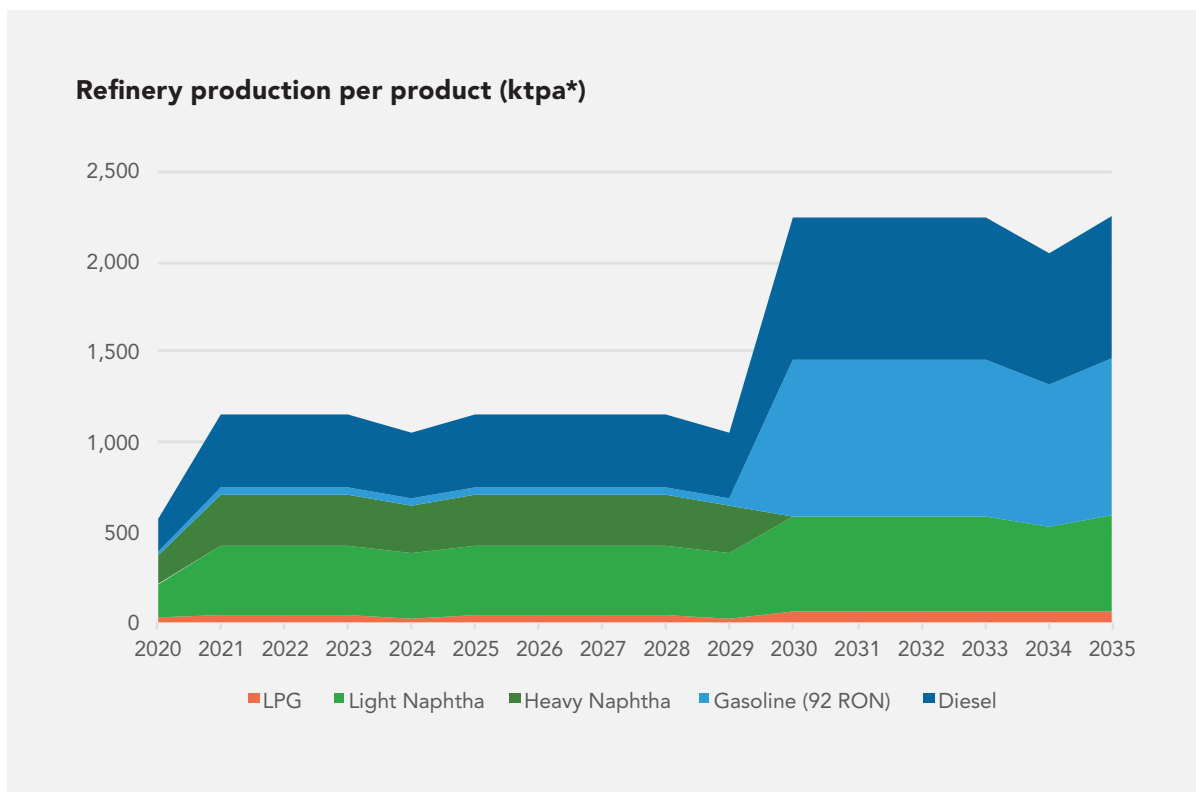




## THE REFINERY WILL SUPPLY MOSTLY EXPORT MARKETS

The initial refinery design will produce mostly light and heavy naphtha in the first 10 years, which will be exported as feedstock for petrochemical plants. Also, given forecasted demand in Timor-

Leste, over half of the diesel produced is planned for exports. This means that in the first 10 years about 80% of total volume produced will be exported.



\*ktpa = thousand tonnes per annum || Source: TIMOR GAP & PTTGC

## REFINERY TARGET MARKETS

The refinery will be targeting mostly international markets. Over 50% of volume is naphtha, which is expected to be sold to Singapore or Thailand petrochemical

plants. About half the diesel will be sold in markets close to Timor-Leste, and the rest is for the domestic market.

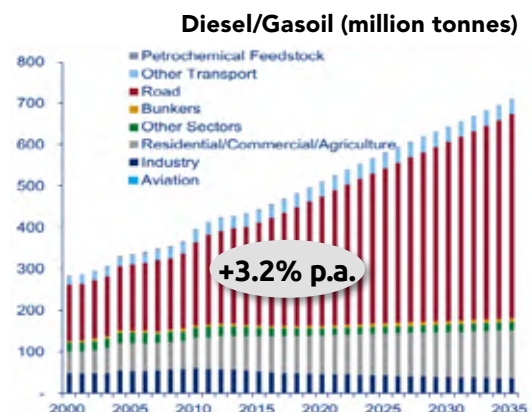
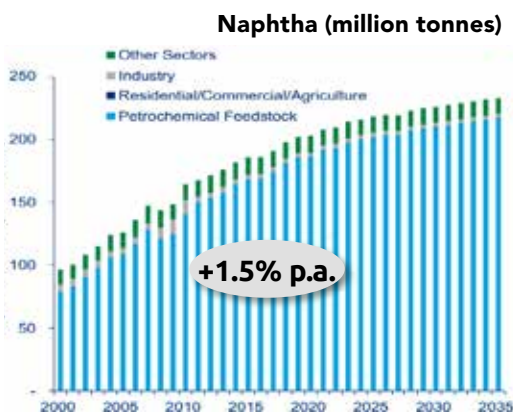


## PRODUCT DEMAND FORECASTS

Demand for refinery products is forecasted to grow slowly in Asian markets (key targets for exports), especially for naphtha, which represents the bulk of production.

The domestic market for gasoline and diesel is expected to grow at 6% per annum.

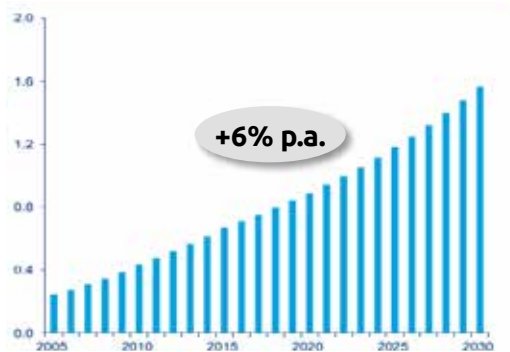
### Asia



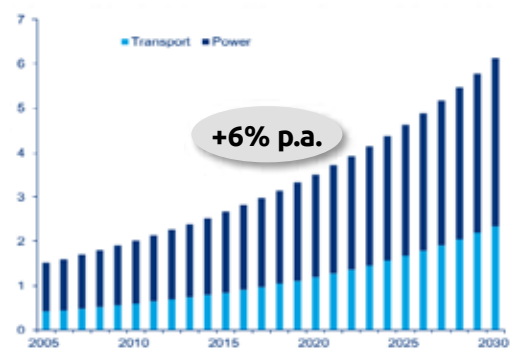
+X% p.a. Average annual growth rate

## Timor-Leste

Gasoline (kbpd\*)



Diesel (kbpd\*)



+X% p.a. Average annual growth rate

\*kbpd = thousand barrels per day || Source: Wood Mackenzie Report "Betano Refinery Financial Assessment" (Aug 2014)

## KEY REFINERY & PETROCHEMICAL REQUIREMENTS

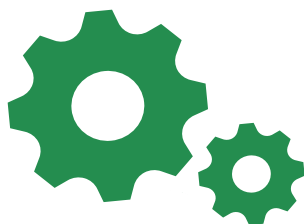
Implementing the refinery & petrochemical complex generates important human resources, technology, and capital requirements.



Capital

Total capex for the Betano Refinery Development Phases (Conservative Case):

- Initial (by 2020): ~USD 552 million
- Expansion to 60k bpd (by 2030): ~USD 501 million
- Expansion to 100k bpd and Aromatics (by 2040): ~USD 952 million.



Technology

Operating this refinery will require different technologies, including:

- UOP Technology License Standard
- Axens Technology Mercury Removal Unit
- Reverse Osmosis Technology



### Human Resources

TIMOR GAP needs to build appropriate skills and knowledge through capacity building for a variety of roles:

- Refinery Construction: Civil Engineer, Electrical Engineer, Design Engineer, Architect, Piping Engineer
- Refinery Operation: Process Engineer, Mechanical Engineer, Electrical Engineer, Instrument Engineer, Rotating Engineer, Corrosion Engineer, Petroleum Engineer, Environmental Engineer, ICT Human Resource, Accounting, Quality & Safety Engineer.

## SERVICES STRATEGY & BUSINESS PLAN

### SERVICES KEY STRATEGIC GOALS

Leveraging the impact of the upstream and downstream projects, over time TIMOR GAP intends to develop a series of services to become a truly integrated oil & gas company. In the short term the focus

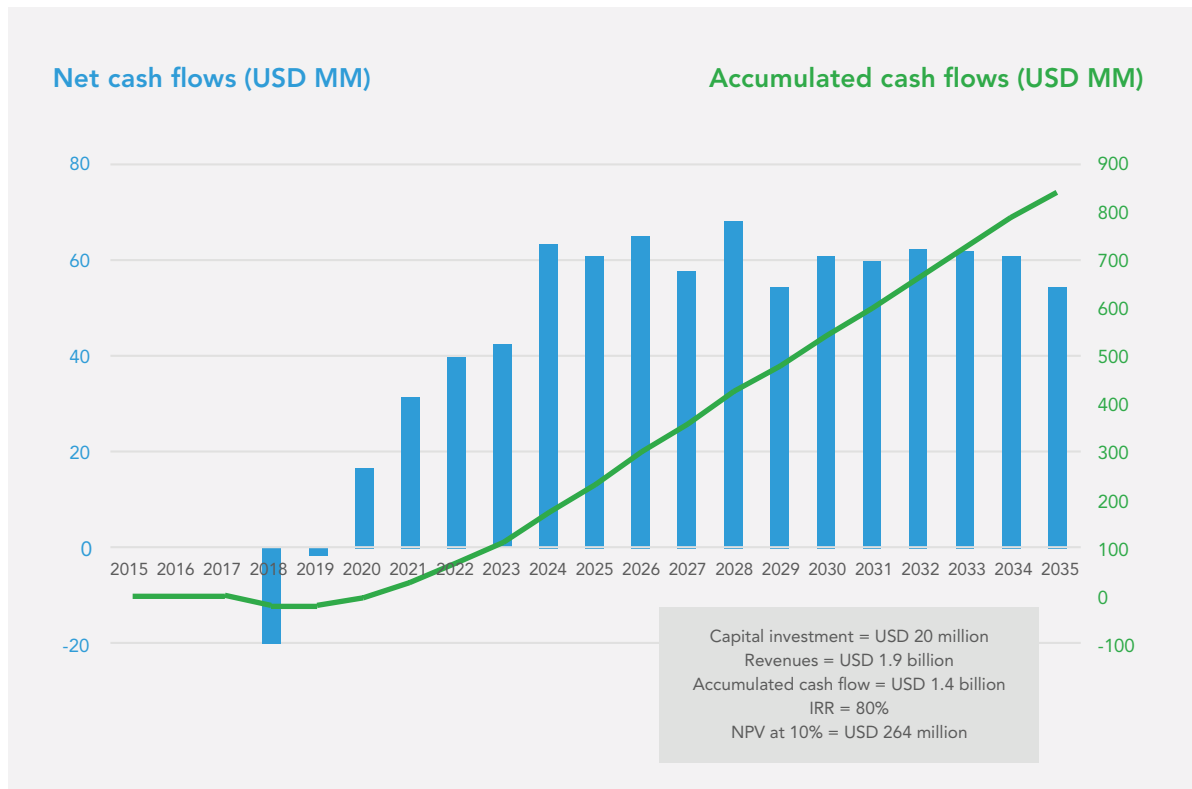
will be on establishing a trading and retail presence, expanding around the country and into new services in the medium term, and internationally in the long term.



## SUAI SUPPLY BASE CASH FLOWS

The Timor-Leste Government has decided to make the initial investment in building the Suai Supply Base and associated infrastructure. This allows TIMOR GAP to make a small initial investment that is expected to generate significant returns,

estimated at around USD 60 million per year, in the form of a variety of services (port, mini-shore bases, fuel tanks, warehouses, etc.) to oil & gas operators and other Suai Supply Base users.



Note: Assumes 100% TIMOR GAP ownership || Source: TIMOR GAP & PTTGC

## KEY SERVICES REQUIREMENTS

Besides detailing the strategy and business plan for each type of service, pursuing oil & gas services goals involves significant requirements in terms of human resources and key processes, infrastructure, and capital.



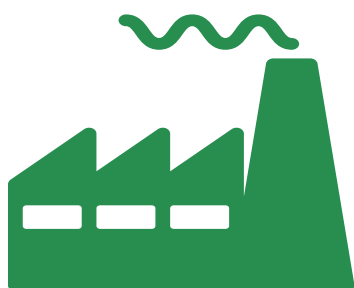
Human Resources & Processes

- Develop the trading team through secondment to other companies, on-the-job and formal training, etc.
- Implement a Quality Management System with ISO certificates
- Establish trading policy manual



Capital

- Funding for investments and working capital: ~USD 500 million
  - Fuel receiving terminal & storage (South & North): ~USD 400 million
  - One Panamax tanker: ~USD 50 million
  - Offshore support vessel: ~USD 20 million



Infrastructure

- Receiving/export port terminal
- Fuel storage facilities
- Filling stations
- Road tanker
- Land access for fabrication and other facilities

## NATIONAL DEVELOPMENT

By pursuing our mission and delivering on this Strategic Plan, TIMORGAP contributes to Timor-Leste development in several critical ways: promoting good governance in the petroleum sector, ensuring national

energy security, developing local human capital and petroleum capabilities, and building the infrastructure to enable sound economic growth.

## COMMITTED TO GOOD GOVERNANCE

TIMOR GAP is committed to being a role model for state-owned and private enterprises in Timor-Leste, ensuring it complies with all applicable laws and regulations, following the Timor-Leste

Transparency Model to ensure good governance, inclusivity, transparency and civic responsibility, and contributing to the Extractive Industries Transparency Initiative.



Compliant with the Petroleum Fund Law, Petroleum Taxation Law and all other relevant legal frameworks



Compliant with the Timor-Leste Transparency Model



Part of EITI's\* Multi-Stakeholder Group

\*Extractive Industries Transparency Initiative



## ENSURING ENERGY SECURITY

TIMOR GAP's downstream activities will ensure that Timor-Leste, its population, State and private sector have access to energy sources adequate to their needs. In particular, TIMOR GAP will

develop appropriate supply channels and storage to minimize eventual periods of fuel scarcity, and will build distribution networks to ensure fuel reaches everyone.



Developing reliable fuel supply and reserves for Timor-Leste's energy needs, enabling sustained economic growth



High-quality and reliable fuel distribution in all the municipalities of Timor-Leste, for personal use, as well as for the public and private sectors

## DEVELOPING HUMAN CAPITAL & LOCAL CAPABILITIES

TIMOR GAP is a driver of petroleum sector development in Timor-Leste, in particular by ensuring that human capital

with appropriate skills and capabilities can be found locally.

### Job creation

- Growing from current ~100 employees (the large majority Timorese), and ~40 employees in subsidiary GAP-MHS
- Hundreds of direct jobs created by the LNG business, Refinery and Suai Supply Base
- Thousands of indirect jobs and business opportunities

### Local content requirements

- Local content – resources, products, services, labor – is a key requirement in negotiations with JV partners
- Projects prioritizing local staff whenever appropriate

### Capacity building

- International and local training programmes
- On-the-job training, including with external consultants and JV partners
- Secondment to other petroleum organizations

### Technological transfers

- Through joint ventures, consulting projects, and other collaborations

## DEVELOPING THE PETROLEUM SECTOR

TIMOR GAP is also driving petroleum sector industrialization by building the required infrastructure and managing

a series of initiatives in upstream, downstream and services.



### Upstream

- TLEA offshore and onshore
- JPDA
- Future international opportunities



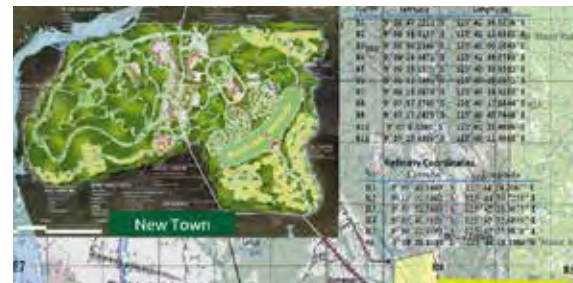
### Services

- Suai Supply Base
- Port with jetties and breakwater
- Suai airport
- Nova Suai



### Downstream: LNG plant

- LNG plant
- Marine facilities
- Pipeline from Greater Sunrise/JPDA
- Nova Beço



### Downstream: Refinery

- Refinery
- Petrochemical complex
- Nova Betano

This section outlines the potential for financial and non-financial benefits that Timor-Leste can capture through solid development of the petroleum sector.

In summary:

- There is potential \$350 billion dollars worth of resources yet to be monetized in TLEA and JPDA
- This requires exploration, development and maintenance worth \$100 billion in the coming 20 years
- When fully explored, there will be approximately \$45 billion worth of Government take through taxes and profit oil (upstream take), plus TIMOR GAP dividends of around \$25 billion
- However, to capture the full value, Timor-Leste should move from an upstream, extractive-oriented industry to a more transformational industry by way of developing services, fabrications and goods – e.g., establishing Suai Supply Base, refineries/petrochemicals, and LNG plant
- This will ensure around 20% of the \$100 billion is captured in Timor-Leste's economy with additional multiplier effects of thousands of jobs, trade, commerce, SME development, and general GDP growth
- Government take from downstream and services will be around \$6 billion, plus about \$34 billion in TIMOR GAP

This table summarizes the Timor-Leste petroleum value potential to be explored and developed in the next 50 years.

	GAS		OIL / CONDENSATE		TOTAL BOE		REVENUES	COSTS (60%)	PROFIT TO SPLIT	
	IN PLACE Tcf	RECOVERABLE Tcf	IN PLACE MMBbl	RECOVERABLE MMBbl	IN PLACE MMBbl	RECOVERABLE MMBbl	USD bn	USD bn	USD bn	
JPDA	Greater Sunrise	11.2	6.63		273	1,867	1,393	55.7	33.4	22.3
	Bayu Undan*	8.4	2.7		276	1,400	1,186	47.4	28.5	19.0
	Kelp Deep	50.0	13.0			8,333	5,417	216.7	130.0	86.7
	<b>TOTAL</b>	<b>69.6</b>	<b>22.3</b>	<b>0</b>	<b>0</b>	<b>11,600</b>	<b>7,996</b>	<b>319.8</b>	<b>191.9</b>	<b>127.9</b>
JPDA 11-106	Kuda Tasi			28	14	28	14	0.6	0.3	0.2
	Jahal			12	6	12	6	0.2	0.1	0.1
	Karungo			206	103	206	103	4.1	2.5	1.6
	Lanjara			92	46	92	46	1.8	1.1	0.7
	Krill			20	10	20	10	0.4	0.2	0.2
	Squilla			34	17	34	17	0.7	0.4	0.3
	Kurisi			130	65	130	65	2.6	1.6	1.0
	Kanase			222	111	222	111	4.4	2.7	1.8
<b>TOTAL</b>			<b>744</b>	<b>372</b>	<b>744</b>	<b>372</b>	<b>14.9</b>	<b>8.9</b>	<b>6.0</b>	
TLEA	Citrana			939	282	939	282	11.3	6.8	4.5
	Ainaro			593	278	593	278	11.1	6.7	4.4
	<b>TOTAL</b>			<b>1,532</b>	<b>560</b>	<b>1,532</b>	<b>560</b>	<b>22.4</b>	<b>13.4</b>	<b>9.0</b>
ONSHORE	6 Fields			30	6	30	6	0.2	0.1	0.1
	<b>TOTAL</b>			<b>30</b>	<b>6</b>	<b>30</b>	<b>6</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>
<b>GRAND TOTAL</b>	<b>70</b>	<b>22</b>	<b>2,306</b>	<b>938</b>	<b>13,906</b>	<b>8,934</b>	<b>357</b>	<b>214</b>	<b>143</b>	

\*Remaining reserves || Note: Simple estimates assuming oil price at \$39 per barrel || Source: TIMOR GAP analysis

The potential in exploration, development and production expenditure in the next 20 years can be estimated through the following assumptions, which lead to a total USD100 billion.

AREA	Exploration & Development: Estimated expenditure in the next two decades			O&M during Production: Estimated expenditure in the next two decades	
	<b>TIMOR-LESTE ONSHORE AREA</b>	5 explorations blocks: G & G studies; 2 drilling wells per block @ \$10 million per well	2 blocks proceed to development @ \$150 million each	\$0.4 billion	Each block to operate @ \$10 million/year for 10 years
<b>TIMOR-LESTE OFFSHORE AREA</b>	5 explorations blocks: G & G studies; 4 drilling wells per block @ \$100 million per well	3 blocks proceed to development @ \$3 billion each	\$11 billion	Each block to operate @ \$300 million/year for 10 years	\$9 billion
<b>JPDA (excluding GS &amp; BU)</b>	5 explorations blocks: G & G studies; 4 drilling wells per block @ \$50 million per well	2 blocks proceed to development @ \$2 billion each	\$5 billion	Each block to operate @ \$300 million/year for 10 years	\$6 billion
<b>Greater Sunrise</b>	Exploration; 7 wells, \$500 million to date (past)	Upstream develop- ment can be around \$6 billion	\$6 billion (excl.past costs)	Analogue with BU operation @ \$600 million/year for 25 years	\$15 billion
<b>Bayu Undan</b>	Past	Past		Operate till 2022 @ \$500 million/year .	\$3.5 billion
<b>TIMOR SEA</b>	More than 10 explora- tions blocks: G & G studies; 4 drilling wells per block @ \$50 million per well	5 blocks proceed to development (2 big size gas @ \$6 billion each, and 3 moderate size @ \$1 billion each)	\$17 billion	2 big fields operate @ \$500 million/year for 25 years, & 3 fields for \$200 million/year for 10 years	\$31 billion
<b>TOTAL</b>			\$39.5 billion		\$64.7 billion

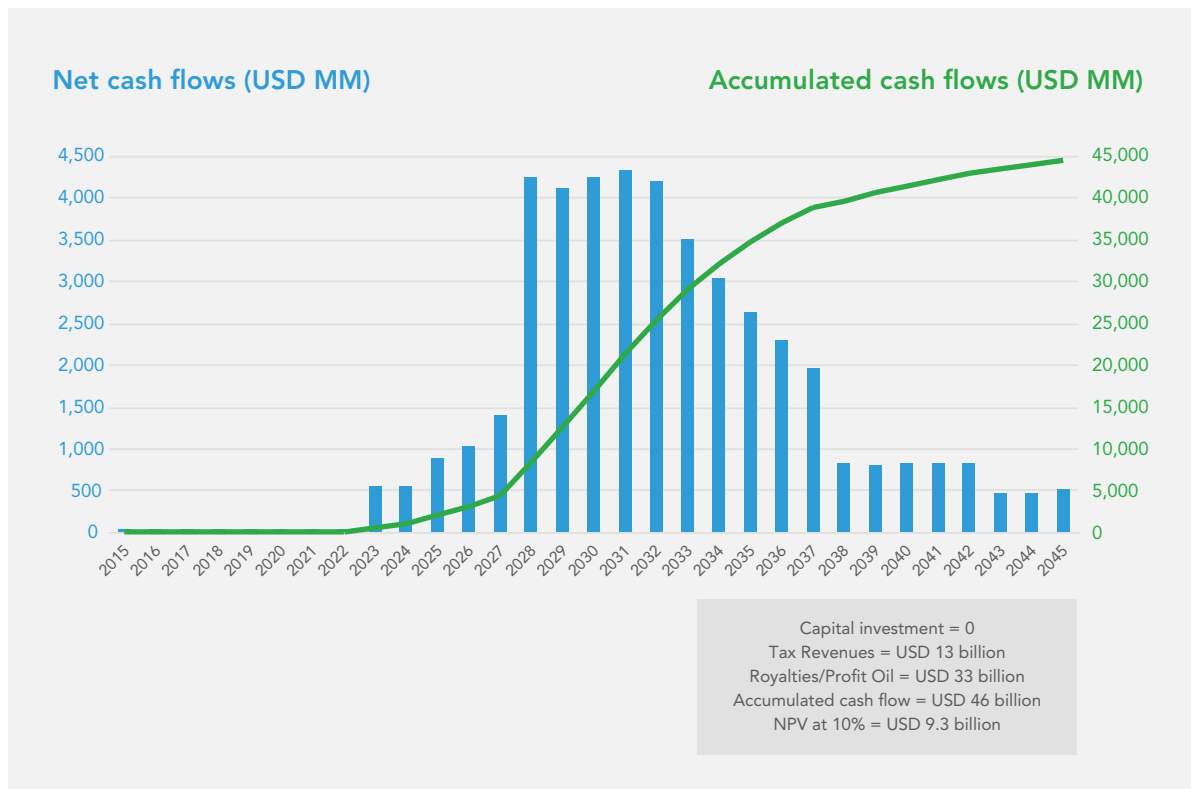
Note: Wells & Development costs compared with regional trends, e.g. PNG onshore, Timor Sea shallow & deepwater wells; Operations & Maintenance based on regional trends, Kitan & Bayu Undan costs with some discounts || Source: TIMOR GAP analysis

## UPSTREAM

### GOVERNMENT CASH FLOWS

Starting in 2023, the Government is expected to benefit from positive cash flows from upstream operations in the Timor-Leste Exclusive Area (onshore and offshore) and the Joint Petroleum Development Area. Based on future

petroleum fields estimates, accumulated cash flows could reach close to USD 50 billion, of which about 30% in tax revenues, and the remaining in royalties and profit oil.

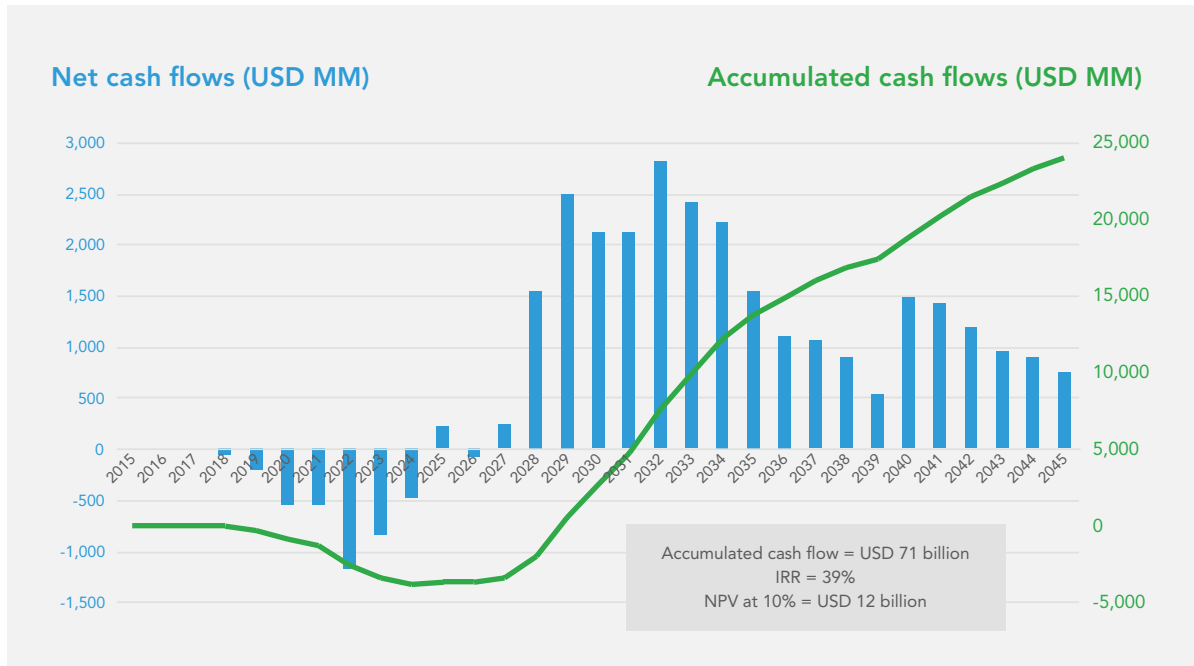


Note: Does not include existing producing fields (Bayu Undan, Kitan) nor TLEA or JPDA producing fields with no TIMOR GAP participation; Conservative Price Case || Source: TIMOR GAP upstream model and analysis

### TOTAL TIMOR-LESTE CASH FLOWS

Adding TIMOR GAP cash flows and Government cash flows we obtain the total Timor-Leste cash flows, which could

add up to over USD 70 billion, and a Net Present Value of USD 12 billion.



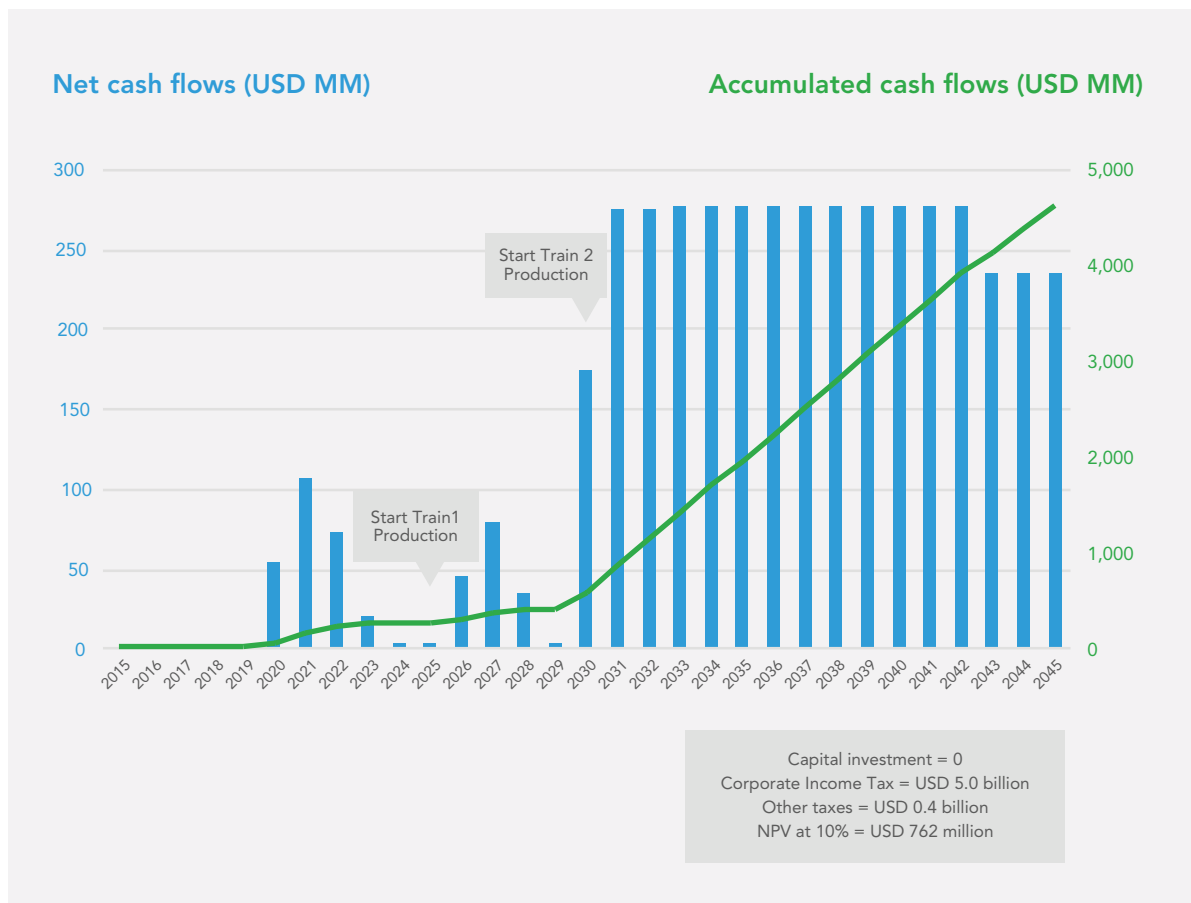
Note: Does not include existing producing fields (Bayu Undan, Kitan) nor TLEA or JPDA producing fields with no TIMOR GAP participation || Source: TIMOR GAP upstream model and analysis

## DOWNSTREAM: LNG PLANT

### GOVERNMENT CASH FLOWS

The LNG project should start generating positive cash flows to the Government in 2020, through construction and other related taxes. From 2030 onwards, as the project becomes more profitable

after the addition of a second train, the Government would start receiving over USD 250 million per year in taxes, leading to accumulated cash flows of more than USD 5 billion over the project lifetime.

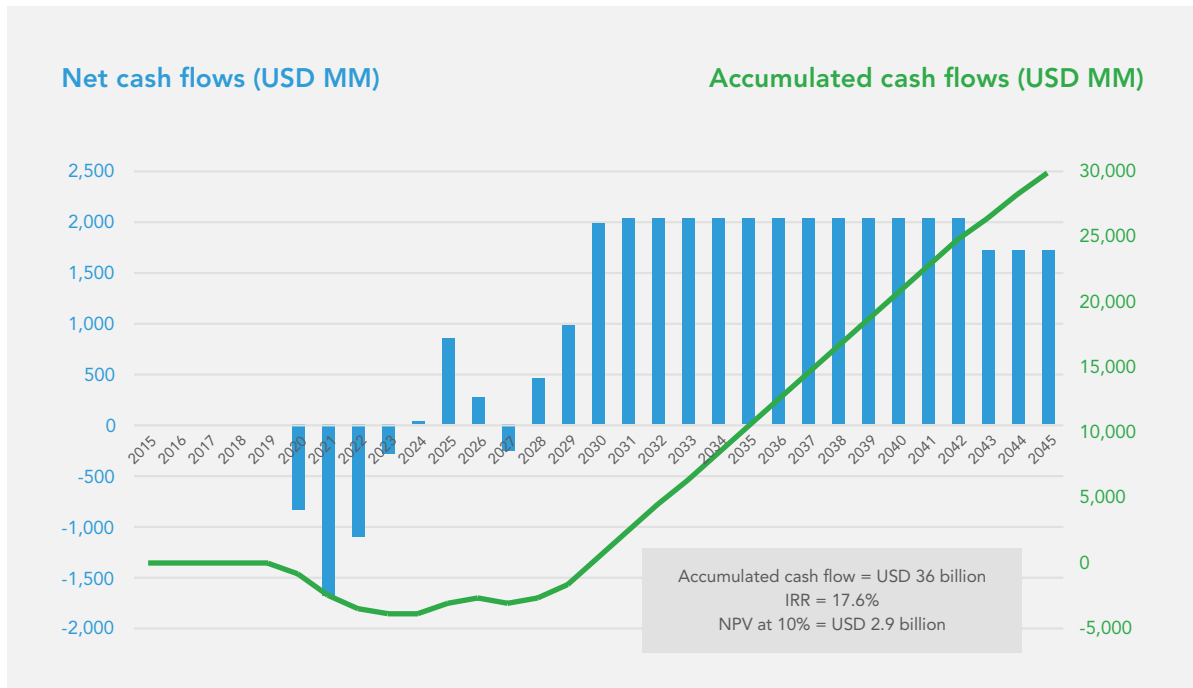


Note: Assumes 70% TIMOR GAP ownership || Source: TIMOR GAP LNG Plant model and analysis

### TOTAL TIMOR-LESTE CASH FLOWS

Total Timor-Leste cash flows could add up USD 36 billion, with a Net Present Value of USD 2.9 billion.





Note: Assumes 70% TIMOR GAP ownership || Source: TIMOR GAP LNG Plant model and analysis

## OTHER BENEFITS/MULTIPLIER EFFECTS

Besides direct financial benefits, the LNG project will lead to a series of other positive effects:

- Jobs: 5,000+ during construction and 300 direct jobs during operation; over 1,500 indirect jobs (industry ratio: 1 direct job generates up to 5 indirect jobs)
- Timor-Leste businesses and locals can compete to supply fabrications, services and work worth about \$6.5 billion in capex (before production of train 1 & 2) – not generated without the project
- Timor-Leste businesses and locals can compete to supply services and goods for LNG, pipeline and tanker operations worth over \$2.5 billion (25 years) – not generated without the project
- New businesses such as maintenance, engineering, small fabrications, repairing, specialised weldings, specialised equipment cleaning, transport, gardening, cleaning, security guard services, chemical supplies, LNG tanker business, tug boats, electricity usage, offices and accommodation, hotels and entertainment, food, fruit and vegetable supplies, etc. – all of which will generate thousands of indirect jobs, and stimulate economic activities around Beaco and Timor-Leste at large, paying taxes and contributing to GDP growth
- Trade and commerce – Timor-Leste can be

more active in world trade and known as LNG supplier

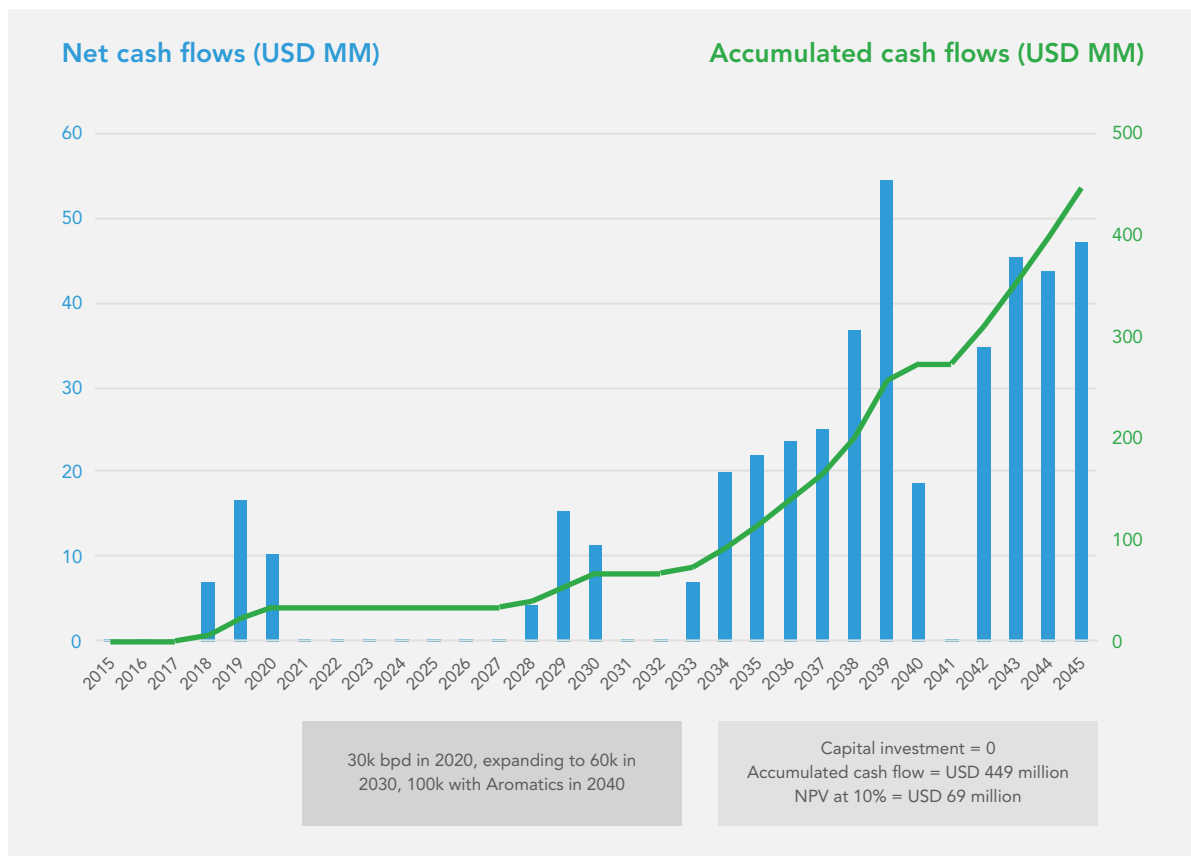
- Build geopolitical energy influence
- Reduce trade imbalance by increasing exports
- Increase hard currency into Timor-Leste economy
- Infrastructure: set the basis for future expansions
- Education: science & technology exposure, experience and transfer

## DOWNSTREAM: REFINERY

### GOVERNMENT CASH FLOWS

Initially, the Refinery and Petrochemical project will generate tax income to the Government in the form of construction and related taxes. As the project generates more profits it will start paying corporate

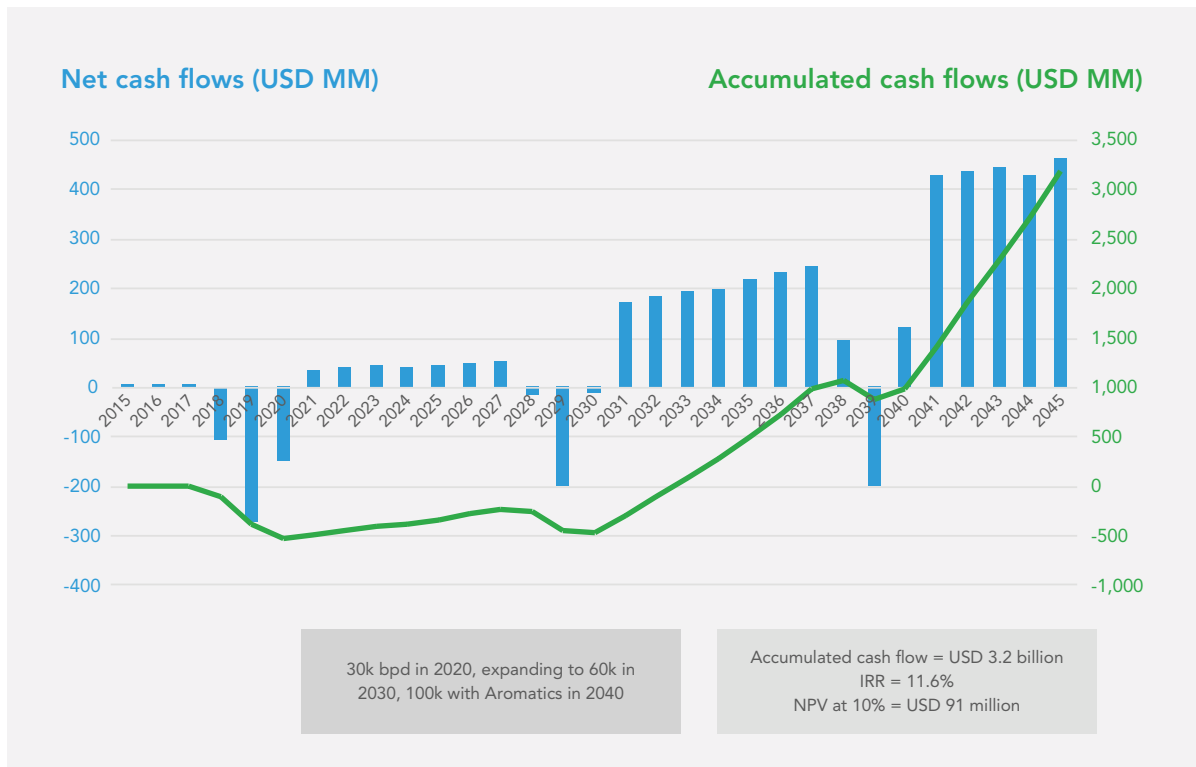
income taxes. Overall, Government accumulated cash flows are expected to be below USD 0.5 billion over the project lifetime.



Source: TIMOR GAP Refinery model and analysis

## TOTAL TIMOR-LESTE CASH FLOWS

Total Timor-Leste cash flows could add up USD 3.2 billion, with an overall Internal Rate of Return of 11.6%.



Note: Assumes 100% TIMOR GAP ownership || Source: TIMOR GAP Refinery model and analysis

## OTHER BENEFITS/MULTIPLIER EFFECTS

Besides direct financial benefits, the Refinery & Petrochemical project will lead to a series of other positive effects:

- Jobs: 2,000+ during construction and 250 direct jobs during operation; up to 1,000 direct jobs if fabrications and services are set up (possibly 2-5 years from the start of operation). Therefore over 6,000 indirect jobs (industry ratio: 1 direct job generates up to 5 indirect jobs)
- Timor-Leste businesses and locals can compete to supply fabrications, services and work worth around \$2 billion in capex (25 years) – not generated without the project
- Timor-Leste businesses and locals can compete to supply services and goods for refinery operations worth almost \$1 billion (25 years) – not generated without the project
- New businesses such as maintenance, engineering, small fabrications, repairing, specialised weldings, specialised equipment cleaning, transport, gardening, cleaning, security guard services, chemical supplies, crude tanker business, product tanker business, tug boats, electricity usage, offices and accomodation, hotels and entertainment, food, fruit and vegetable supplies, etc. – all of which will generate thousands of indirect jobs, and stimulate economic activities around Betano and Timor-Leste at large, paying taxes and contributing to GDP growth
- Trade and commerce – Timor-Leste can be more active in world trade
- Reduce trade inbalance by increasing exports
- Eliminate fuel import worth \$3+ billion (20 years)
- Reduce hard currency exports
- Infrastructure: set the basis for future expansions
- Education: science & technology exposure, experience and transfer

## SERVICES

International examples provide appropriate infrastructure. The next few references of multiple services that pages illustrate a variety of services to be TIMOR GAP could get into as it becomes explored. a fully integrated oil & gas company, with



### SUPPLY BASE MANAGEMENT

- Manpower
- Supporting facilities
- Waste management
- Repair and maintenance



### PORT SERVICES

- Berthing space booking
- Vessel clearance
- Customs & immigration
- Crew change



### CARGO HANDLING AT QUAY

- Stevedoring
- Heavy equipment
- Trucking
- Liquid mud transfer



### CARGO HANDLING AT BASE

- Labor
- Heavy equipment
- Trucking



### VESSEL SUPPLY

- Fuel
- Water
- Food (meat, fruits & vegetables)
- Other provisions



### MARINE SERVICES

- Rig Agency
- Rig/Vessel Lay-up
- Tug Boats
- Vessel Chartering
- AHTS & PSVs
- Rig Tow



**FACILITY RENT & MANAGEMENT**

- Warehouse /Yard Management
- Bulk Plant Area
- Port-a-camp
- Office Space
- Equipment Rental
- Cargo Handling
- Security Services
- Waste Management
- Fuel/Water Supply

**SUPPLY CHAIN SERVICES**

- International Transportation
- Customs Clearance
- Heavy Lift Transportation
- Material Management
- Dangerous Goods Handling
- Hand-Carry & Hotshot
- Air/Sea Chartering
- Helicopter Operations

**OILFIELD SUPPORT SERVICES**

- Engineering
- Fabrications (small to big)
- CCU & Basket Rental
- Equipment Rental
- Manpower Supply
- Inspection Services
- Procurement Services
- Oil Spill Response
- Maintenance Services
- Pipe Repair & Threading
- Seismic Surveys
- Drilling Rigs Stations
- Drilling Muds
- Bunkering

Source: Courtesy of Altus – Modified by TIMOR GAP

**NOTE**

Activities above will naturally trigger development of agriculture, fishery, small to medium enterprises (crops, fruits, vegetables, meat and fish required for employees and workers in the Base and oilfields)



SUPPLY SERVICES



24/7 OPERATION



CARGO LOADING/UNLOADING



CARGO LIFTERS



FUEL SUPPLY



FUEL STORAGE



INSPECTION AREAS



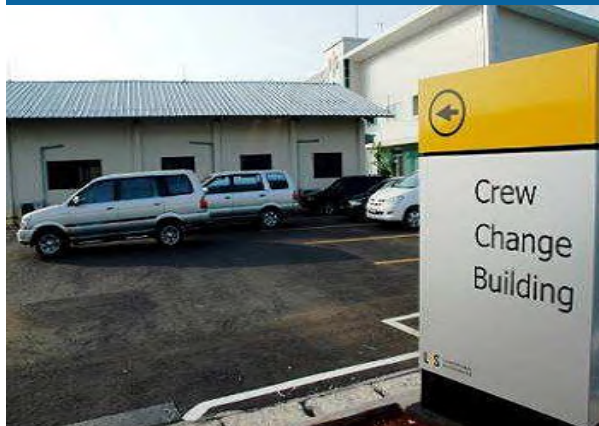
RIGGING & SLINGING



**CUSTOMS**



**OPEN YARD**



**CREW CHANGE FACILITIES**



**OFFICES**



**PIPE RACKING, FUEL TANKS AND WAREHOUSES**



**OIL RIGS PARKING FOR SUPPLY/MAINTENANCE**



**WELDING**



**FABRICATION**





PIPE REELS



PIPES



WAREHOUSES



SPARE PARTS STORAGE



WASTE MANAGEMENT



DRILLING MUDS & SILOS



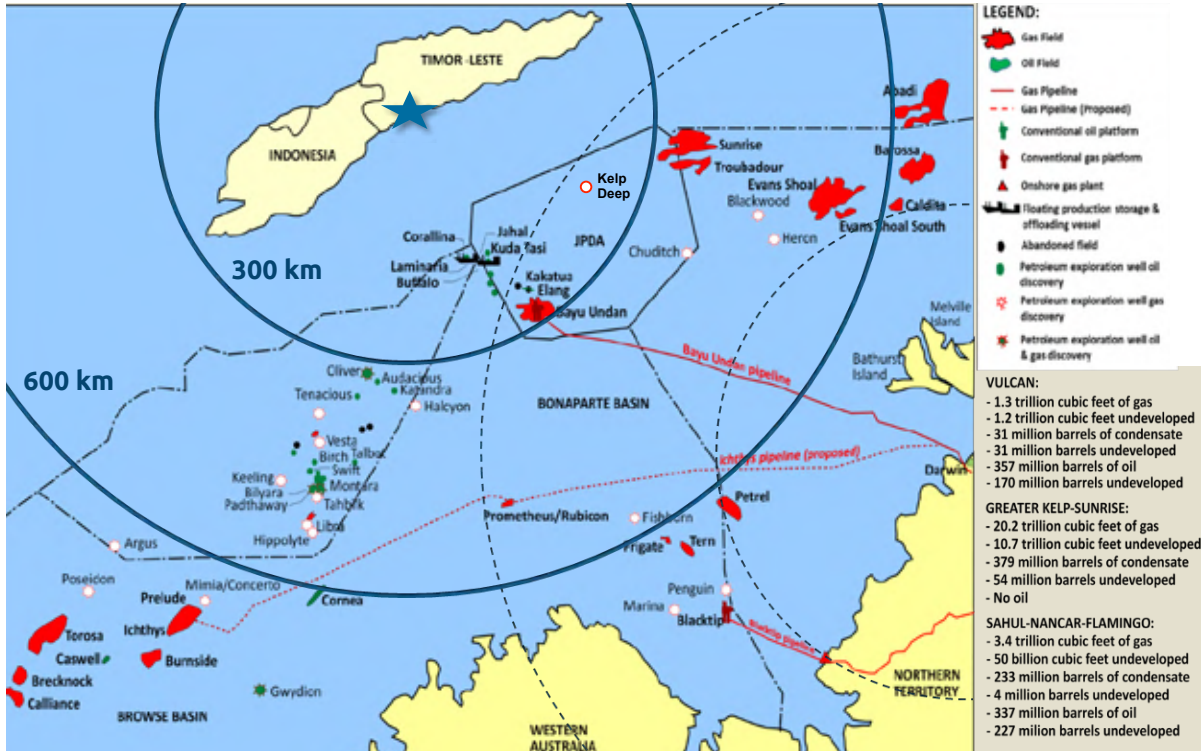
CHEMICAL WAREHOUSE



REPAIRS & MAINTENANCE

### SUAI SUPPLY BASE SETTING

The Suai Supply Base is strategically located to provide services to a significant number of petroleum fields in the Timor Sea and surrounding areas.

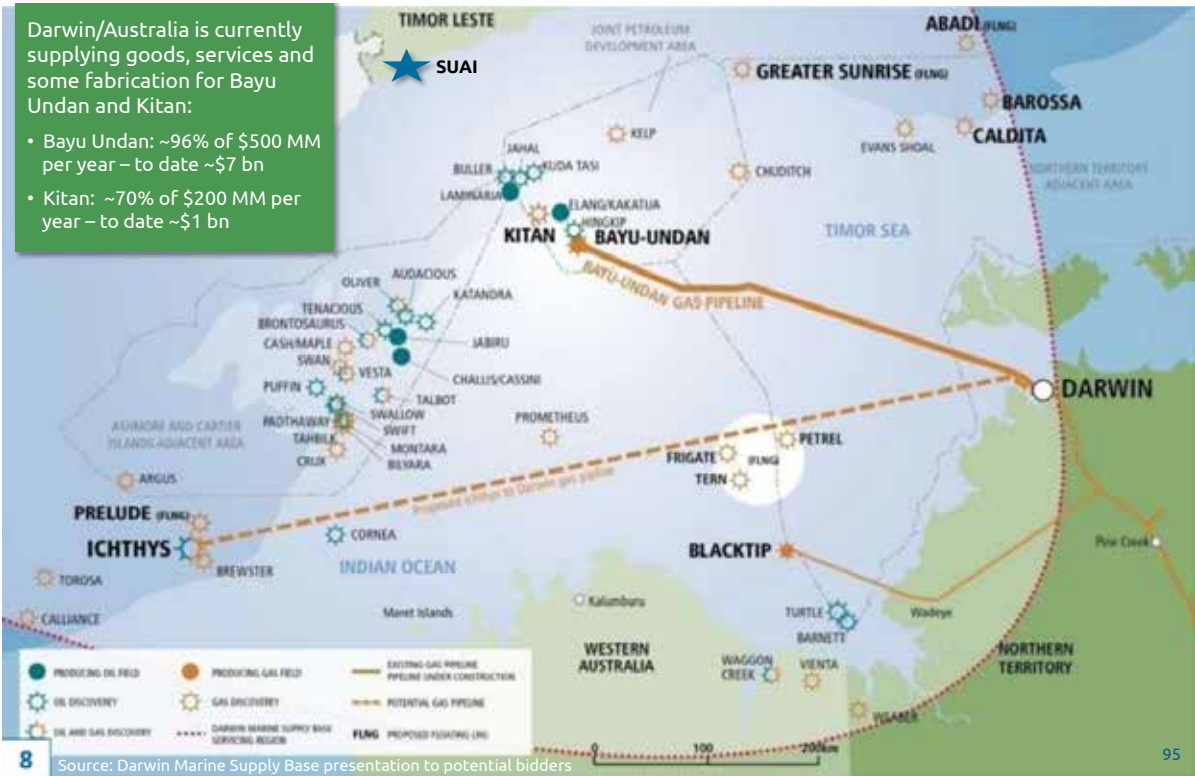


The Suai Supply Base will compete in particular with the Darwin Marine Supply Base, which has been supplying the

majority of goods and services to JPDA producing fields (Bayu Undan and Kitan).



Darwin Marine Supply Base || Source: Darwin Marine Supply Base presentation to potential bidders



Darwin has grown into a very dynamic & bustling city since 1999 – partly due to the Bayu Undan Pipeline & LNG plant.



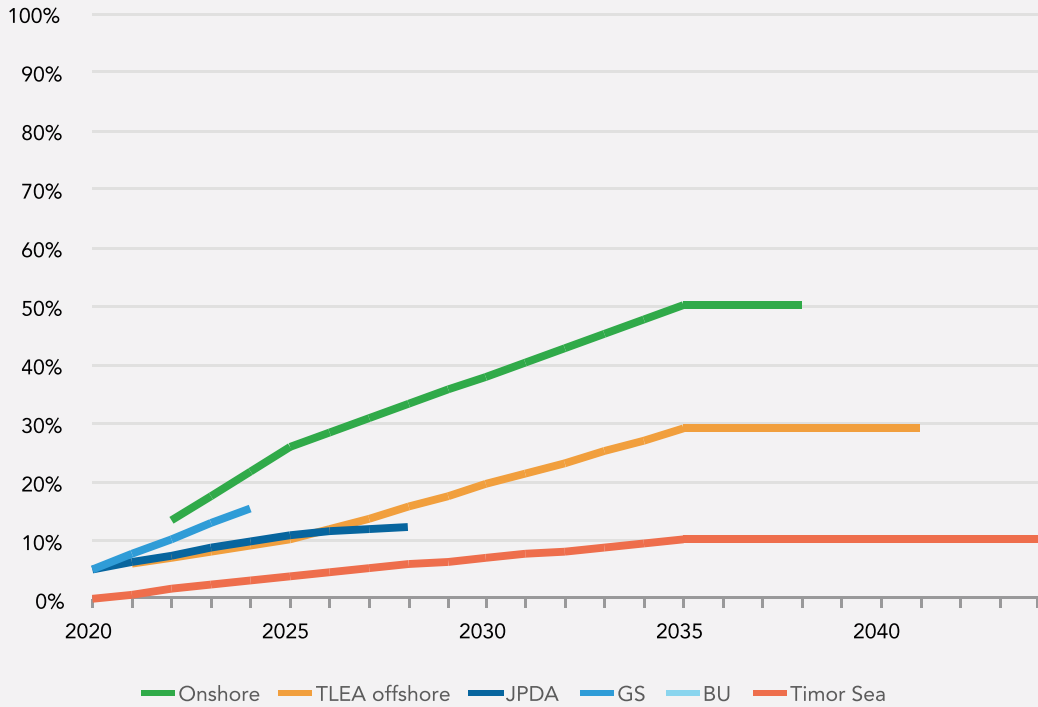
## SUAI SUPPLY BASE BUSINESS POTENTIAL

To analyze the possible business generated by the Suai Supply Base, we projected the potential share of goods and services to oil & gas projects in the Timor Sea that it could capture over time. We'd expect SSB's market share of TLEA fields' expenditure to be larger than the share of JPDA fields, which in turn would

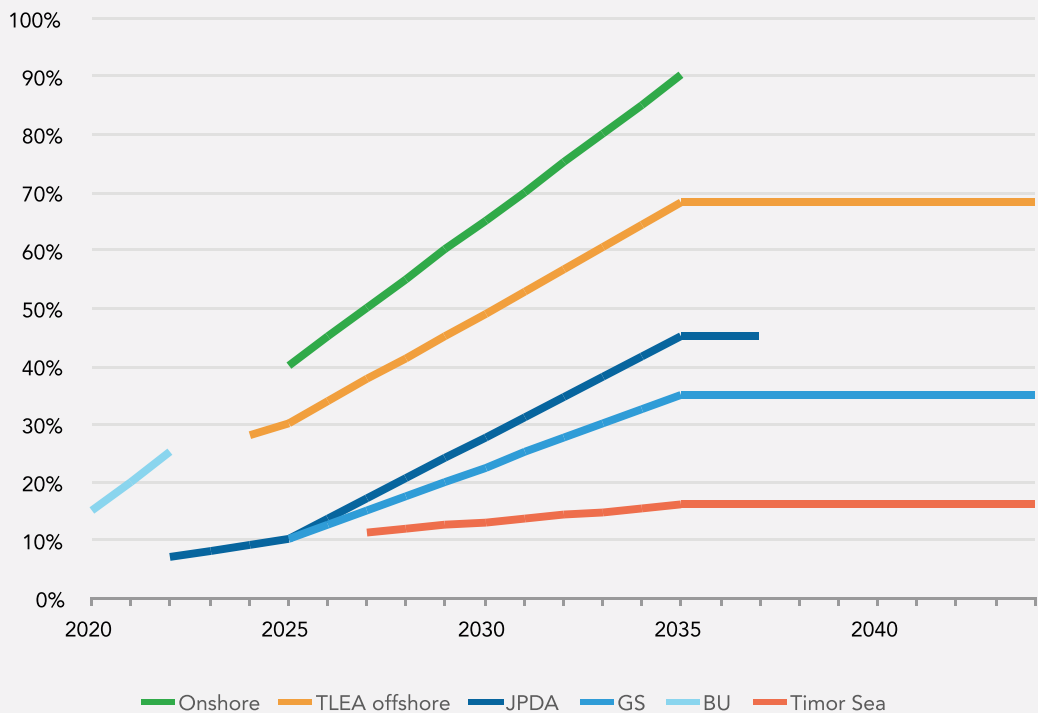
be larger than the share of other Timor Sea fields. Given the types of goods and services involved, we expect SSB to be able to capture larger shares in Operations & Maintenance (up to almost 70% of TLEA offshore) than in Exploration & Development (up to almost 30% of TLEA offshore).

### Expenditure captured by Suai Supply Base per area (% of total market)

#### Exploration & Development



#### Operations & Maintenance



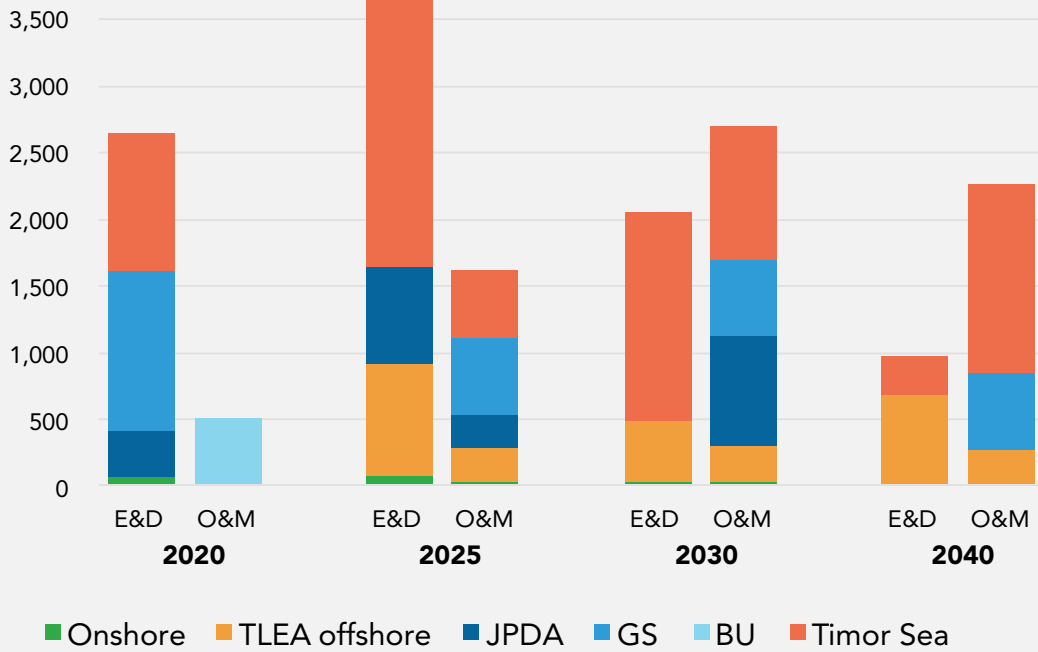
Source: TIMOR GAP projections

To quantify the potential market in dollars, we used industry benchmarks to estimate the Exploration & Development (E&D) and Operations & Maintenance (O&M) expenditures of expected fields in the different areas in the next 30 years. These amounts, multiplied by the projected market shares over time, provide us a projection of the value of

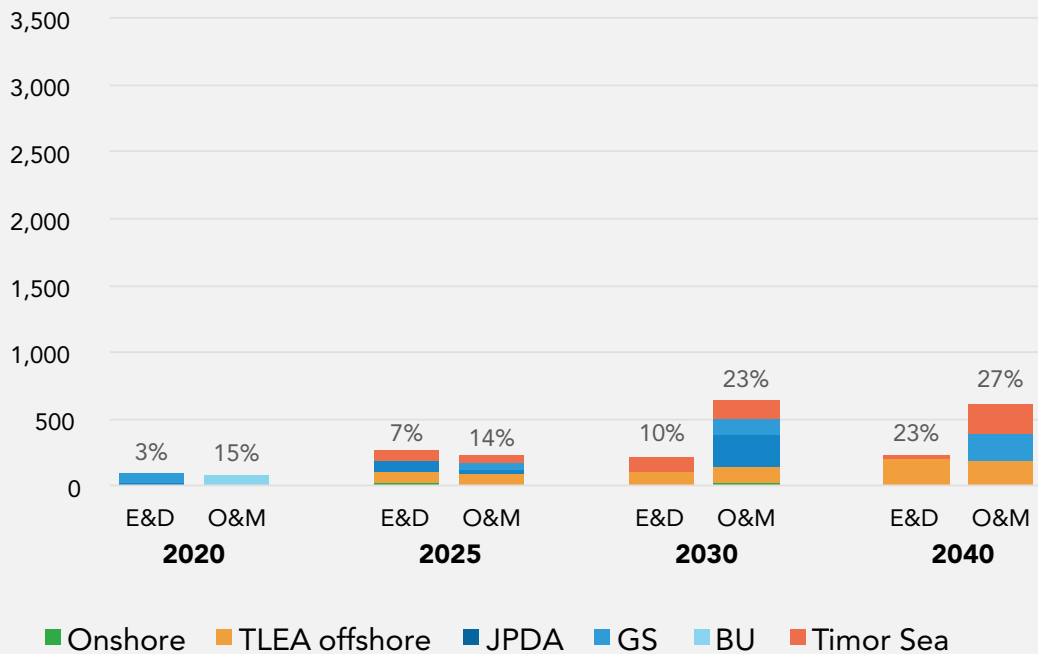
goods and services captured by SSB over time: around USD 150 million in 2020, almost USD 500 million in 2025, and over USD 800 million in 2030 and 2040. This means not direct SSB revenue for TIMOR GAP, but revenue that users of SSB would generate (companies operating from SSB to provide fabrication and other oil & gas goods and services).

**Expenditure per area (USD million)**

**Total Market Value**



**Captured by Suai Supply Base**

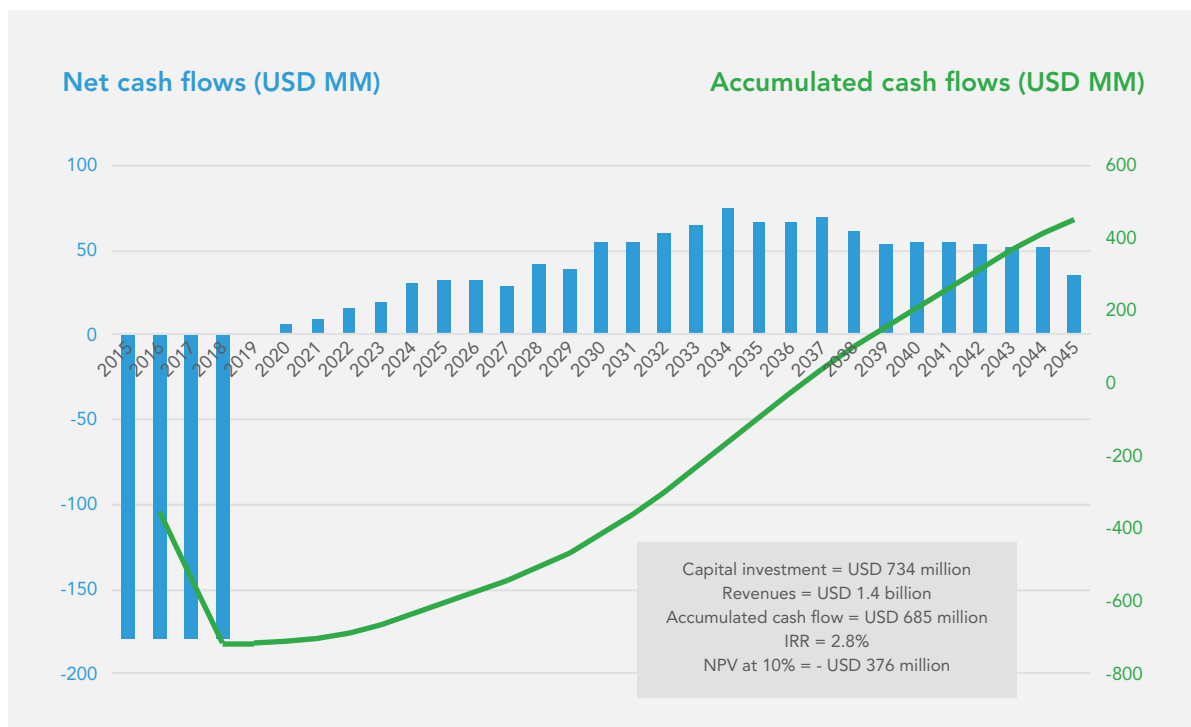


Source: TIMOR GAP projections

### GOVERNMENT CASH FLOWS

To calculate Government cash flows associated with the Suai Supply Base we considered the initial investment of USD 734 million and estimated state income from associated import duties, sales tax on imported goods, corporate income tax and wage withholding tax. We based these calculations on SSB market

share estimates, as well as on simplified assumptions about the businesses operating in SSB: we considered that imported goods represent 65% of revenue, that wages represent 15%, and profits 20%. Over the project lifetime, we'd expect accumulated cash flows of almost USD 700 million.



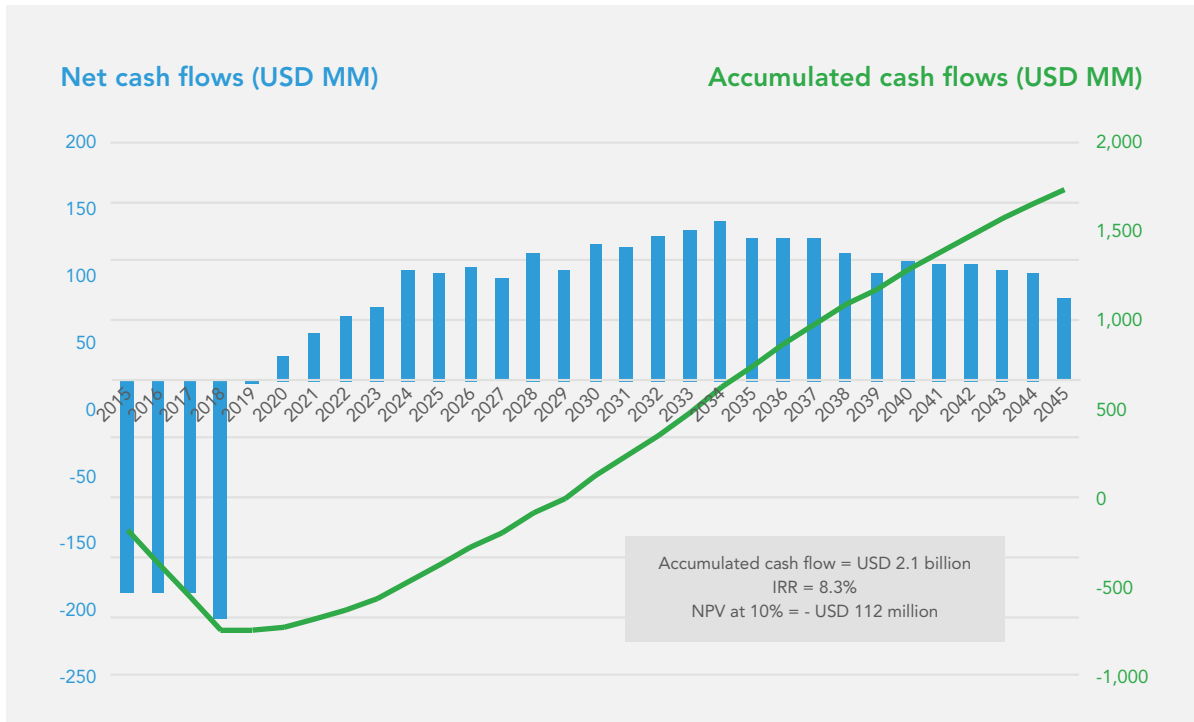
Source: TIMOR GAP Suai Supply Base model and analysis



### TOTAL TIMOR-LESTE CASH FLOWS

Adding TIMOR GAP and Government cash flows, we obtain total Timor-Leste cash flows associated with the Suai Supply

Base: accumulated cash flows of USD 2.1 billion, with an Internal Rate of Return of 8.3%.



Note: Assumes 100% TIMOR GAP ownership || Source: TIMOR GAP Suai Supply Base model and analysis

## OTHER BENEFITS/MULTIPLIER EFFECTS

Besides direct financial benefits, the Suai Supply Base project will lead to a series of other positive effects:

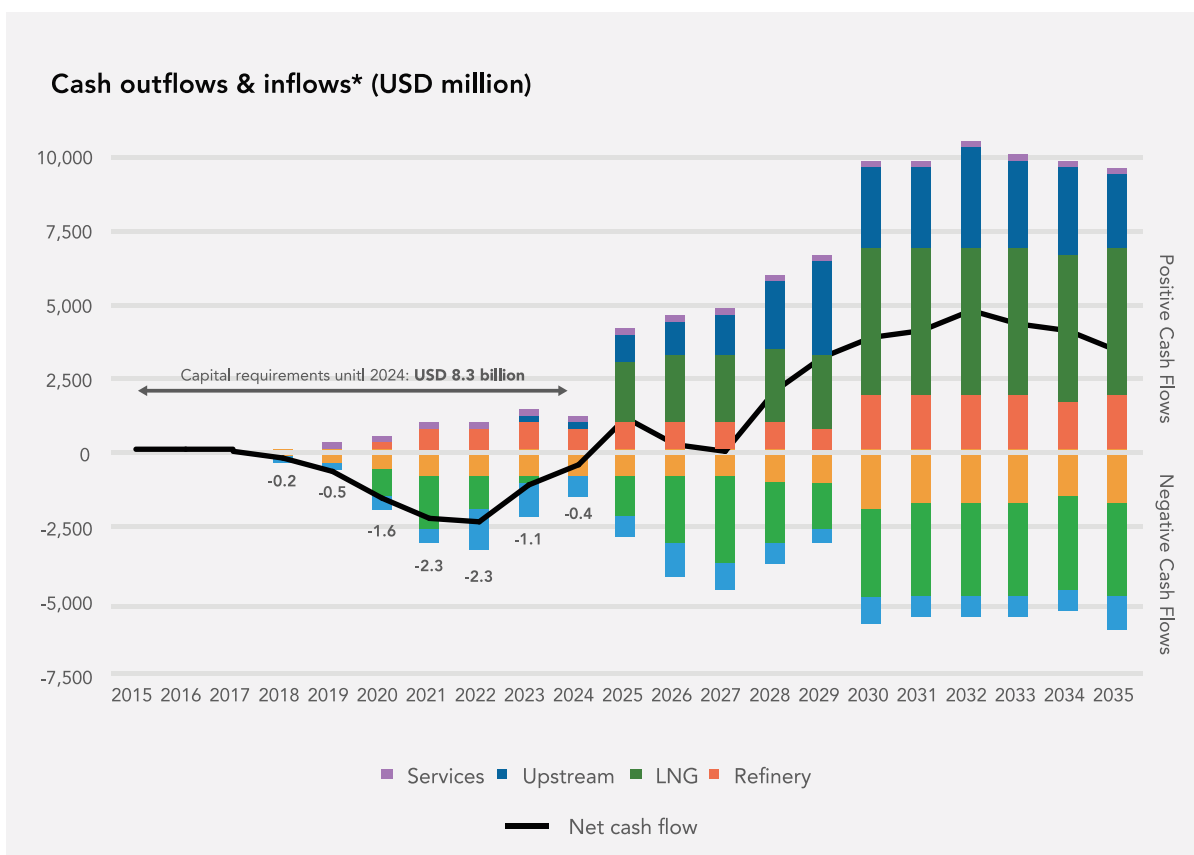
- Jobs: 2,000+ during construction and 250 direct jobs during operation; up to 5,000 direct jobs if fabrications and services are set up. Therefore over 25,000 indirect jobs (industry ratio: 1 direct job generates up to 5 indirect jobs)
- Timor-Leste businesses and locals can compete to supply goods and services for upstream exploration & development of over \$4 billion (25 years) – not generated without SSB
- Timor-Leste businesses and locals can compete to supply goods and services for upstream operations & maintenance of over \$15 billion (25 years) – not generated without SSB
- New businesses such as maintenance, engineering, small fabrications, repairing, specialised weldings, specialised equipment cleaning, transport, gardening, cleaning, security guard services, chemical supplies, crude tanker business, product tanker business, tug boats, electricity usage, offices and accommodation, hotels and entertainment, food, fruit and vegetable supplies, etc. – all of which will generate thousands of indirect jobs, and stimulate economic activities around Suai and Timor-Leste at large, paying taxes and contributing to GDP growth
- Trade and commerce – Timor-Leste can be active in world trade and known as SSB
- Build geopolitical influence in supply chain
- Reduce trade imbalance by increasing exports
- Increase hard currency into Timor-Leste economy
- Infrastructure: set the basis for future expansions
- Education: science & technology exposure, experience and transfer

## FINANCIAL PLAN

### CAPITAL REQUIREMENTS

TIMOR GAP’s large projects require significant upfront investments before the positive cash flows generated by the

business enable self-funding. By 2024 the capital required adds up to about USD 8.3 billion.

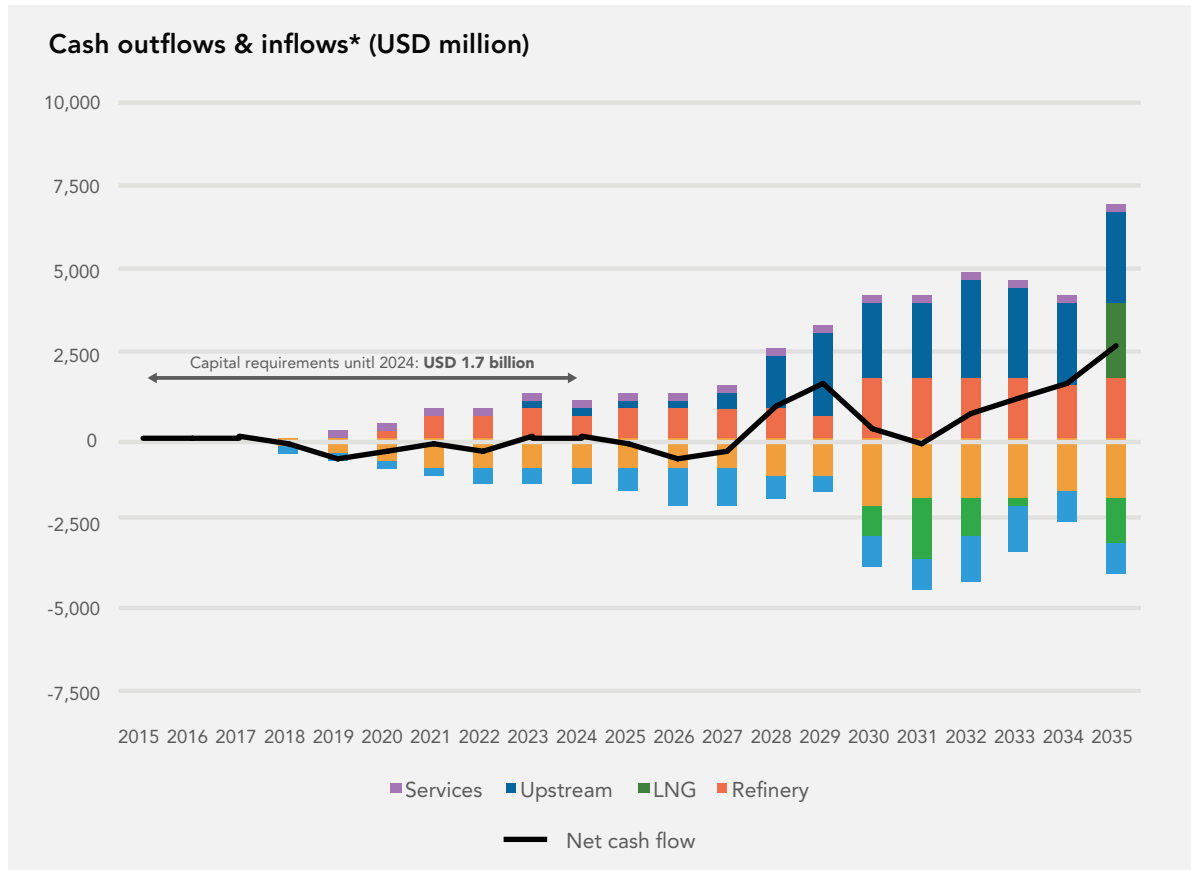


\*Corresponding to TIMOR GAP’s share of each business (i.e., not necessarily the whole project) || Note: This chart does not include Services, besides the Suai Supply Base (small, thus almost not visible) || Source: TIMOR GAP analysis

### SCENARIO 2: GREATER SUNRISE IN 2035

If Greater Sunrise is delayed to 2035 production only, capital requirements are significantly lower and extended in

time: about USD 1.7 billion by 2024. Of course, returns from the project are also consequently delayed in time.



\*Corresponding to TIMOR GAP's share of each business (i.e., not necessarily the whole project) || Note: Does not include Services besides the Suai Supply Base (small, thus almost not visible) || Source: TIMOR GAP analysis

## FINANCING PLAN

Funding the coming years of heavy investment requires a solid financing strategy, targeting a mix of capital sources according to TIMOR GAP's stage of development. Implementing the financing strategy will involve high-stakes negotiations with a variety of stakeholders in order to secure appropriate funds with affordable terms in the necessary timeframe. In the short term, the most likely sources of funding are the Government (through a capital

injection or annual subsidies), banks and other lenders, and business partners in oil & gas joint ventures through free-carry or carried-interest arrangements (where TIMOR GAP does not have to make the initial investments that would normally correspond to its share of an oil & gas field, in exchange for future cash flows). The following diagrams describe in more detail several loan financing options that include security arrangements to reduce lender's credit risk.

### Short term

- Annual State Budget allocation
- Public capital injection
- Bank loans (Government guarantees)
- Export Credit Agencies (trade finance)
- Carried interest/free carry on upstream
- Share sales

### Medium/Long term

- Self-funding from operations
- Bank loans (with company asset guarantees)
- Loans from financial institutions (e.g., IFC, ADB, state-owned banks)
- Government credit line (e.g., from Petroleum Fund)

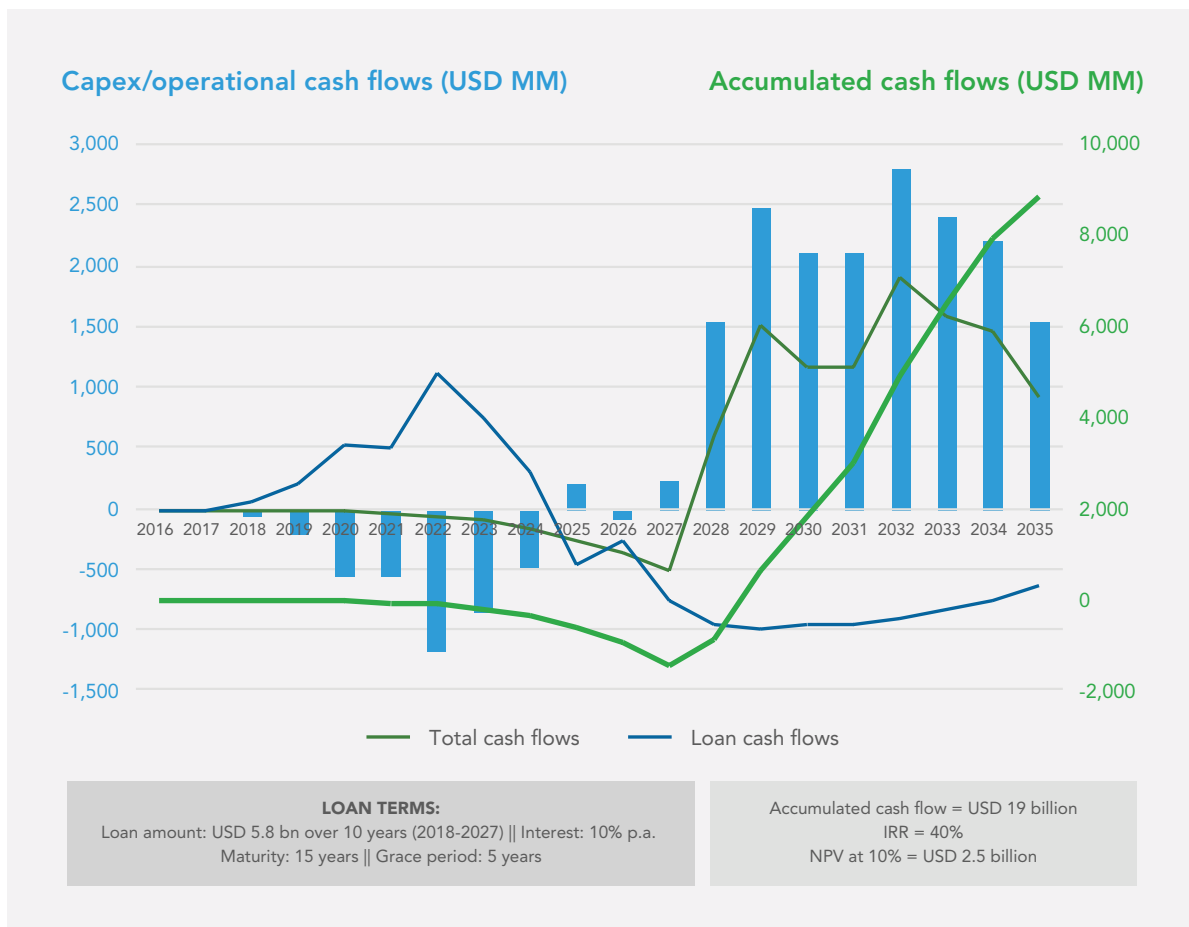
## UPSTREAM FINANCING PLAN

For the upstream, the most likely financing options are:

- Leverage TIMOR GAP's rights as national oil company
- Negotiate with JV partners carried-interest/free-carry arrangements, paid back during production
- Commercial loans (potentially with guarantees)
- Government capital injection

To explore financing possibilities, we simulated the impact of a commercial loan on overall TIMOR GAP upstream cash flows. By borrowing almost USD 6 billion in the next 10 years, TIMOR GAP could cover most of its funding requirements, as loan repayments would be mostly

covered by positive cash flows from producing fields (from 2028 onwards). By delaying negative cash flows but reducing future positive cash flows, loans have a positive impact on IRR but negative on accumulated cash flows and NPV.



Source: TIMOR GAP upstream model and analysis

### SUAI SUPPLY BASE FINANCING PLAN

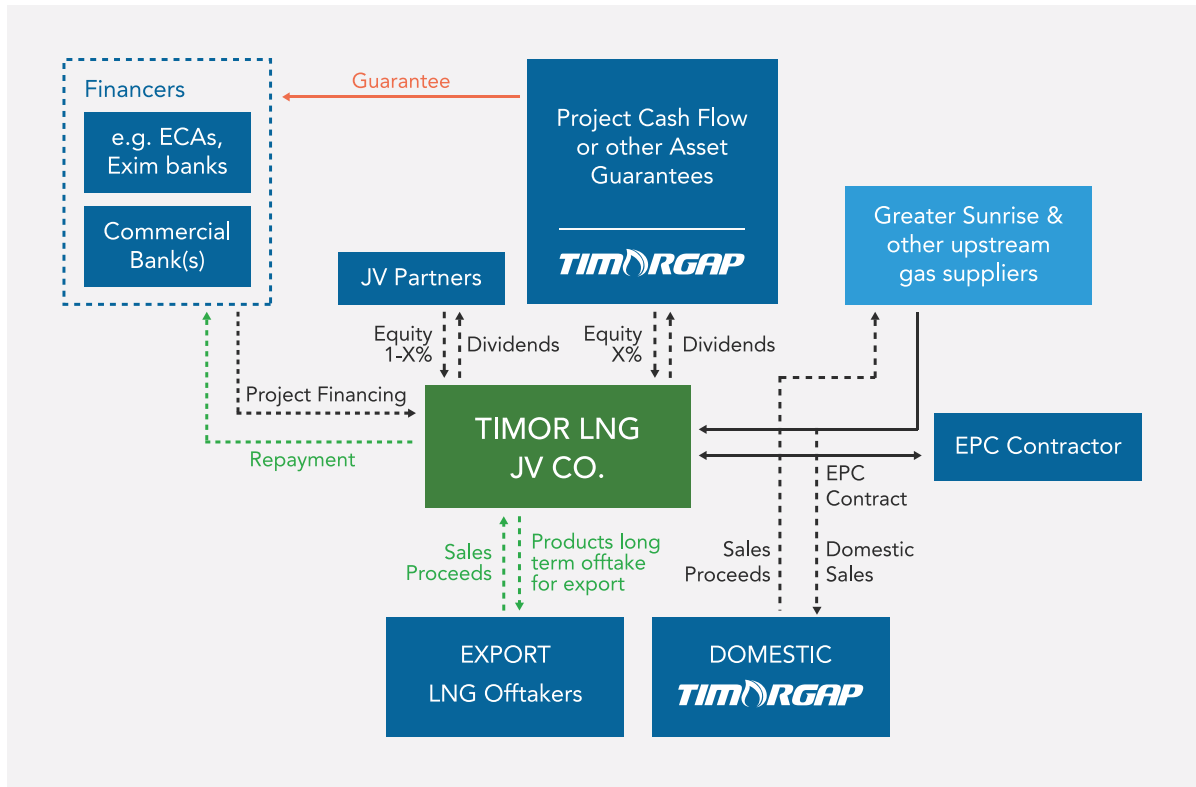
For Suai Supply Base the financing plan is more clear:

- Timor-Leste Government to invest \$734 million for construction (including supervision consultant)
- TIMOR GAP and its partners to invest \$20 million for operation and management

### LNG PROJECT FINANCING PLAN

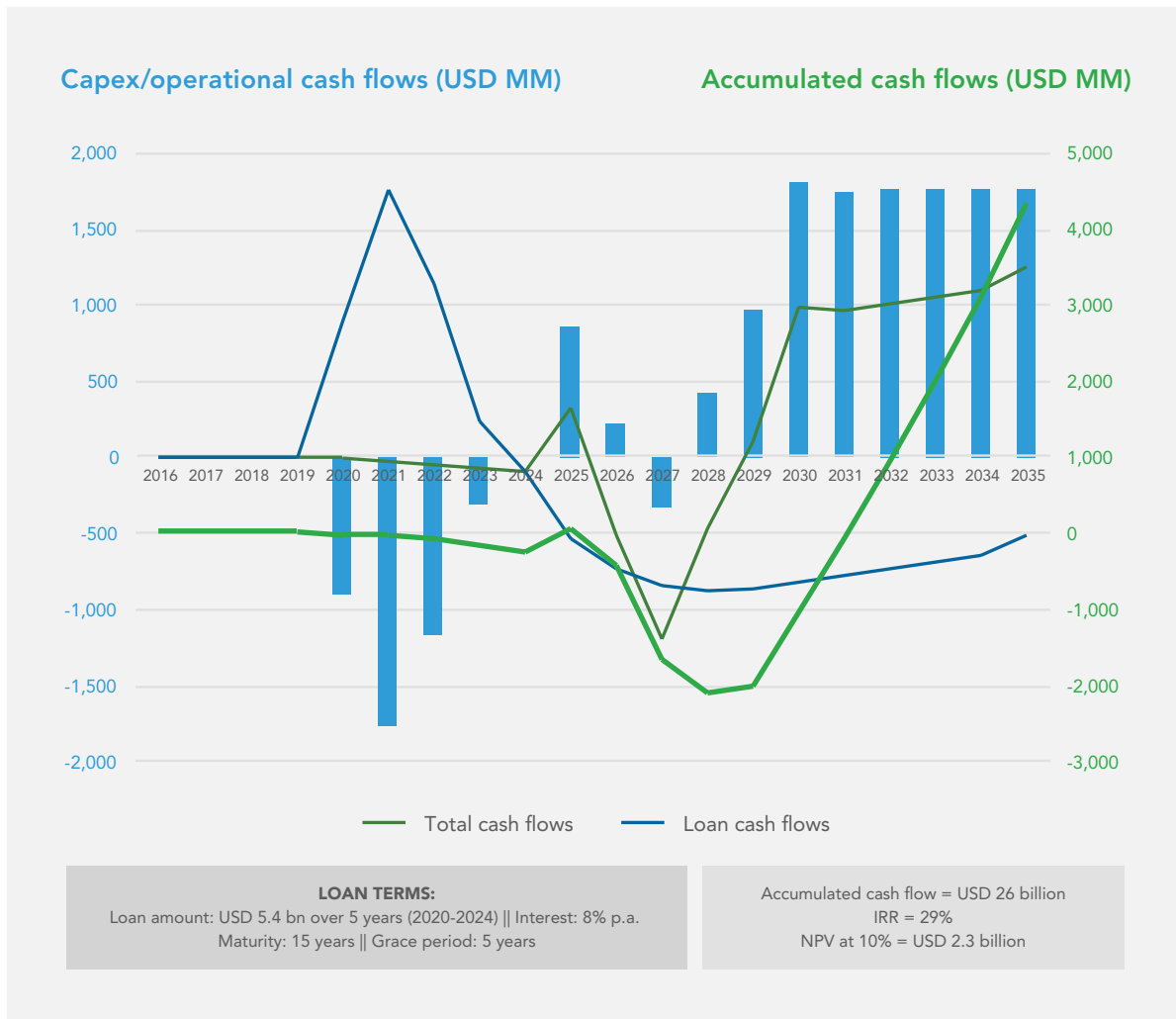
A key financing option for the LNG project is to obtain loans from commercial banks and other financiers. In order to reduce

lenders' risks, TIMOR GAP can offer guarantees based on project cash flows or other assets.



TIMOR GAP could borrow USD 5.4 billion over 2020-2024 for construction of the first LNG train, pipeline and marine facilities. The second train could be partially financed by LNG sales from the first train,

but would still require additional sources. As with other loans, this would have a positive impact on IRR but negative on accumulated cash flows and NPV.



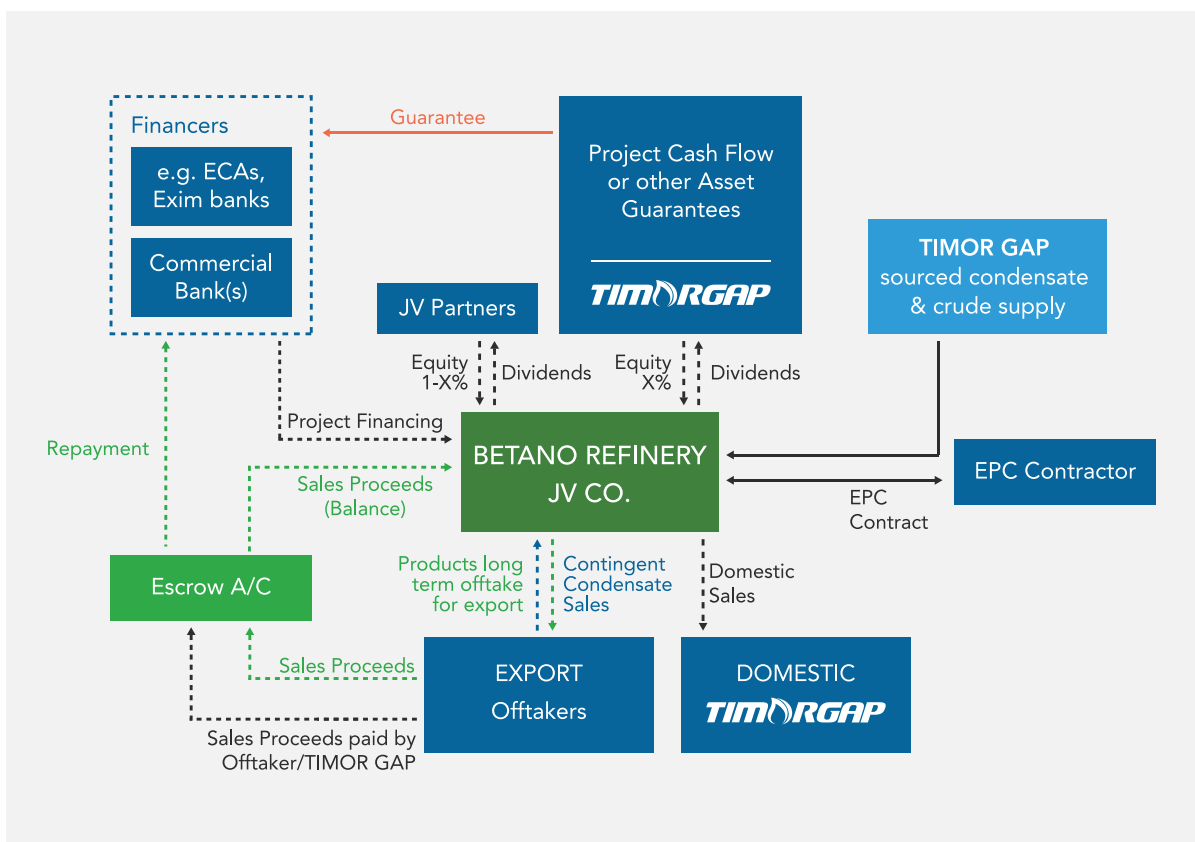
Source: TIMOR GAP LNG Plant model and analysis



## REFINERY & PETROCHEMICAL FINANCING PLAN

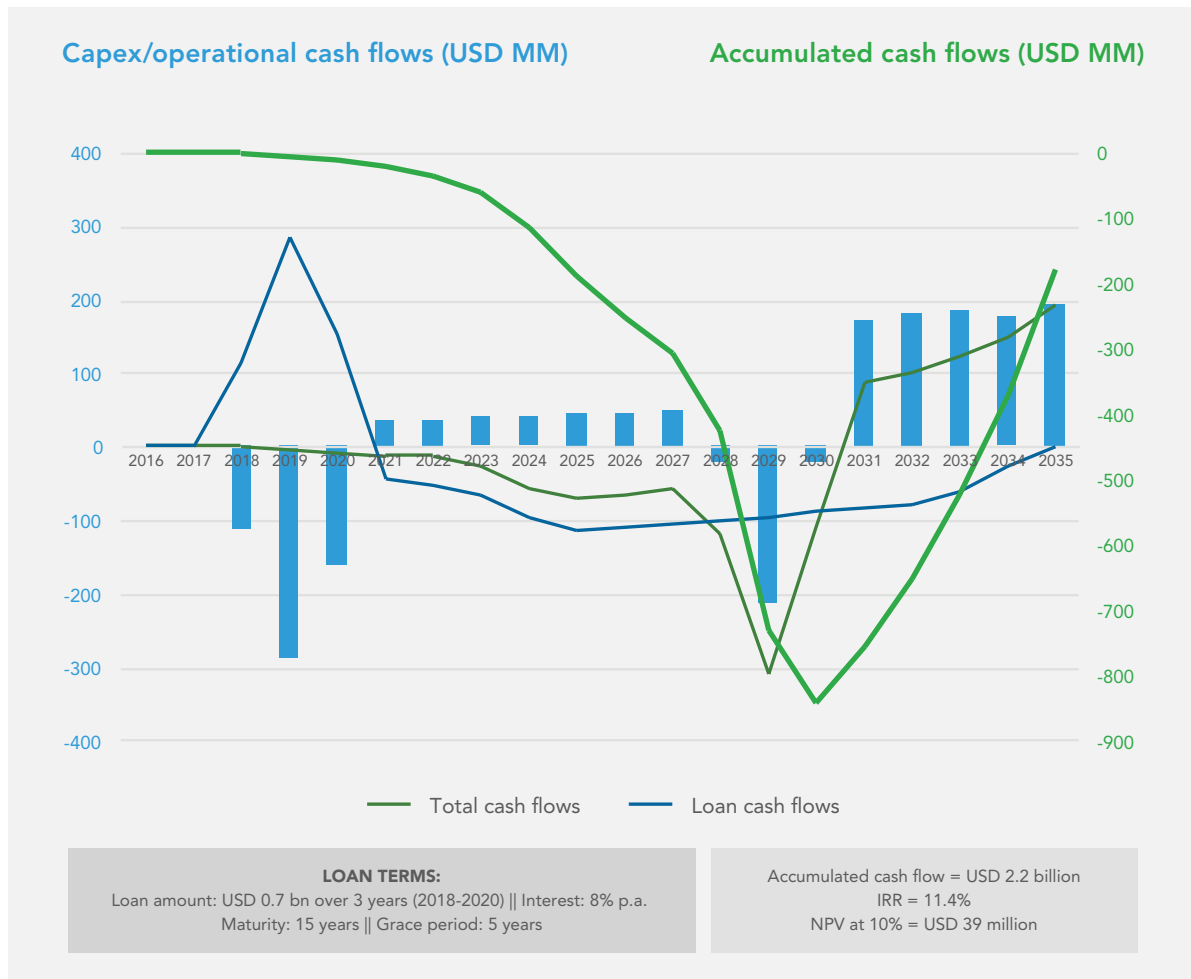
Similarly to the LNG project, the Refinery & Petrochemical can be financed through loans from commercial banks and other financiers. To reduce lenders' risk TIMOR GAP can offer project cash flow or other

asset guarantees, including through an escrow account to guarantee that sales proceeds are first used for loan repayments.



TIMOR GAP can finance the initial construction of the refinery with a loan of USD 0.7 billion over 2018-2020, but given the low refinery profitability would

need additional funding for the following 10 years before total cash flows become positive with the expansion of the refinery.



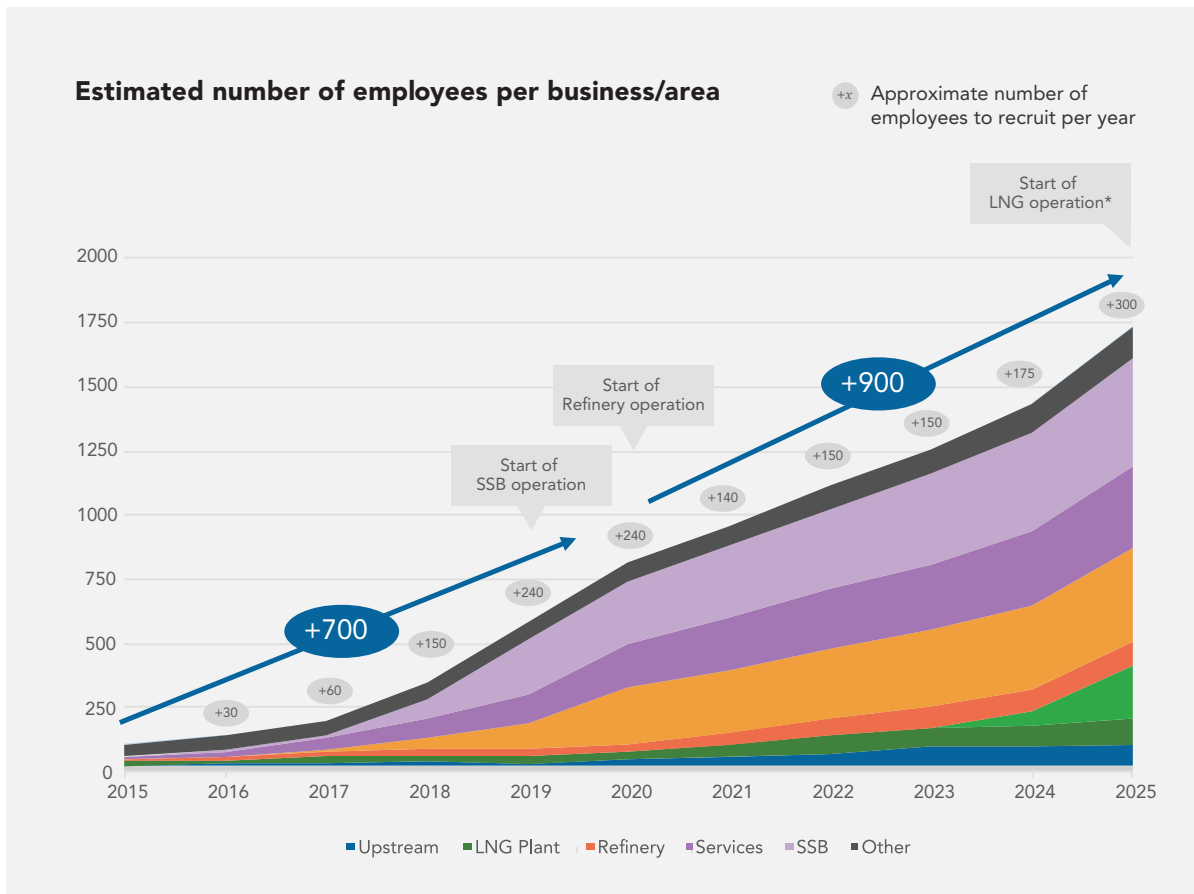
Source: TIMOR GAP Refinery model and analysis

## OTHER REQUIREMENTS

### HUMAN RESOURCES: SUBSTANTIAL GROWTH

The TIMOR GAP team will need to grow significantly in the next 10 years (average of 160 new employees per year) in order to properly staff operations, particularly in large projects such as the LNG plant,

the Refinery and Petrochemicals, and the Suai Supply Base. This represents a huge human resources effort to recruit the right talent, and then manage, train, develop, pay, motivate and retain them.



\*Dependent on Greater Sunrise negotiations || Note: Excludes temporary workers (e.g., for construction) and indirect jobs created || Source: TIMOR GAP analysis (initial estimates by each team)

## INFORMATION & COMMUNICATION TECHNOLOGY

Adequate Information & Communication Technology (hardware and software) will be installed to support the needs of all business areas, including support functions.

SHORT TERM			LONG TERM		
UPSTREAM	MID/ DOWNSTREAM	SERVICES	UPSTREAM	MID/ DOWNSTREAM	SERVICES
GnG and New Ventures system hardware and software setup	Refinery and Gas Business Unit system software setup (AutoCAD and others)	SAP ERP system for Finance, HCM, Procurement, Logistics, Sales & Distribution	Independent and adequate GnG and New Ventures data center studio	TBD – Based on business relevance and needs	SAP upgrade on modules if required by business demand
New system and upgrades		Information and data management (backup, disaster and recovery)			Innovation - New applicable technologies to business
		Hardware and software upgrades			Virtual Private Network
		Policy and guidelines setup of information management			Change of domain name from timor-gap.com to timorgap.tl

## GOVERNMENT SUPPORT

As a state-owned company, TIMOR GAP will require Timor-Leste Government support in several ways. In particular, TIMOR GAP needs appropriate capitalization for its operations and small investments in the next 10 years. This can be achieved through capital injections or annual subsidies.

### SCENARIO 1 – ONE-OFF CAPITAL INJECTION

Capital Injection of \$200 million to finance TIMOR GAP operations and business development, E&P studies and acquisition of some oil and gas blocks, and management of the Tasi Mane project for the next 10 years

### SCENARIO 2 – GRADUAL CAPITAL INJECTION

Capital Injection of \$50 million to finance TIMOR GAP operations and business development, E&P studies and acquisition of some oil and gas blocks, and management of the Tasi Mane project in the next 2 years, and a major capital injection up to \$150 million thereafter

### SCENARIO 3 – ANNUAL SUBSIDY THROUGH MPRM

Allocate annually, through the Ministry of Petroleum and Mineral Resources (MPRM), \$20 million to finance TIMOR GAP operations and business development, E&P studies and acquisition of some oil and gas blocks, and management of the Tasi Mane project for the next 10 years

Note: Financing for TIMOR GAP's Large projects (Refinery, Pipeline & LNG Plant and oil and gas Development costs) are excluded from the above. They are to be financed following Project Finance Models presented

## ACRONYMS

<b>ANP</b>	Autoridade Nacional do Petróleo (National Petroleum Authority)
<b>BOE</b>	Barrels of Oil Equivalent
<b>CEO</b>	Chief Executive Officer
<b>CPLP</b>	Comunidade dos Países de Língua Portuguesa (Community of Portuguese Speaking Countries)
<b>EDTL</b>	Electricidade de Timor-Leste (Electricity of Timor-Leste)
<b>EITI</b>	Extractive Industries Transparency Initiative
<b>E&amp;P</b>	Exploration and Production
<b>EPCI</b>	Engineering Procurement Construction Installation
<b>FEED</b>	Front End Engineering Design
<b>GDP</b>	Gross Domestic Product
<b>ICT</b>	Information and Communications Technology
<b>IRR</b>	Internal Rate of Return
<b>JPDA</b>	Joint Petroleum Development Area
<b>JV</b>	Joint venture
<b>kbpd</b>	Thousand barrels per day
<b>ktpa</b>	Thousand tonnes per annum
<b>LNG</b>	Liquefied Natural Gas
<b>LPG</b>	Liquefied Petroleum Gas
<b>MMbbl</b>	Million barrels
<b>mmbtu</b>	Million British Thermal Units
<b>MMscfd</b>	Million standard cubic feet per day
<b>mtpa</b>	Million tons per annum
<b>NGO</b>	Non-Governmental Organization
<b>NOC</b>	National Oil Company
<b>NPV</b>	Net Present Value
<b>PSC</b>	Production Sharing Contract
<b>QHSE</b>	Quality, Health, Safety and Environment
<b>SSB</b>	Suai Supply Base
<b>TLEA</b>	Timor-Leste Exclusive Area



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