

# As Bayu-Undan Dries Up: Challenges and Opportunities

Presentation by Charles Scheiner to the  
Timor-Leste Studies Association

29 June 2017



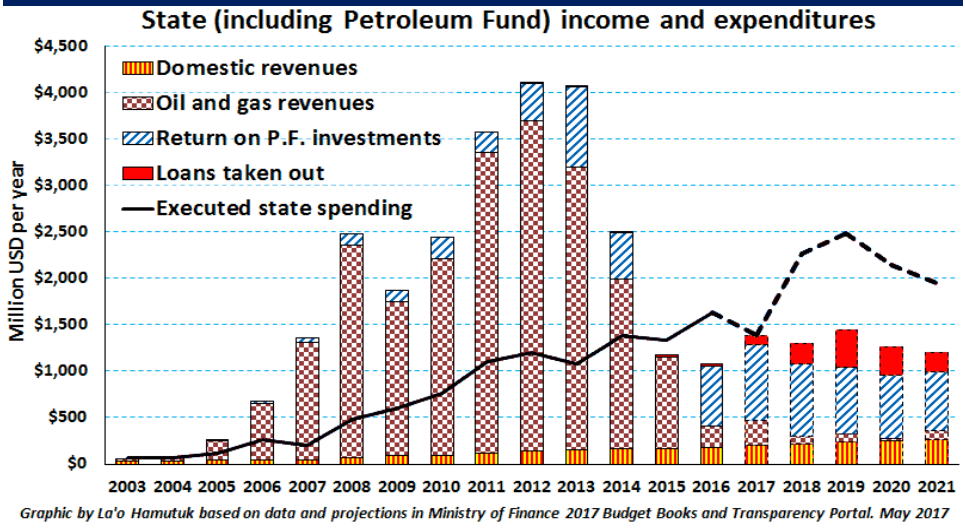
## Petroleum Dependency

(million current US dollars)	2013	2014	2015
Petroleum GDP	\$4,234 (75%)	\$2,591 (64%)	\$1,496 (48%)
Non-oil GDP	\$1,410 (25%)	\$1,451 (36%)	\$1,607 (52%)
Productive (agric. & manuf.)	\$289	\$295	\$293

- **Projected state revenues in 2017:..... \$1,312 million**  
 \$843 million (64%) will be from investing the Petroleum Fund  
 \$263 million (20%) will be from oil and gas revenues  
 \$206 million (16%) will be from non-petroleum sources
- **2017 State Budget:..... \$1,387 million**  
 \$1,079 million (78%) will come from the Petroleum Fund in 2017.  
 \$ 206 million (15%) is from non-petroleum (domestic) revenues  
 \$ 102 million ( 7%) is from loans which will have to be repaid with interest
- State activities, paid for with oil money, are about half of the "non-oil" economy, because some of this money circulates in the local economy.
- Petroleum "income" goes to the government, not the people.

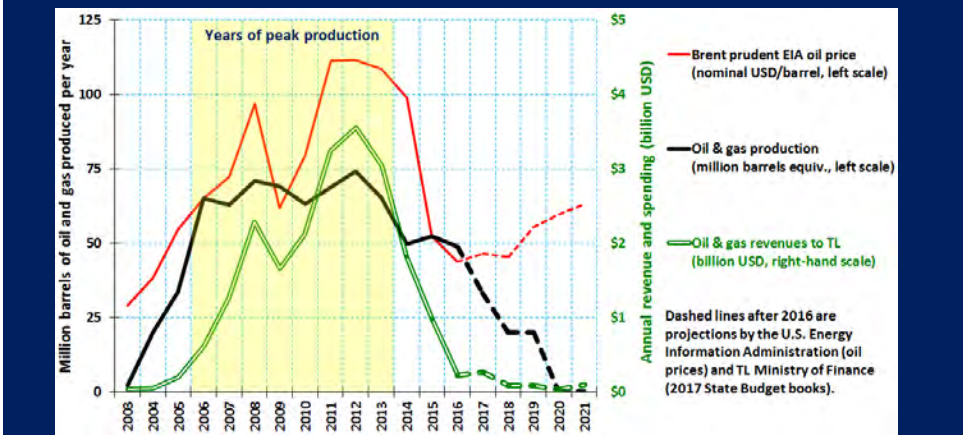
**Only South Sudan, Libya (and Equatorial Guinea?) are more dependent on oil and gas exports than Timor-Leste was.**

## Since 2015, the State spends money faster than it is coming in.



## Oil and gas income has been falling since 2012.

Production now falls faster than prices, and will not go back up.  
The price will be irrelevant when we have nothing left to sell.



**Timor-Leste has already received 98% of the revenue from Bayu-Undan and Kitan, and they will end entirely in 2021.**

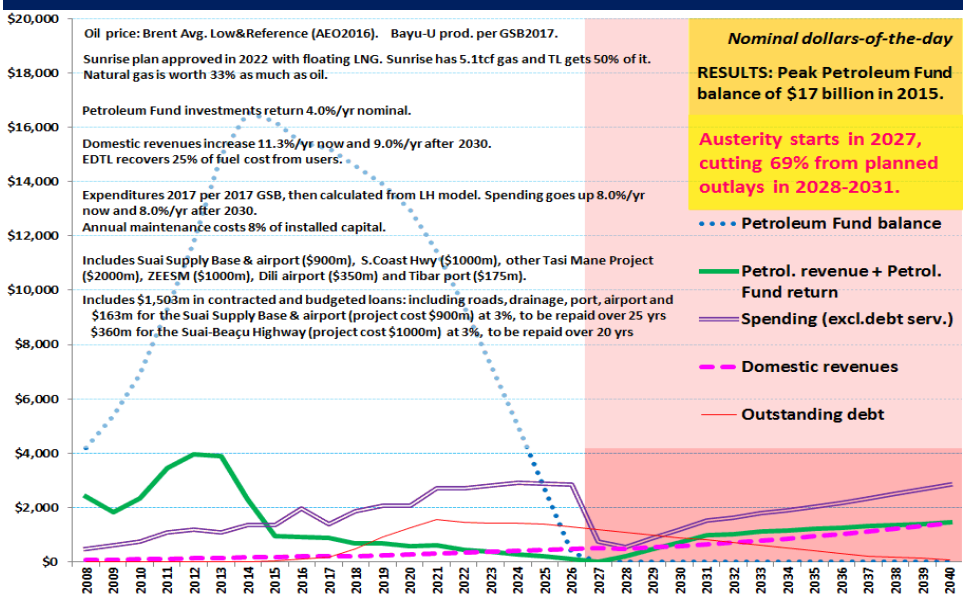
# The Ministry of Finance knows that Bayu-Undan is almost empty.

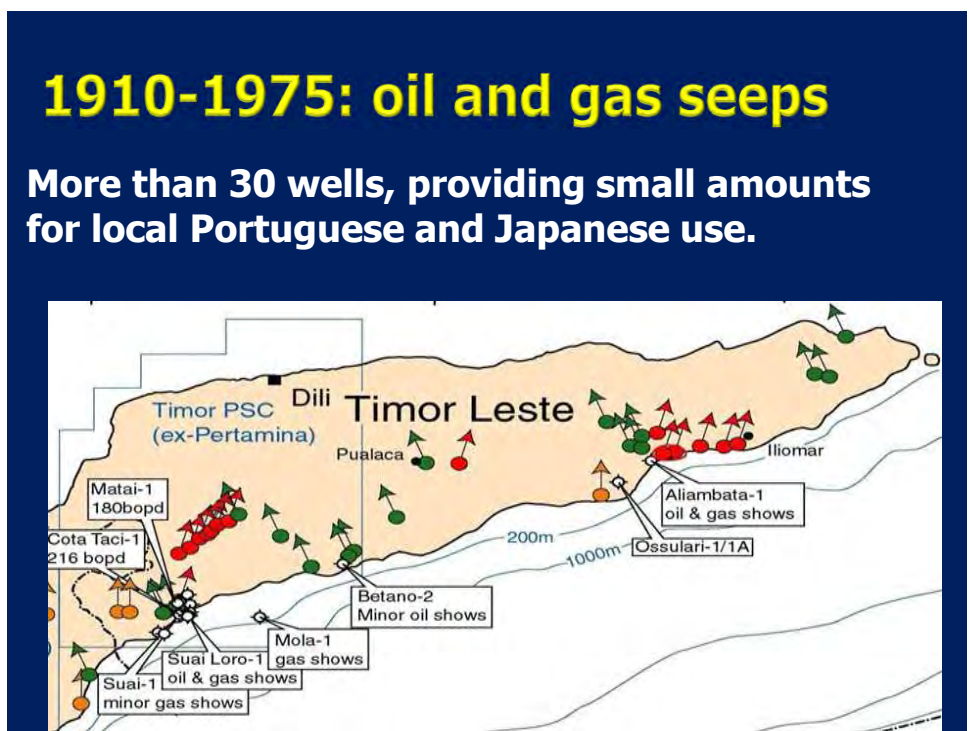
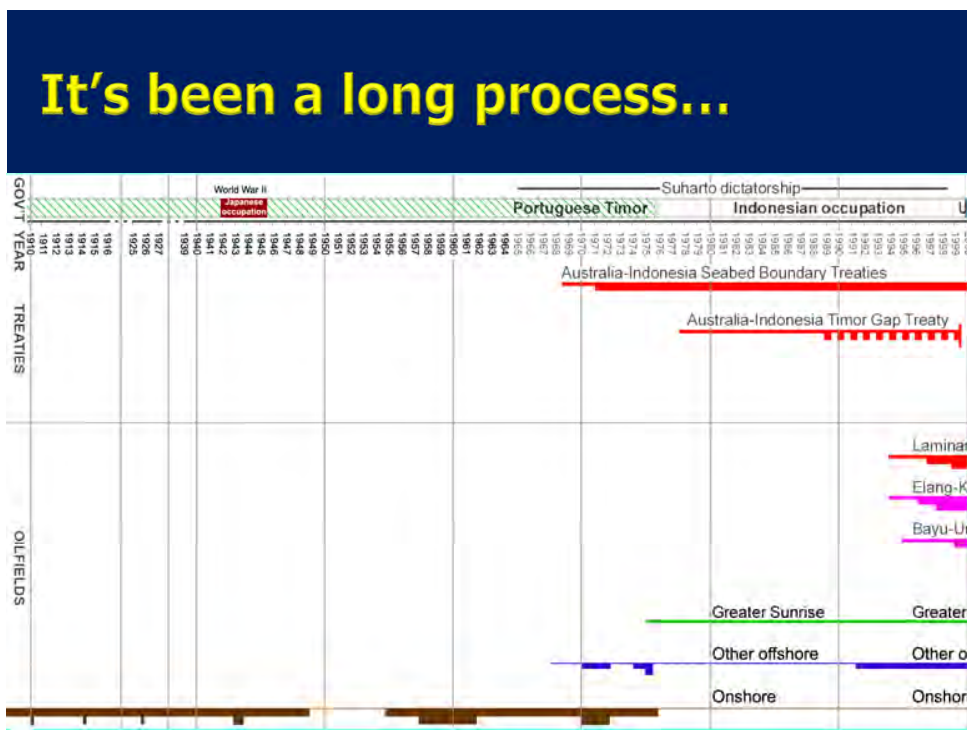
**Table 2.6.3.1.1: Petroleum Revenues from Bayu-Undan and Kitan 2014-2020 (\$m)**

	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Budget	2018	2019	2020	2021
<b>Total Petroleum Fund Revenue</b>	<b>3,906.7</b>	<b>2,318.5</b>	<b>957.5</b>	<b>872.1</b>	<b>1,106.3</b>	<b>906.7</b>	<b>873.3</b>	<b>710.7</b>	<b>799.3</b>
Petroleum Fund Investment Return	864.9	501.6	-21.4	648.3	842.9	824.1	788.1	681.6	708.2
Total Petroleum Revenue	3,041.8	1,817.0	978.9	223.9	263.4	82.5	85.3	29.1	91.1
BU FTP/Royalties	205.9	137.7	233.4	43.9	30.2	19.1	19.1	0.0	0.0
BU Profit oil	1,441.0	901.4	303.7	205.0	137.5	26.6	0.0	0.0	0.0
BU Income Tax	503.3	389.5	205.2	40.0	23.7	0.0	0.0	0.0	0.0
BU Additional Profit Tax	491.3	284.7	156.5	100.0	71.1	0.0	38.2	0.0	0.0
BU Value Added Tax	18.0	25.5	22.6	5.0	5.8	8.9	5.2	5.7	91.1
BU Other Payments	41.8	28.1	33.6	-180.0	-4.9	27.9	22.8	23.3	0.0
Kitan	340.6	50.1	23.8	0.0	0.0	0.0	0.0	0.0	0.0

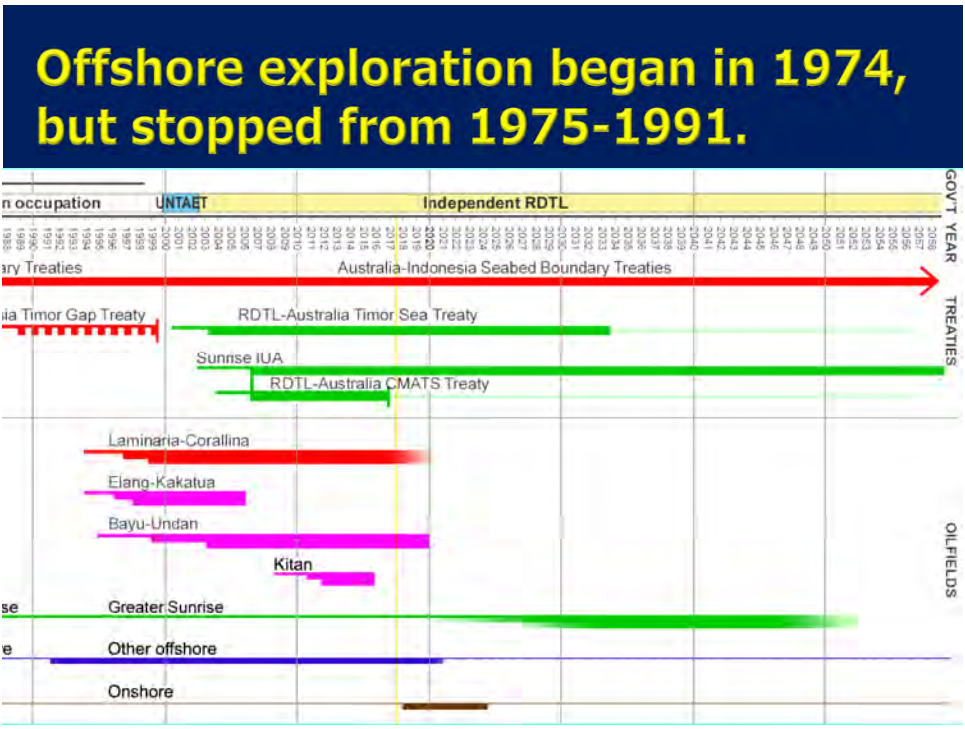
Source: Petroleum Fund Administration Unit, Ministry of Finance, 2016 Cells with blue backgrounds added by LH; blue numbers are estimates.  
 'BU Other Payments' include withholding tax, pipeline payments, and wage tax, minus taxes over-collected in the past which were repaid to the oil companies: \$219m in 2016 and \$40m in 2017.  
 Black/white table from 2017 State Budget. Colors by La'o Hamutuk based on 2015-2017 Budget Books and ANPM revenue reports. June 2017

# If current plans continue, TL will be unable to finance its budget in ten years.



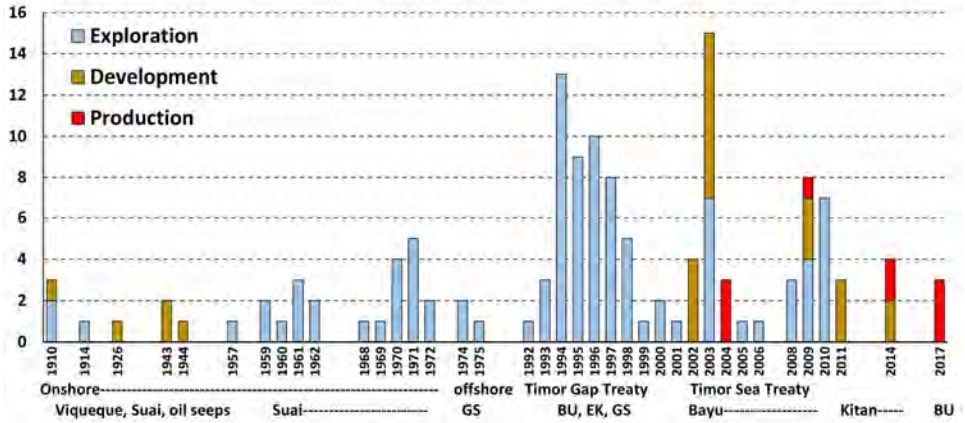






## People have looked for oil here for more than a century.

**Number of oil and gas wells drilled each year in Timor-Leste's territory**



*Graph by La'o Hamutuk based on historical data and ANPM Lafaek database, accessed June 2017*

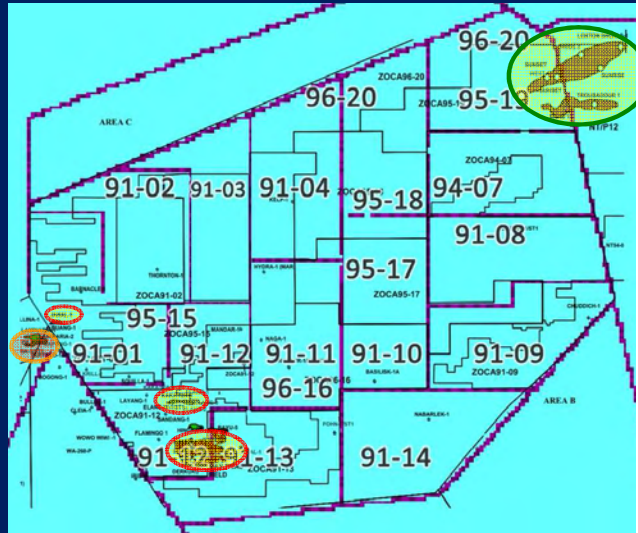
# Many contracts were signed under the illegal Timor Gap Treaty

They knew about Sunrise already.

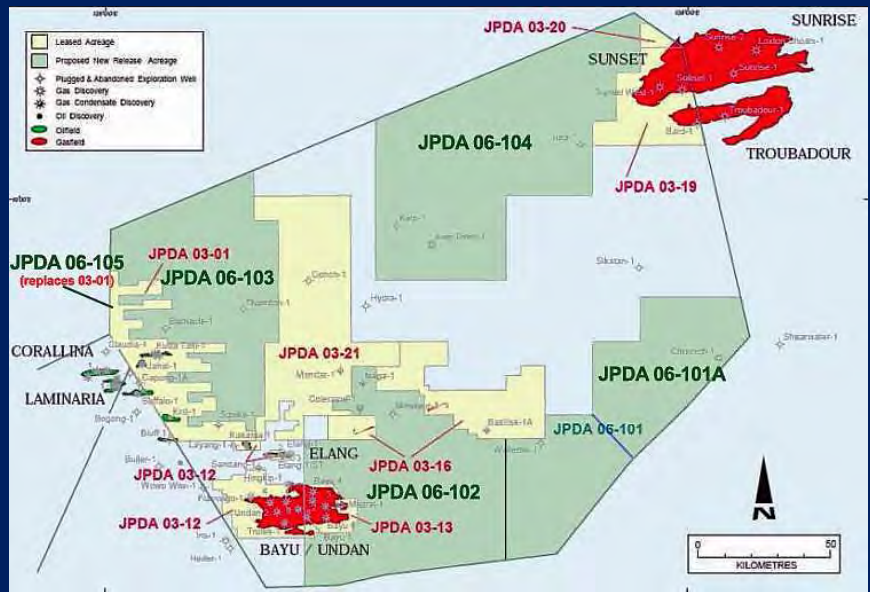
26 companies drilled 47 test wells under 16 ZOC/A contracts.

They found Elang-Kakatua, Bayu-Undan and Jahal-Kuda Tasi.

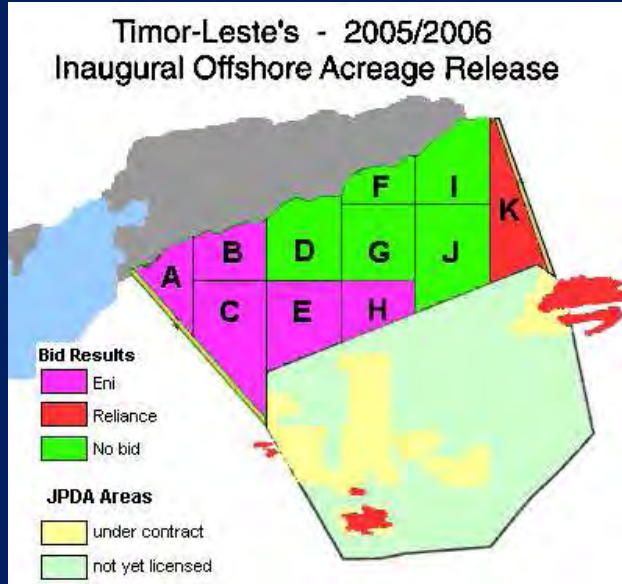
In waters occupied by Australia, they also found Laminaria-Corallina.



# JPDA contracts in 2003 & 2006



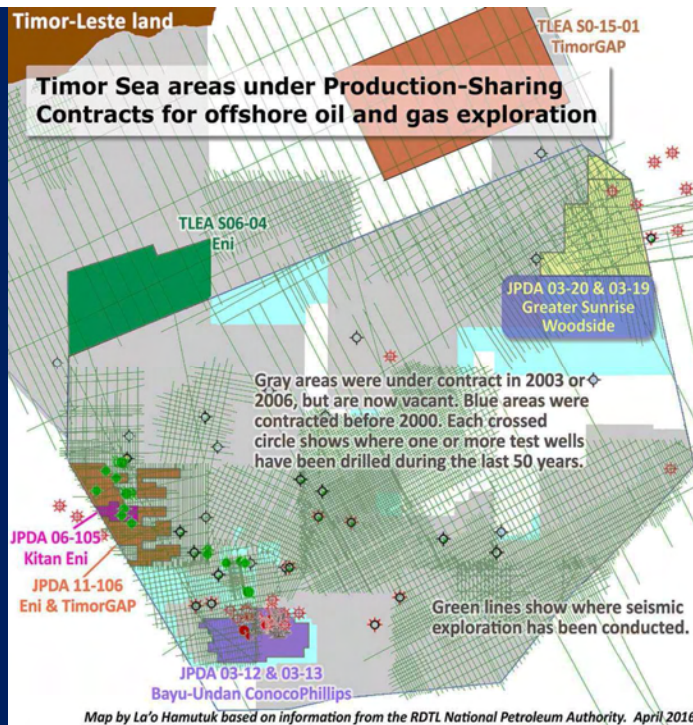
# TLEA contracts in 2006



Gray and blue areas have had contracts in the past.

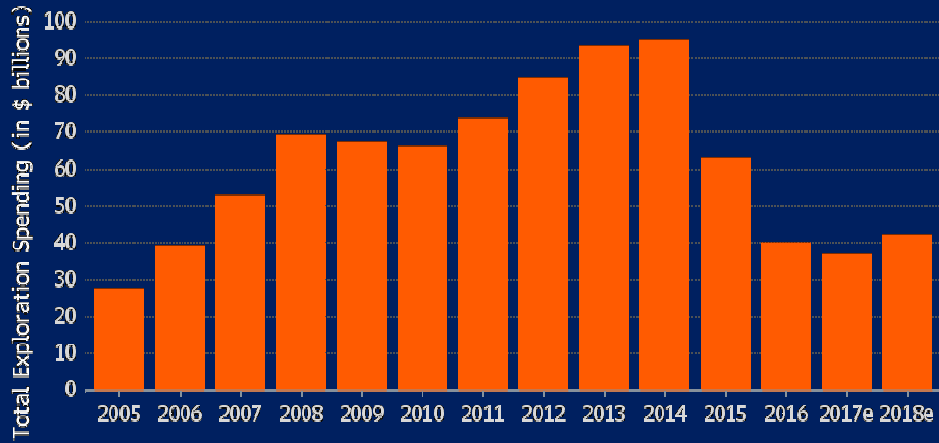
Green lines show seismic exploration.

Crossed circles are 76 test wells drilled since 1992.





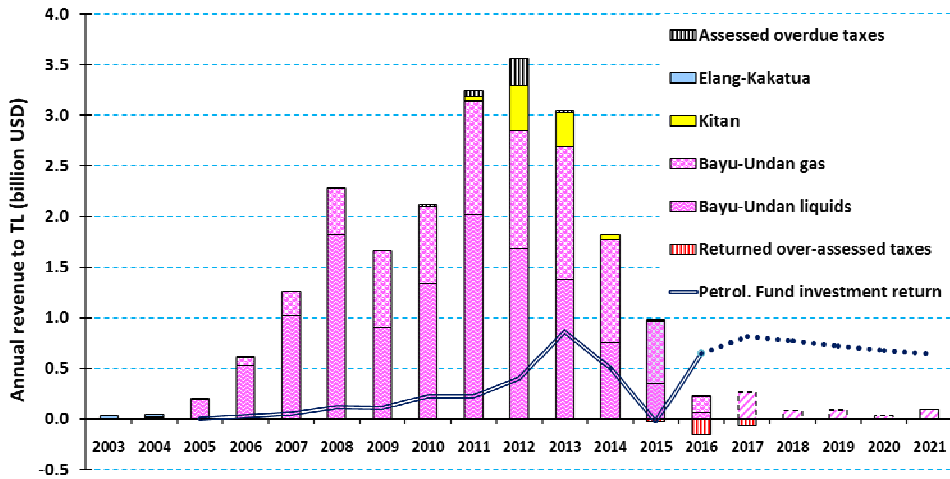
## Global spending on oil and gas exploration has fallen sharply.



Source: Wood Mackenzie December 2016

## Where TL's oil income comes from

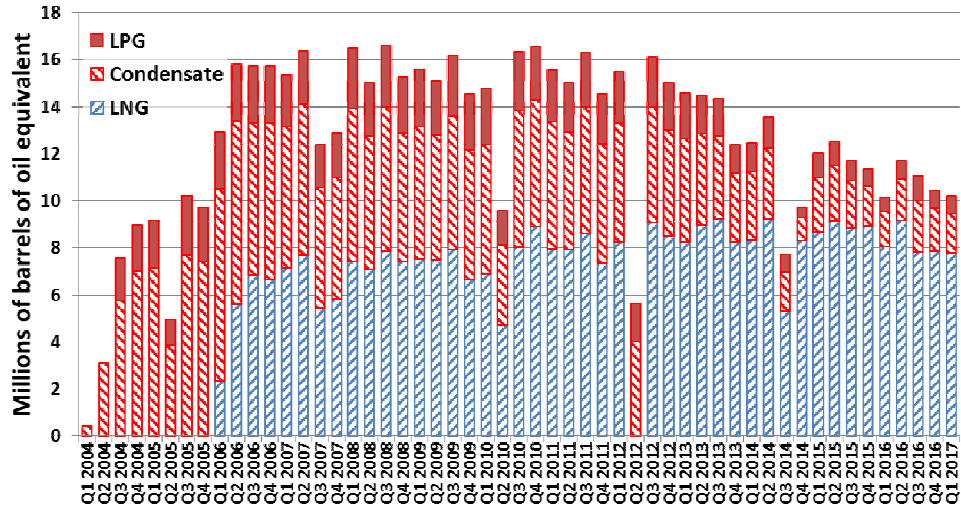
### Where the Petroleum Fund gets its money



Graph by La'o Hamutuk based on data and projections from RDTL ANPM, EITI reports, Ministry of Finance and Central Bank. Feb. 2017

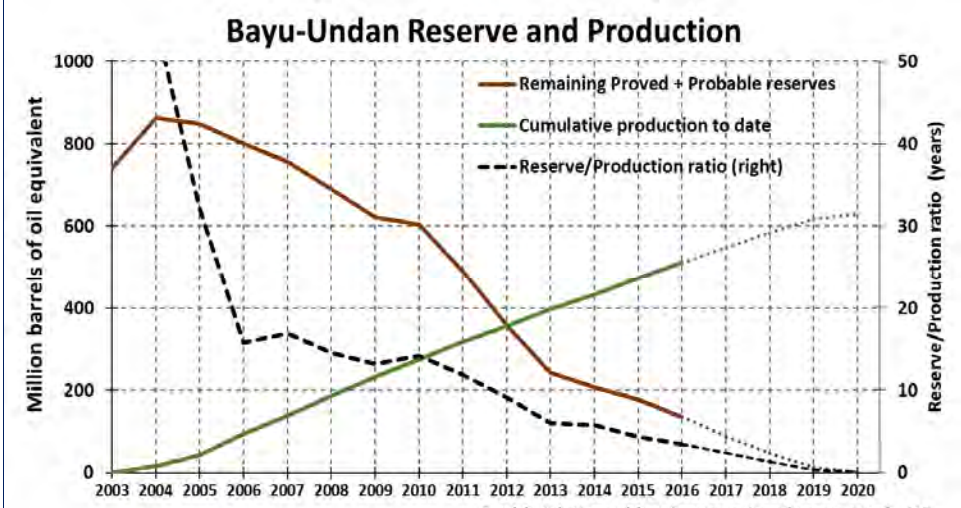


# Bayu-Undan gross production



Graph by La'o Hamutuk using data from Santos quarterly reports to ASX. Before mid-2006 are estimates.

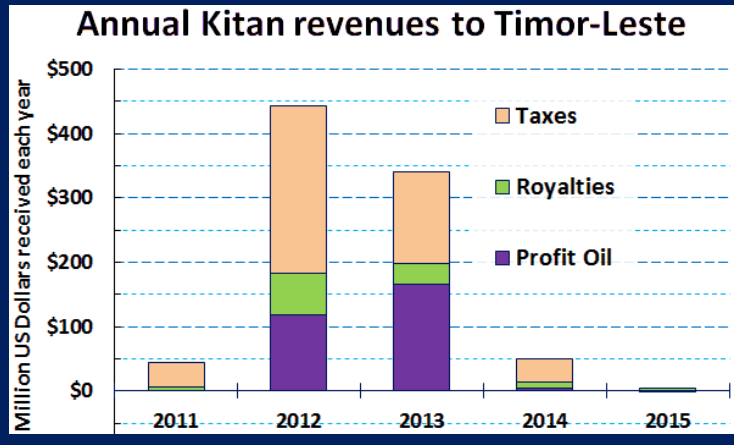
# Bayu-Undan is 80% depleted.



Graph by La'o Hamutuk based on Santos Annual Reports. March 2017. Data after 2016 are La'o Hamutuk projections.

## Kitan brought in \$900 million to TL, 5% as much as Bayu-Undan.

Eni says it's no longer profitable, but TimorGAP would like to restart it to supply their future refinery in Betano.



## Tasi Mane petroleum infrastructure project

Includes the Suai supply base, Betano refinery, Beacu LNG plant, 156-km highway, onshore and offshore pipelines, two airports, and two seaports along the south coast.

During 2011-2016, TL spent \$286 million on it.

Total project costs could be \$15 billion or more if Timor-Leste pays for the entire refinery, pipeline and LNG plant.

The 2017 budget allocates \$65m in 2017 and \$1.6 billion in 2018-2021, but leaves out the biggest items.

**Timor-Leste signed the largest contract in its history in 2015: \$719 million to build the Suai Supply Base. The court ruled it illegal and the company gave up, but the government is appealing the ruling.**



## Sunrise and the maritime boundary dispute

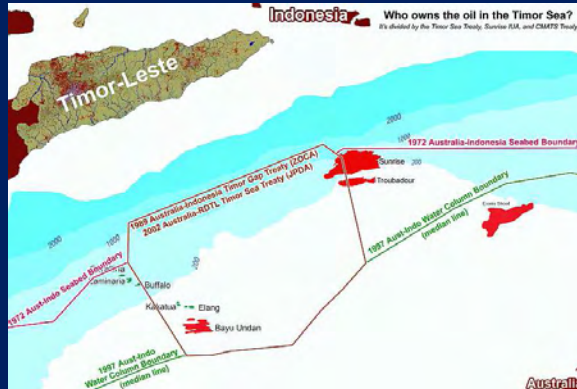
Australian companies began exploring Sunrise in the early 1970s, after Australia and Indonesia divided our maritime resources without involving Portugal. In 1989, they closed the "Timor Gap" to share illegally occupied resources in the Joint Development Area.

The 2006 CMATS treaty banned maritime boundaries discussion for 50 years. It divided Sunrise upstream revenues 50-50.

Australia put its greed for oil before respect for its sovereign neighbors or international law.

Based on UNCLOS, TL owns everything north of the median line.

In January 2017, Australia accepted Timor-Leste's request to revoke the entire CMATS Treaty. Boundary negotiations are finally underway.



## The Greater Sunrise stalemate

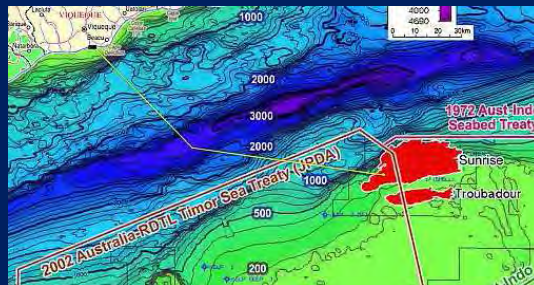
The project is stalled because Timor-Leste and the companies do not agree on how it should be developed.

Woodside and its partners Shell, ConocoPhillips and Osaka Gas believe a floating LNG plant in the sea is the most profitable.

Timor-Leste wants a pipeline from Sunrise to Beacu to get more tax revenues and anchor the Tasi Mane project.

Under contracts and treaties, the companies can choose the path, but both governments need to approve it.

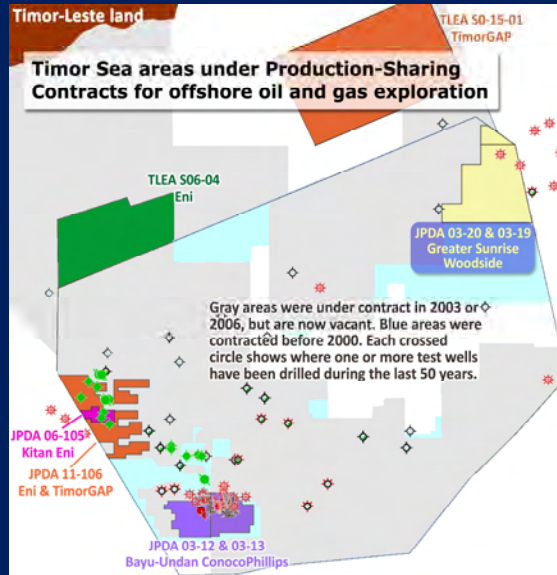
How and when?



## Areas currently under contract

Only Bayu-Undan is producing today.

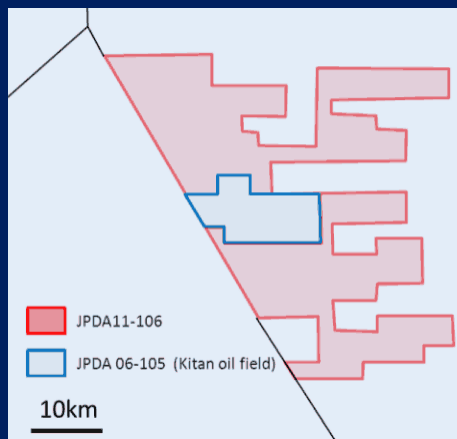
TLEA and onshore areas are being evaluated.



## TimorGAP's JPDA area 11-106 surrounds Kitan.

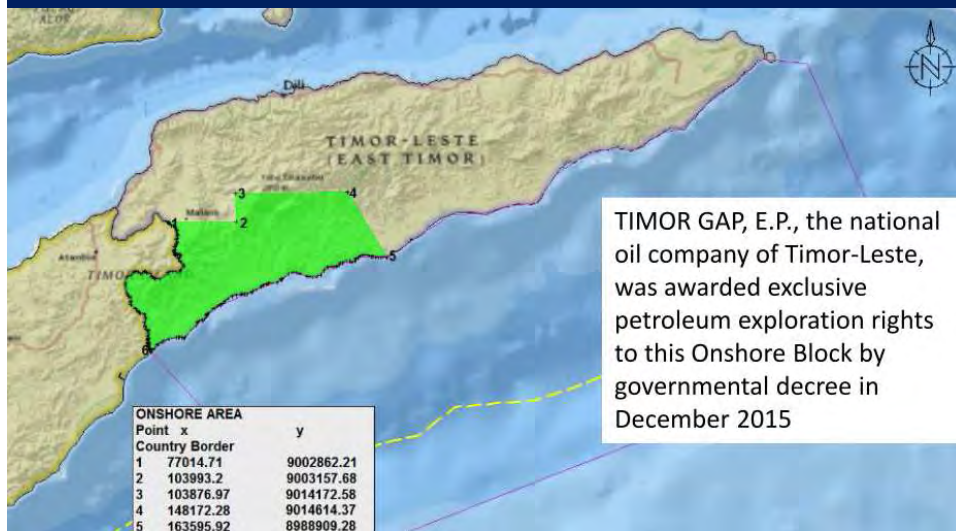
TimorGAP still hopes to use the Kitan infrastructure that remains to develop Kuda Tasi, Jahal and other small oil fields, totaling 20-50 million barrels.

But they may be too small and expensive to be commercially viable.





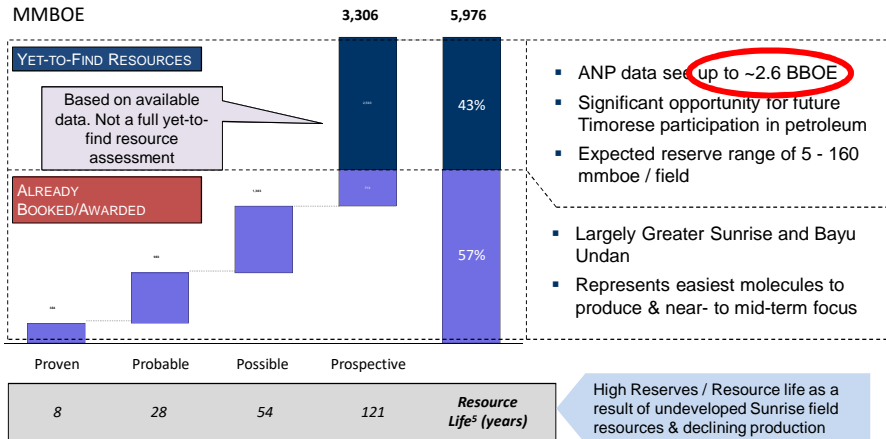
## Onshore blocks were recently assigned. Many people live in them.



### TIMOR-LESTE PETROLEUM VALUE POTENTIAL (to be explored & developed in the next 50 years)

- Timor-Leste's TOTAL PETROLEUM INITIAL -IN-PLACE (PIIP) is in the range of **12-17 Billion Barrel Oil Equivalent (BOE)**
- TIMOR GAP estimates the recoverable resources will be around **6.3 Billion BOE** (as a comparison Bayu Undan reserve is ~ 1 Billion BOE)
- The monetary value of these resources at average US\$ 59 /barrel in the next 50 years is **US\$ 372 Billion**
- Assuming the cost per barrel = US\$ 35/barrel, then a total of at **US\$ 220 Billion** will go into the expenditures in exploration, engineering, simple to complex services, fabrications (small, medium to larger scale), installations/constructions, operations and maintenance.
- *Therefore, the country want to develop its infrastructures, capabilities in the services, engineering and fabrications in the next decades to capture some of these expenditures in its economy.*

## ANPM: TIMOR-LESTE RESERVES VOLUME AND PROSPECTIVE RESOURCES<sup>1-4</sup>



Notes: 1) Data a combination of all external data (Rystad, IHS, Wood Mackenzie and internal ANP data (including the results of the Spectrum survey) – see “Resource Potential & National Priorities” section in full report for more details; 2) Does not include definitive view of new prospectivity in TLEA from the 2014 CGG survey with higher resolution and view on e.g. sub-thrust, shallow and other plays; 3) 50% Greater Sunrise included in JPDA; 4) Remaining reserves for BU & Kitan calculated based on reserve data provided minus cumulative production since data of reserves estimate; 5) Based on 2014 production

Source: ANP data; IHS; Rystad; SBC analysis

### What's most important for Timor-Leste's future?

The new airport in Suai cost more than Timor-Leste will spend on health care for the entire nation in 2017.

**Commander in Chief of FALINTIL, Kay Rala Xanana Gusmão, International Airport**

INAUGURAÇÃO DO AEROPORTO INTERNACIONAL  
COMANDANTE - EM CHEFE DAS FALINTIL  
**KAY RALA XANANA GUSMÃO**  
DIÁ 13 DE JUNHO DE 2011  
FRANCISCO GUTERRES LU-OLO  
PRESIDENTE DA REPÚBLICA

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**Thank you.**

**You will find more and updated information at**

- **La'ó Hamutuk's website**  
<http://www.laohamutuk.org>
- **La'ó Hamutuk's blog**  
<http://laohamutuk.blogspot.com/>

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