

# Deferred Maintenance

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**Major Hazard Facilities Forum**

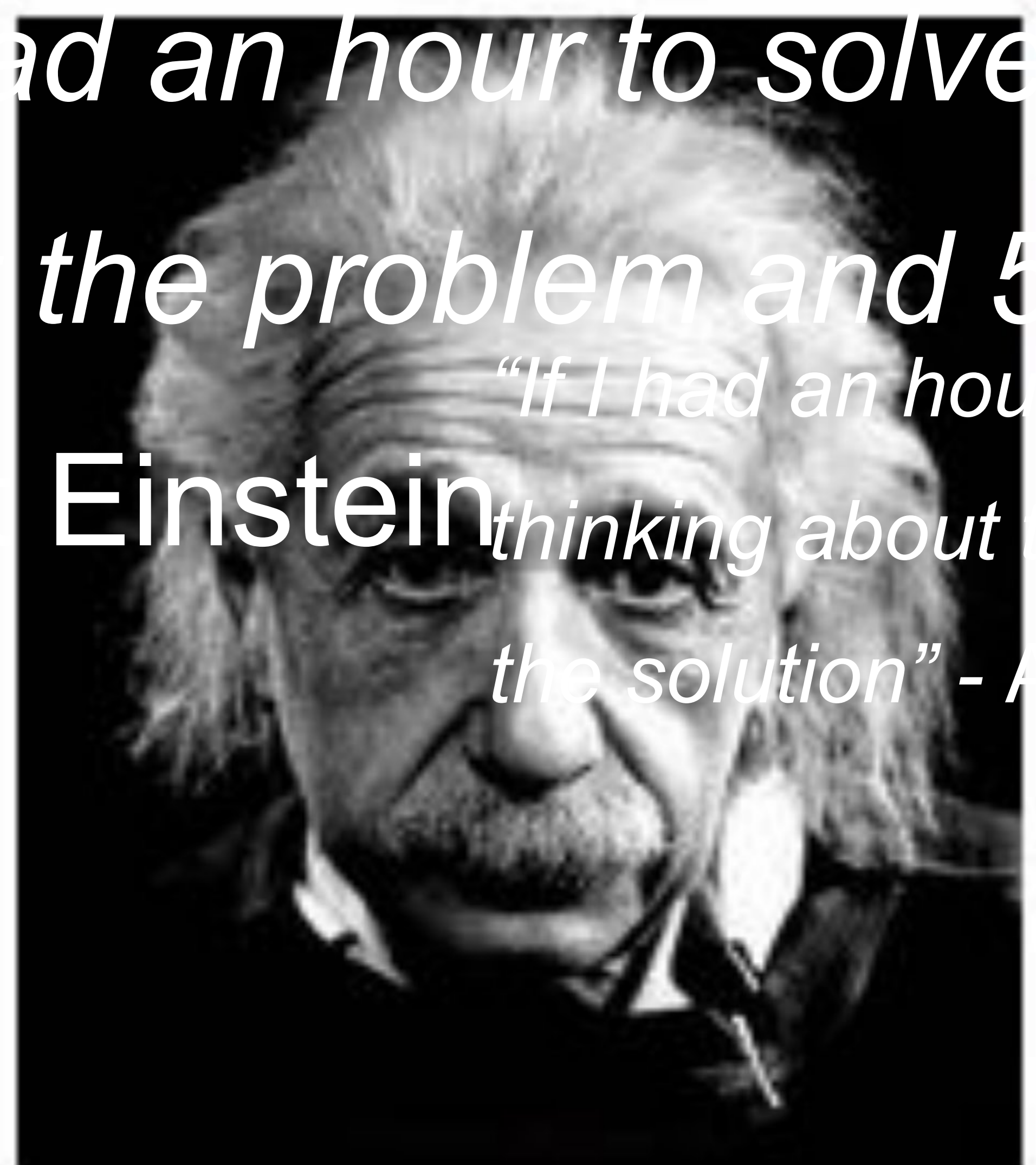
5 May 2021

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# Deferred maintenance – a problem?



*“If I had an hour to solve a  
problem I’d spend 55 minutes  
thinking about the problem  
and 5 minutes thinking about  
the solution” - Albert Einstein*

# Framing the Problem

- Introduction
- Global industry – behaviour drivers
- Australia industry
- Maintenance indicators
- Recent events
- The “Effective Operator”?
- Establishing better practices
- Wrap-up & questions



# Global industry – behaviour drivers



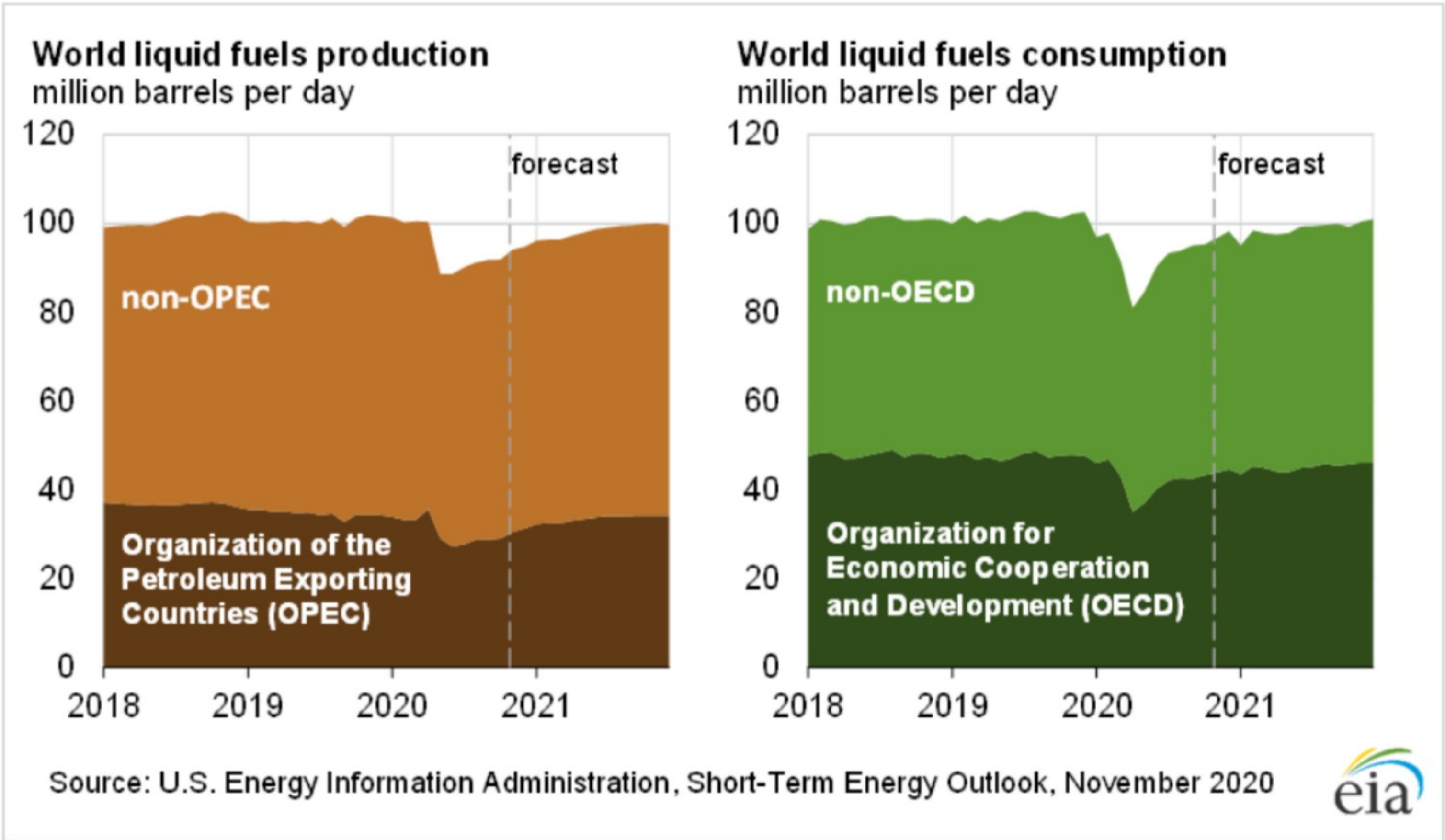
## Shell to cut up to 9,000 jobs as oil demand slumps

30 September

Coronavirus pandemic

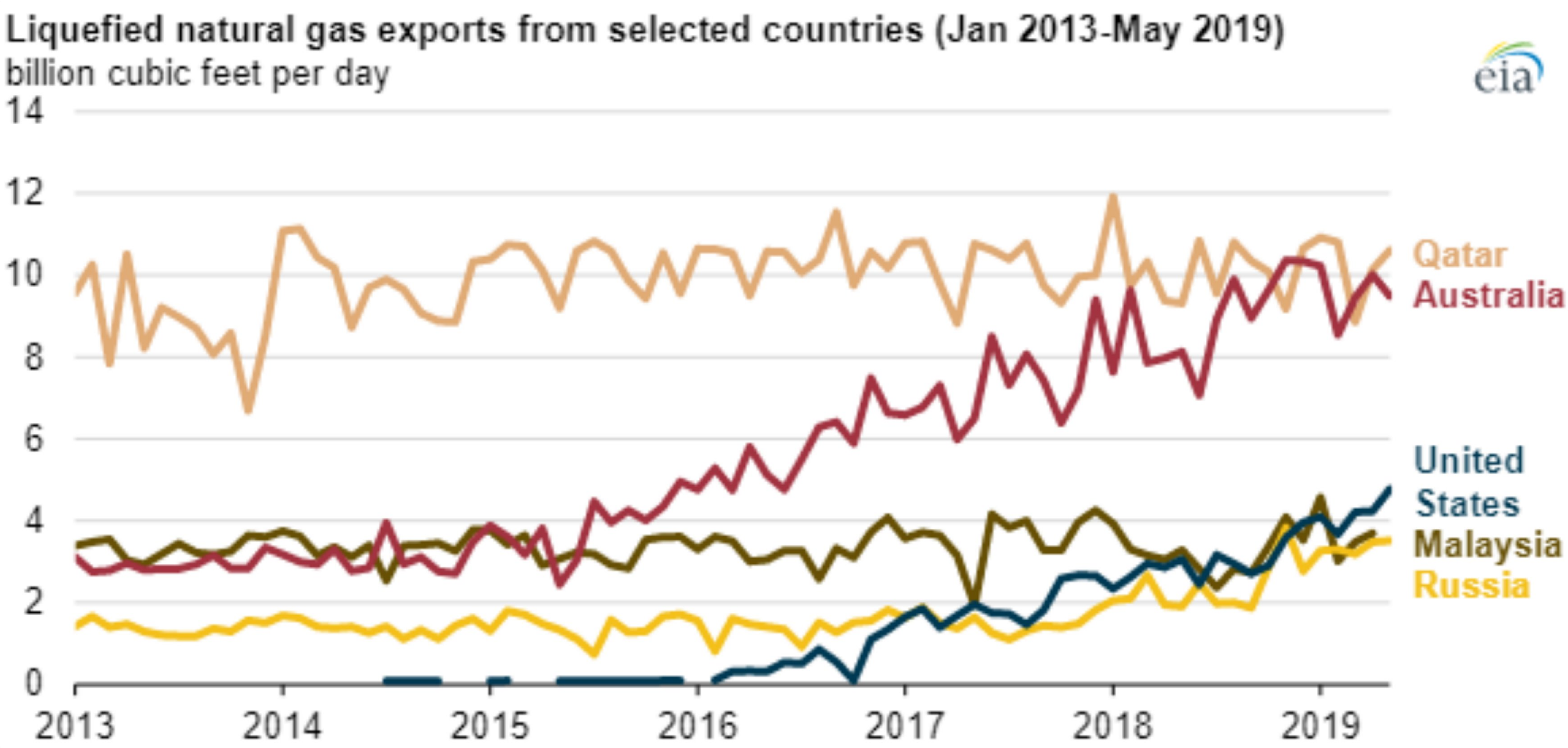


Royal Dutch Shell has said it plans to cut 7,000 to 9,000 jobs as it responds to challenges including the slump in oil demand amid the Covid-19 pandemic.





# Building LNG export capacity










# Offshore Australia

## Facility types

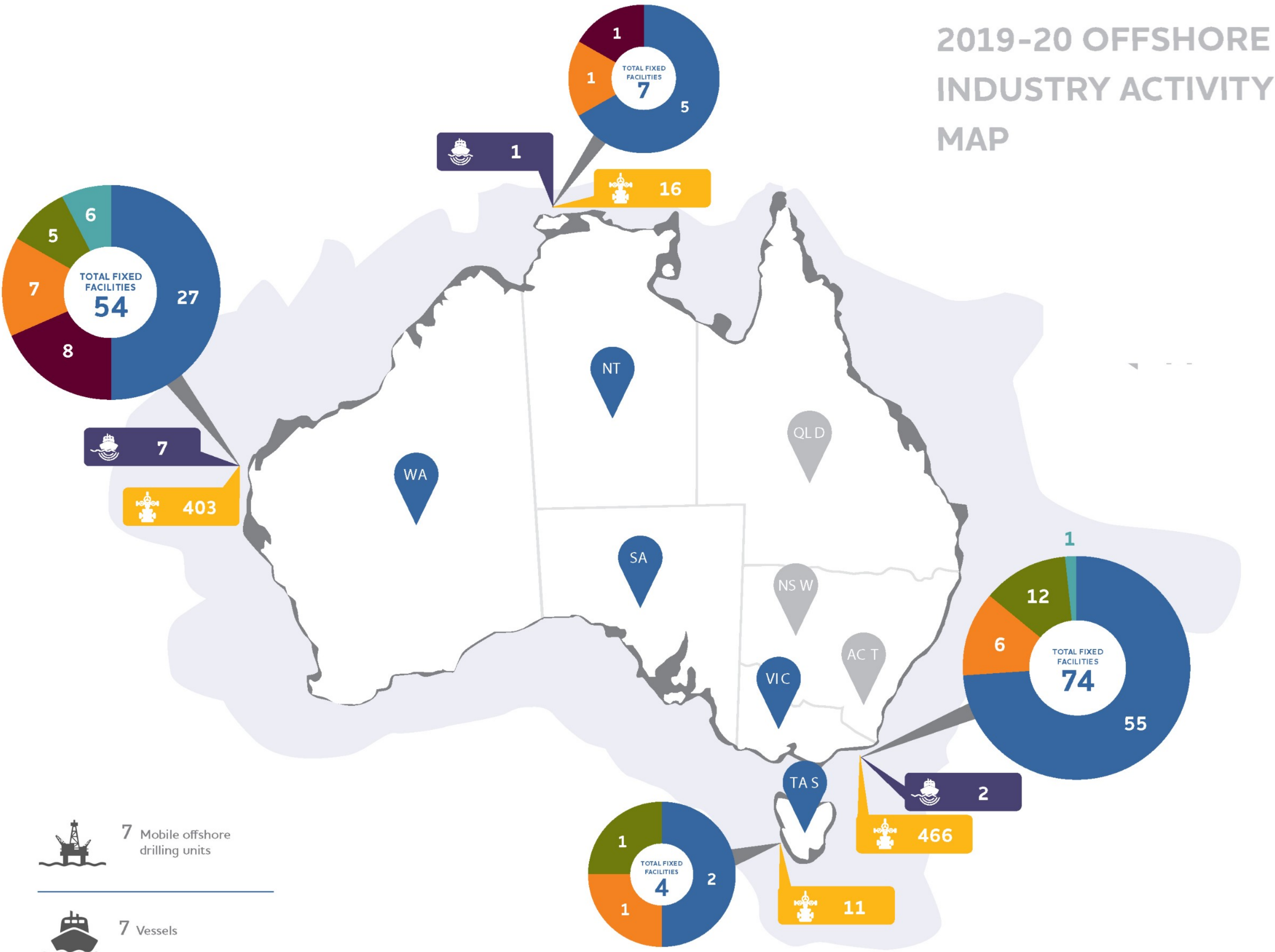
Fixed facilities

-  Pipeline
-  FPSO  
Floating facility
-  Platform NNM  
Not normally manned
-  Platform NM  
Normally manned
-  Subsea Infrastructure

 Seismic activity

 Wells

Note: there was no greenhouse gas activity in NOPSEMA's jurisdiction in 2019.

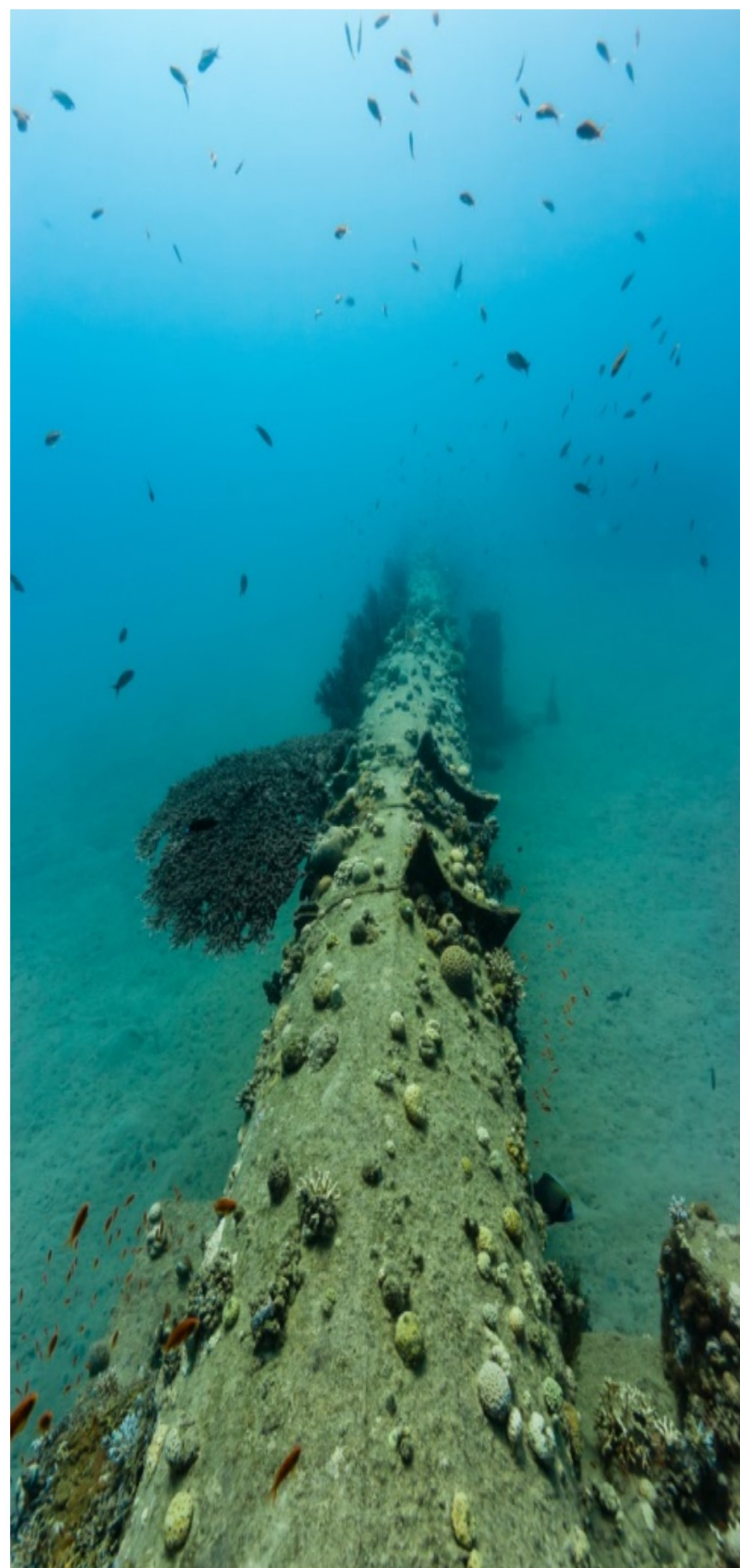


 7 Mobile offshore drilling units

 7 Vessels

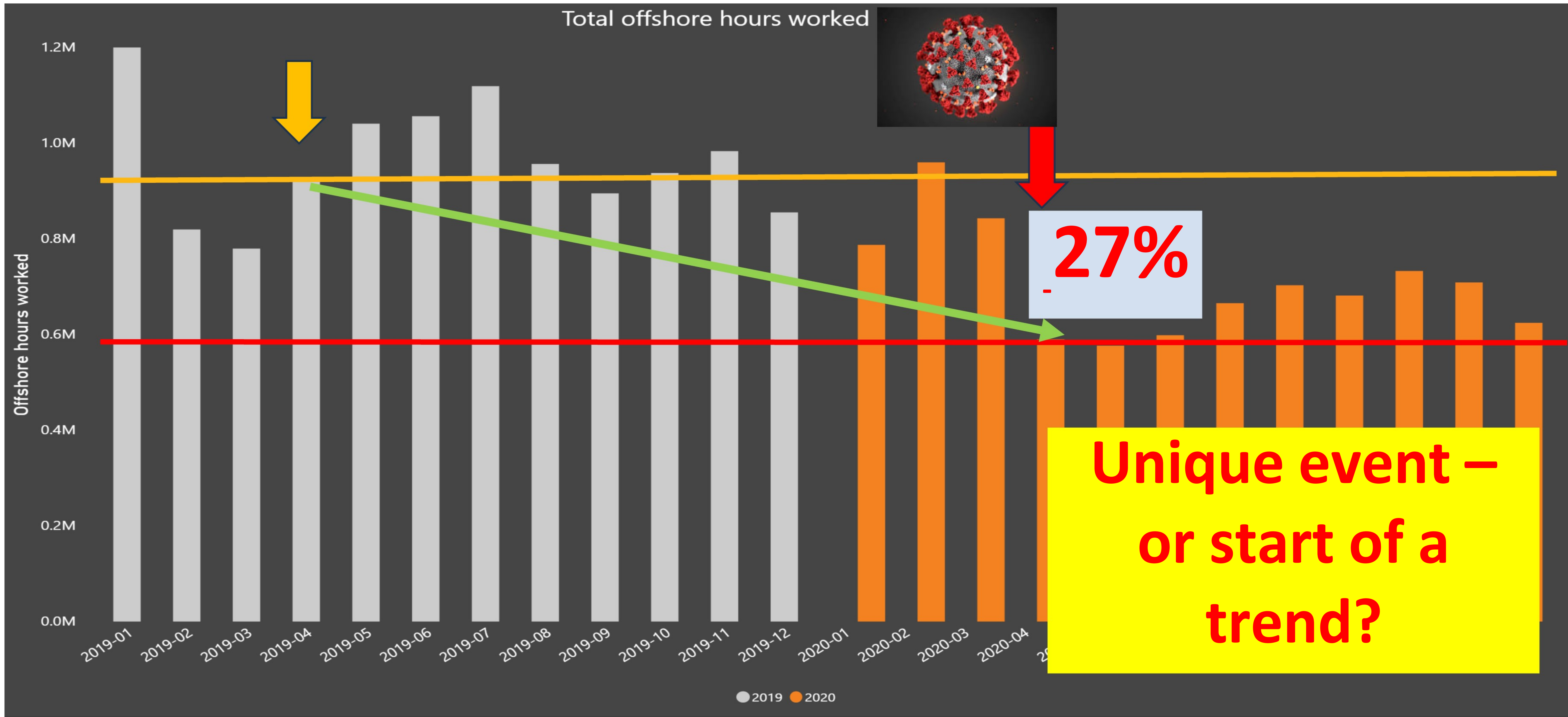


# Offshore facilities – all need maintenance





# Australia - offshore hours





# Asset integrity – root causes?

Asset	Event
Disused subsea infrastructure	Sub-sea equipment failures
Drilling rig	Equipment integrity failure
Production platform	Inlet separator crack defect
Production platform	Crane defects
FPSO	Corrosion management
FPSO	Isolation design defects
FPSO	Shut-down valve defects
Drilling rig	Riser installation failure
Production platform	Offtake hose operational failure





# The 'Effective Operator'?

- The 'Effective Operator' uses maintenance deferral to ...
  - Respond to inevitable, but unplanned events (e.g. COVID pandemic)
  - Manage and mitigate risk
  - Prioritise activities (e.g. safety critical equipment)
  - Identify trends and respond proactively
  - Allocate resources effectively to reduce risk (e.g. human, material)
- However, maintenance deferral is not a tool to ...
  - Justify modifications to performance standards
  - Reduce safety critical assurance activities
  - Re-categorise equipment as non-safety critical



# Seeking “better practices”

Management of Deferred Maintenance Survey  
Due 12 May 2021

- Industry survey April 2021
- Qualitative review
- Inevitable differences in approach & risks
- Aiming to identify better practices
- The “effective operator”
- Engage industry
- Targeted inspections

Dutyholder Entity Name		Date Completed	
Contact Person		Contact Email Address	

Topic Summary	Prompt	Dutyholder response (Yes/No or minor text)
Company Culture - Maintenance deferral	1. Does your company have a documented process for setting maintenance budget?	
	2. Please list, for your organisation, the top 3 accepted causes of maintenance budget reductions	
	3. Does your company have documented definitions for the following: - Deferred maintenance - Maintenance backlog - Any other terminology that reflects maintenance that is not completed by the required due date	
	4. Please list, for your organisation, the top 3 causes of maintenance completion after the prescribed maintenance strategy date	
	5. Does your organisation have a documented process to manage modifications to maintenance activities (e.g. different people may complete) to facilitate achievement	

Work in progress....

## MAINTENANCE IS STILL A MUST

Since the onset of the COVID-19 pandemic the offshore oil and gas sector, like many businesses and the community, is also operating under unprecedented and challenging circumstances. As an example of the significant changes, operators reported offshore hours worked in April 2020 as 56 per cent lower than the average monthly total between November 2019 and March 2020.

In addition to managing risks and concerns associated with the COVID-19 pandemic, the offshore sector has been further challenged by the impacts of historically low oil prices.

NOPSEMA was concerned that the effects of reduced cash flow, compounded by operators de-manning facilities to include only essential crew in response to COVID-19, could result in less attention being given to areas of work necessary to control risks. To address these concerns, NOPSEMA conducted broadly scoped COVID-19 “consequence inspections” to monitor how flow-on consequences of the pandemic had influenced management of offshore petroleum activities. This approach considered a range of work streams that may be affected, including planned and corrective maintenance and integrity-related inspections undertaken on offshore facilities.

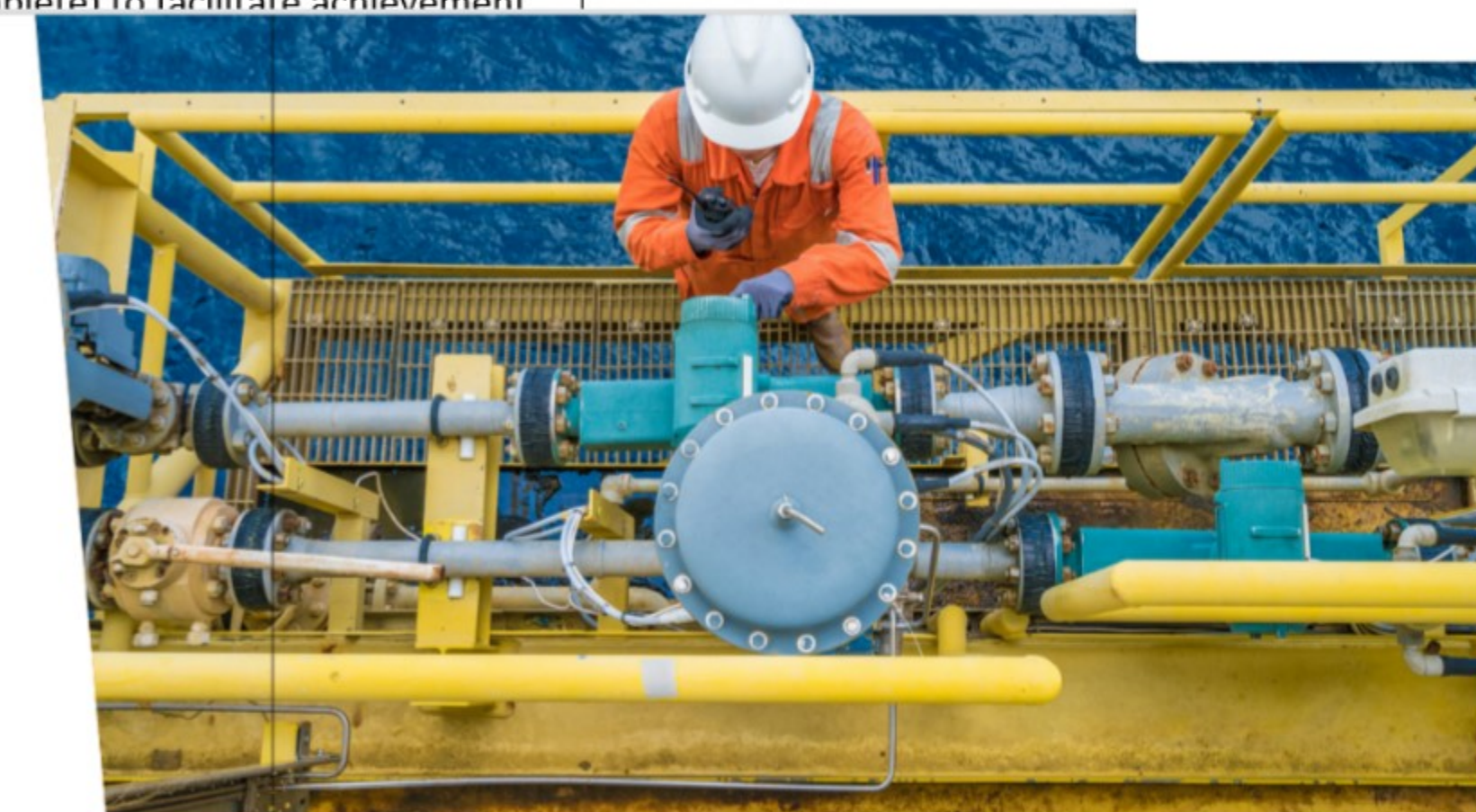
Ongoing maintenance, particularly for safety-critical equipment, is vitally important in reducing risks to the offshore workforce and the protection of the environment. Given that more than half of all offshore production facilities in Australian waters currently

regulated by NOPSEMA are more than 20 years old, and some exceed 50 years, routine inspection, maintenance and repair are necessary to control risks and ensure asset integrity.

NOPSEMA's consequence inspections found that about a third of facilities had changed or deferred their routine maintenance processes in response to pressures related to COVID-19 and low oil prices.

“the offshore sector has been further challenged by the impacts of historically low oil prices”

NOPSEMA has responded by working with facility operators to ensure planned maintenance is carried out within an acceptable timeframe. To this end, NOPSEMA has identified that deferral of maintenance and integrity-related inspections is a key compliance issue.



NOPSEMA considers inspection, maintenance and repair as activities requiring proactive focus to ensure there is no degradation in standards despite current pressures on industry.

Under existing legislation, it is a requirement for offshore petroleum companies to maintain all property and equipment so that it remains in good condition and repair until such time that it is no longer required, and then it must be removed from the offshore environment.

In line with legislation, NOPSEMA's expectation is that property and equipment will not be permitted to deteriorate to a point where it becomes a risk to the safety of the workforce, hazardous to the environment or becomes degraded to such an extent that it can no longer be safely removed.

To assist petroleum companies in achieving compliance with the long-term, pre-existing legislative requirement to maintain and remove property, NOPSEMA recently released a draft

policy – Section 572 maintenance and removal of property – for the review and input of stakeholders.

While NOPSEMA has always required petroleum companies to demonstrate how they will maintain and remove all property and equipment, the then federal Minister for Resources issued NOPSEMA with a Statement of Expectations in late 2019 in which he made clear his expectation that NOPSEMA would heighten its focus on the existing legislative requirement for offshore petroleum companies to maintain and remove all property and equipment.

To ensure maximum reach in awareness and engagement with the petroleum industry, maintenance of property has been the focus of recent assessments and inspections. NOPSEMA has reinforced that investigation and enforcement will be taken where there is a gross violation or failure to comply with the legislative requirements.



# Deferred Maintenance

## Questions?



## National Offshore Petroleum Safety and Environmental Management Authority

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**NOPSEMA**

Australia's offshore  
energy regulator

