



*decisions with confidence*

# E(SG) in Gas and Oil Projects

## Some independent observations

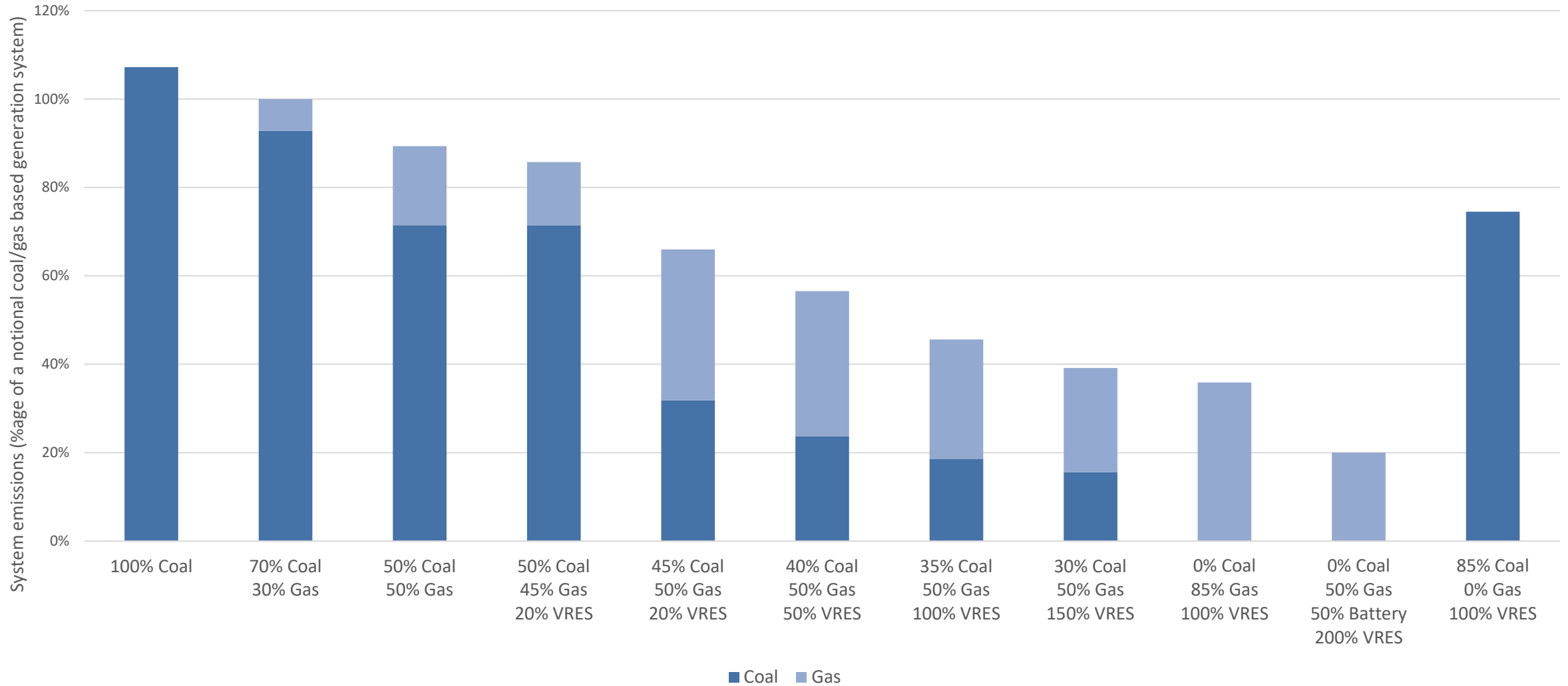
Good Oil 2021



# RISC: Getting the Energy Mix Right (2016/17)



Emissions Comparison for Power Generation Mix



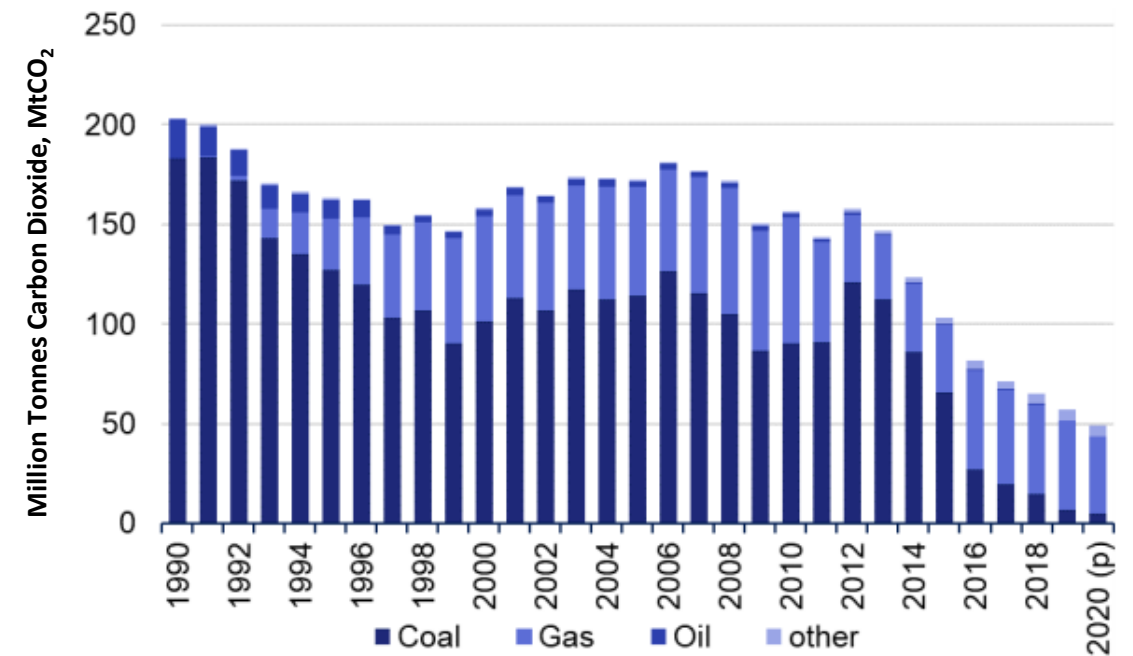
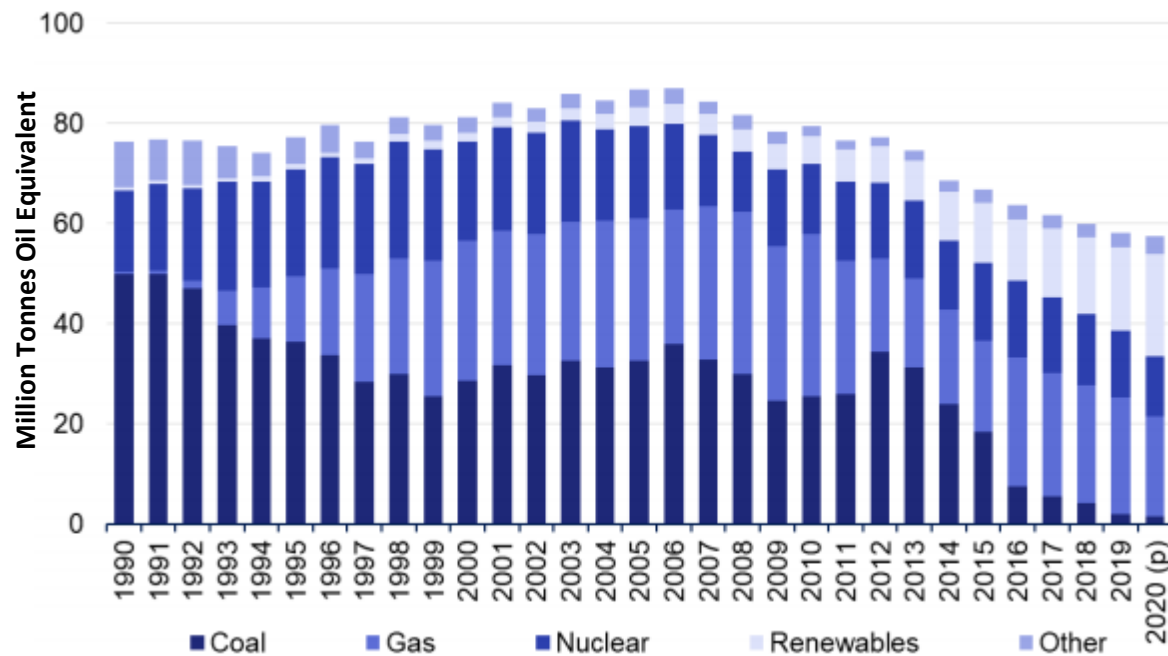
# Globally emissions reductions have been driven by a switch from coal-fired power generation to gas-fired



In the UK increases in renewables have been supported by gas use

In the UK emissions from power generation have fallen by approximately 55% since 2010.

- Coal use in power generation has fallen from around 40% to less than 2% in 2019.
- UK went for 2 months “coal free” in 2020.
- Gas use remained relatively unchanged and its share of the generation market increased to around 35-40%
- UK emissions now the lowest in over 130 years (since the 1880’s)
- *Gas use increased in Q1 2021 (+19%) even though there had been growth in installed renewables capacity in 2020*



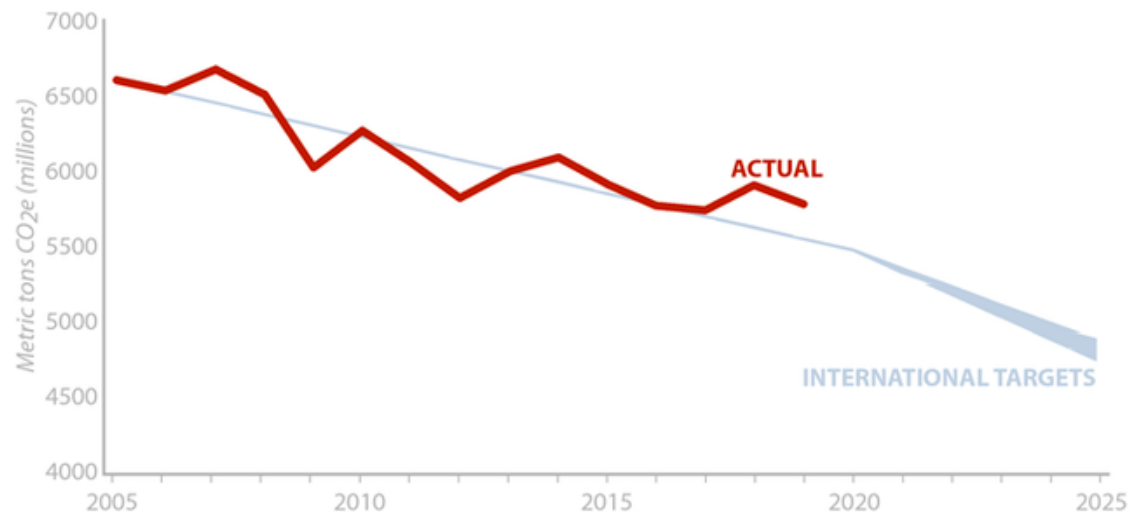
Source: 2020 UK Greenhouse Gas Emissions, Provisional Figures

# The same story is repeated in many countries and jurisdictions

## Increased gas use has helped the USA reduce emissions

- Emissions decline in US has been driven by Market forces – not policy
- Coal plants have been shut in favour of cheap gas (and renewables)
- New policies will likely drive further reductions

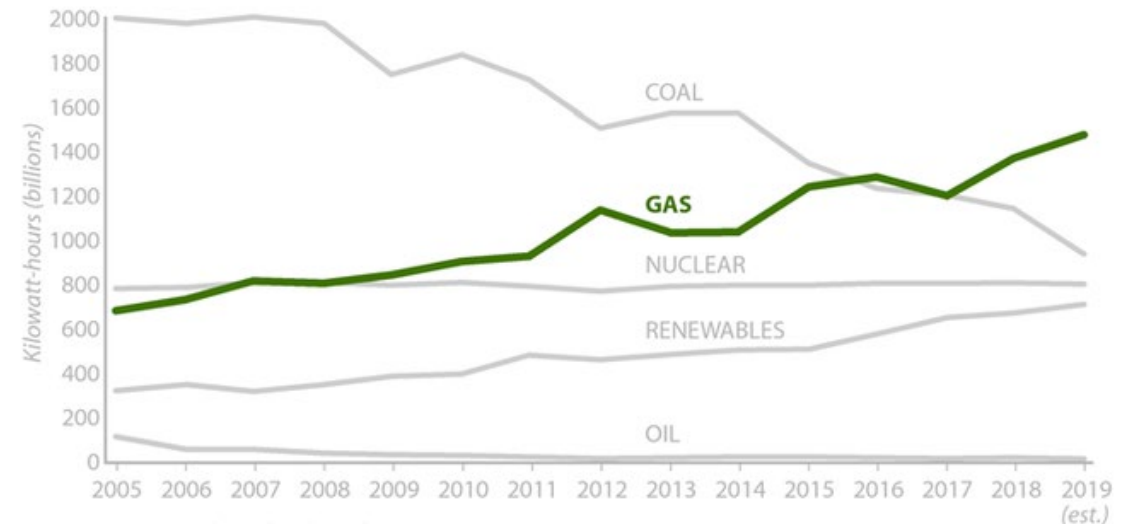
**U.S. NET GREENHOUSE GAS EMISSIONS RELATIVE TO INTERNATIONAL COMMITMENTS**  
*In millions of metric tons CO<sub>2</sub>e, excludes international bunker fuel use, 2005-2019*



SOURCE: Rhodium Climate Service

InsideClimate News

**U.S. POWER GENERATION BY ENERGY SOURCE**  
*Electric power sector only, in billions of kilowatt-hours, 2005-2019*



NOTE: Does not include distributed generation

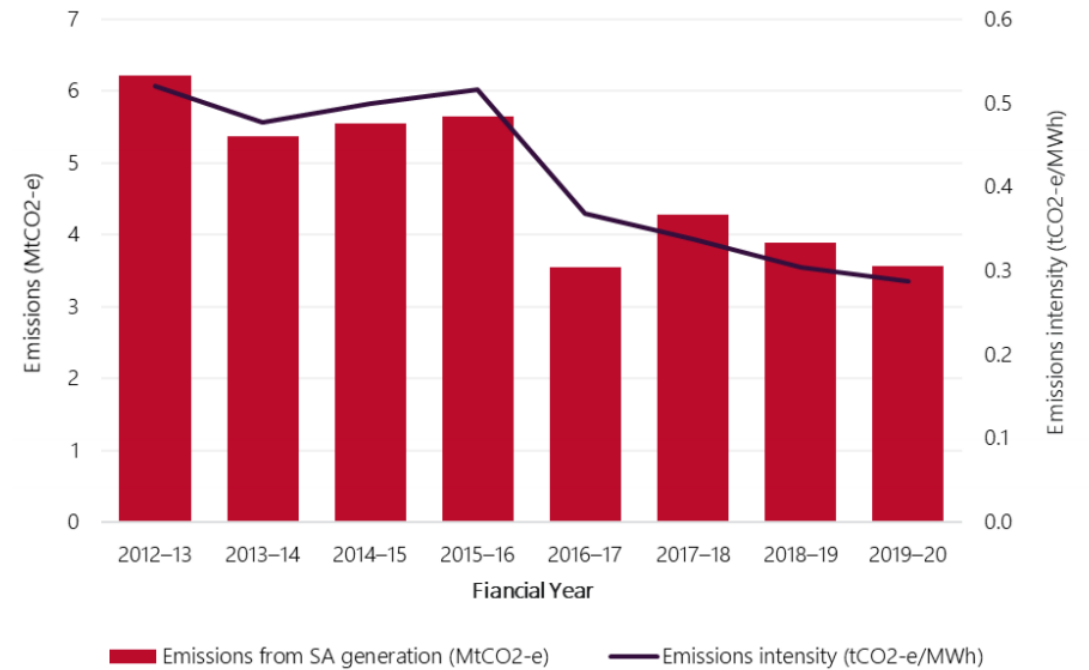
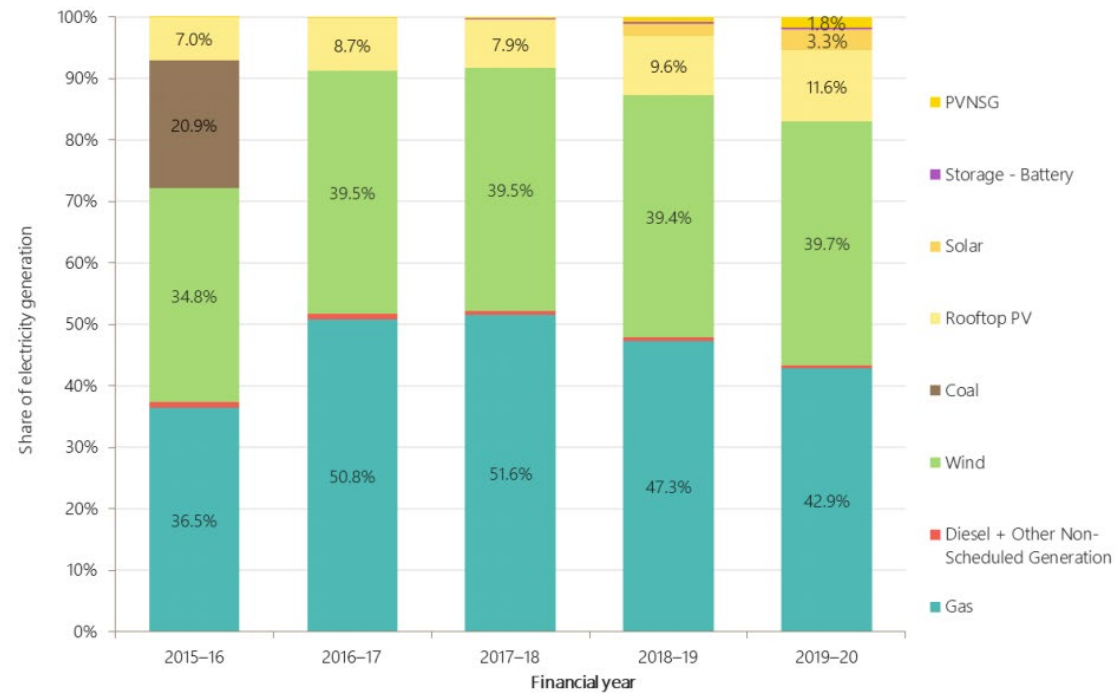
SOURCE: Rhodium Climate Service

InsideClimate News

# South Australia's renewables success also depends on gas

Gas-fired power generation can achieve maximum power within several minutes of start-up and complements the timeframe of wind and solar.

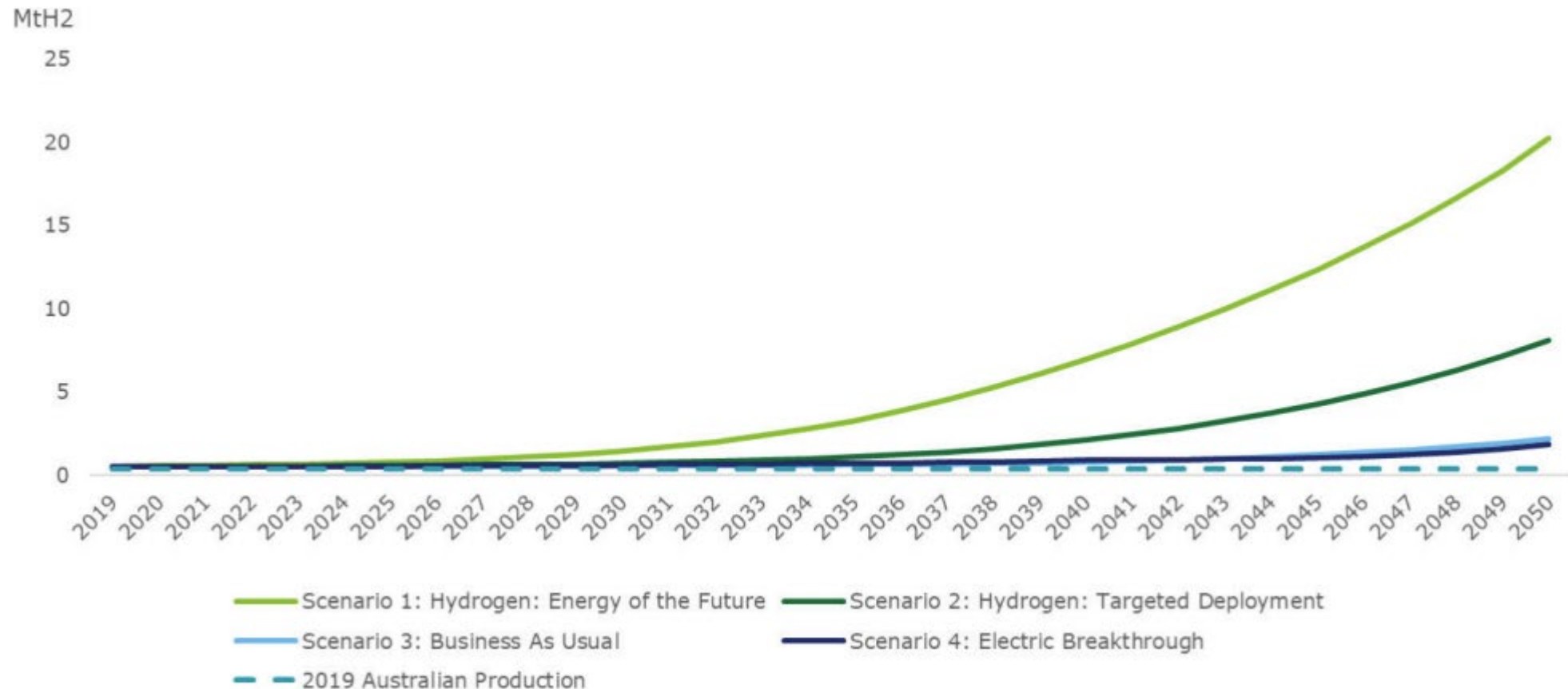
- 40-50% of SA generation comes from gas
- Batteries do not provide an alternative generation supply



Source AEMO SA Electricity Report 2019  
 PVNSG = 100kW-30MW "non-scheduled generation")

# Gas is an essential fuel for the next generation (at least)

By 2040 Australia “might be producing” ~5 MTPA of H<sub>2</sub> (energy equivalent of ~12 MTPA of LNG)



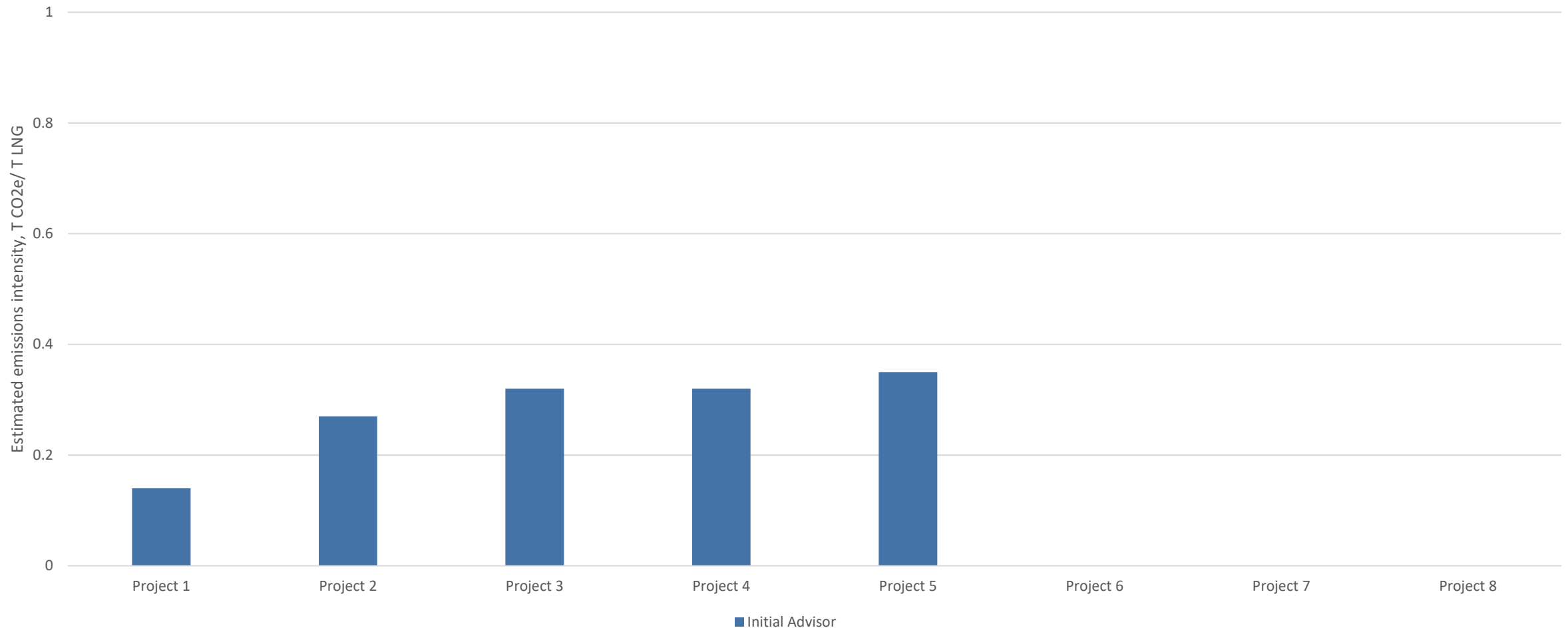
Source: Deloitte Analysis

Source Australia's National Hydrogen Strategy 2020

# Not all advice is equal



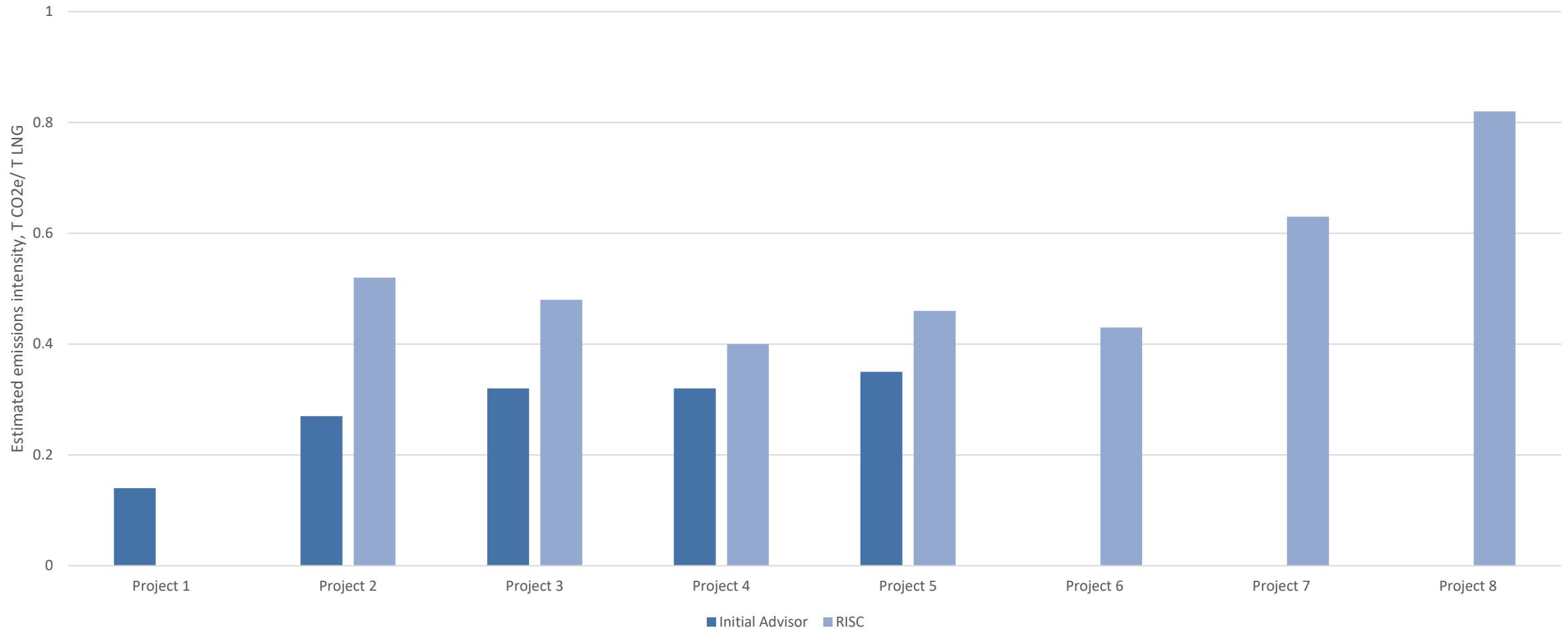
LNG Project emissions intensity comparison



# Not all advice is equal



LNG Project emissions intensity comparison





# Reporting is not consistent (yet)



Substance	Project X	Project Y	Project Z
Component A+	1,000a	a	70,000a
Component B	-	b	-
Component C	40c	c	3,500c
Component D	d	-	75d
Component E	e	-	-
Component F	-	f	-
Component G	6,500g	g	11,000g
Component H	36h	20h	h

GHG emissions (fuel and flare)	Project A	Project B	Project C
Production @ plateau	p	1.2p	1.65p
Fuel Gas	f	5f	1.25f
Flared Gas	1.3f	0.2f	0.125f

# How can RISC help?



In the last 5 years:

- We have advised on transactions totalling over \$20 Billion
- We have provided independent advice
  - To over 500 clients
  - on over 1500 oil and gas fields
  - With a total value in excess of \$100 Billion
- Including:
  - Over 120 due diligence exercises on assets and portfolios
  - More than 110 Independent Technical Specialist and Expert assignments
  - More than 100 Resources and Reserves reviews and audits
  - Over 140 Technical and Commercial Consulting assignments

We have covered LNG projects totalling more than 120MTPA or over 30% of the world’s current total LNG production.



<b>In a typical month we work on</b>	✓	✓	✓	✓	✓	✓
<b>~25 Projects/~85 Assets</b>	20	10	20	5	30	3
<b>Annually we work on</b>						
<b>100+ Projects/500+ Assets</b>	100+	80+	100+	30+	200+	25+

Strategy, Planning, Transaction Due Diligence, Resources Certification, Expert Witness, Commercial, Risk, ESG and HSE issues

# In the last 5 years RISC has carried out many ESG assignments



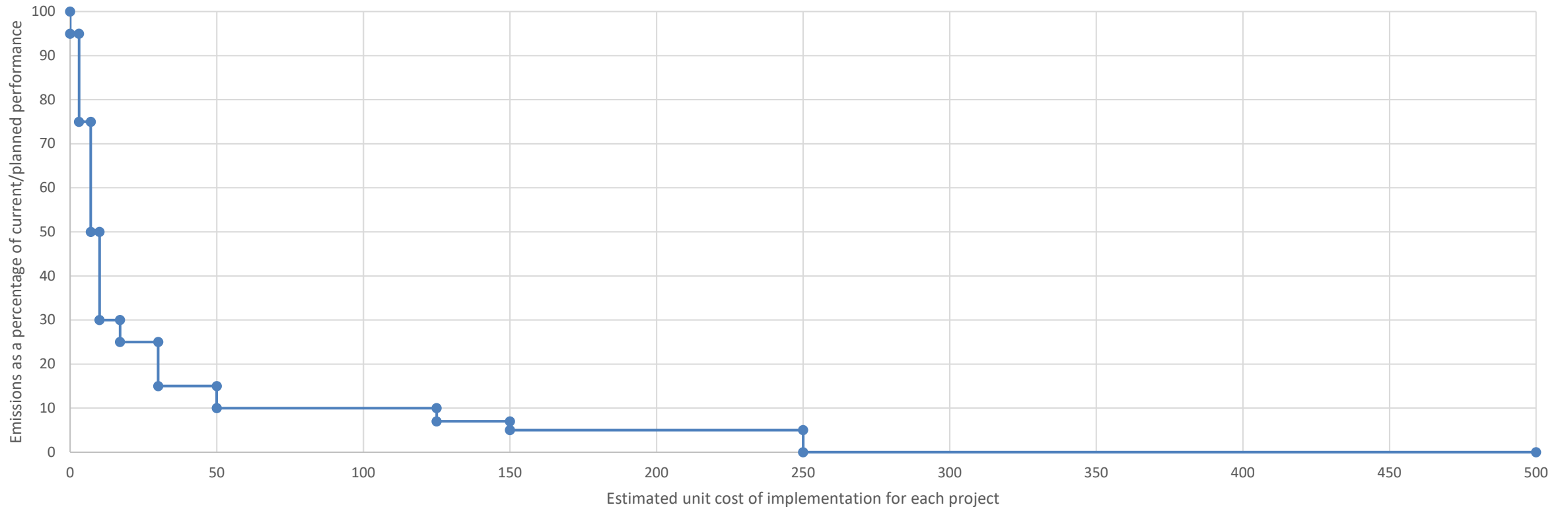
Year	Location	RISC ESG Scope
2021	Onshore, unconventional, Australia	RISC included a review of ESG issues as part of a due diligence exercise, including comparisons of HSE performance and CO <sub>2</sub> emissions intensity
2021	Offshore, conventional, Australia	RISC included a review of ESG issues and likely impact of regulatory changes as part of a due diligence exercise
2020/21	Offshore, conventional, Philippines	RISC included a review of ESG issues and compliance with Equator Principles (EP III) as part of a due diligence exercise
2020	Onshore, Australia	RISC carried out a review ESG issues on a project including CO <sub>2</sub> emissions
2020	Onshore conventional, Australia	RISC provided an ITSR including advising on ESG issues, compliance with regulations and EP(III) principles, and estimating anticipated CO <sub>2</sub> emissions
2019	LNG projects, Australia	RISC provided advice to a waste recovery company on what, how, how much and when waste streams arise in LNG operations (with an emphasis on liquid wastes)
2019	On/offshore, conventional, Australia	RISC carried out a review of HSE regulatory compliance over all aspects of the LNG project on behalf of a non-operator partner
2019	Oil, Egypt	RISC reviewed HSE practices to identify key issues around HSE performance and culture for a non-operator partner. This included reviewing occupational safety and environmental performance, Process safety and Asset integrity and safety culture
2018	Abandonment and Decommissioning Guidelines	RISC assisted an international operator in developing a consistent approach to the requirements of abandonment and decommissioning
2018	Onshore producing assets, PSC Indonesia	RISC carried out an independent ESG review based on EP III and IFC performance standards
2016	Offshore Oil and Gas producing assets, Indonesia	RISC carried out a post transaction review including: Technical Integrity; Operational performance; Transition to new ownership; HSE Management; Regulatory compliance; and Corporate and Social Responsibility issues.
2015	Offshore gas assets , Malaysia	RISC carried out a compliance audit for a Drilling contract

# Pathways to Net Zero

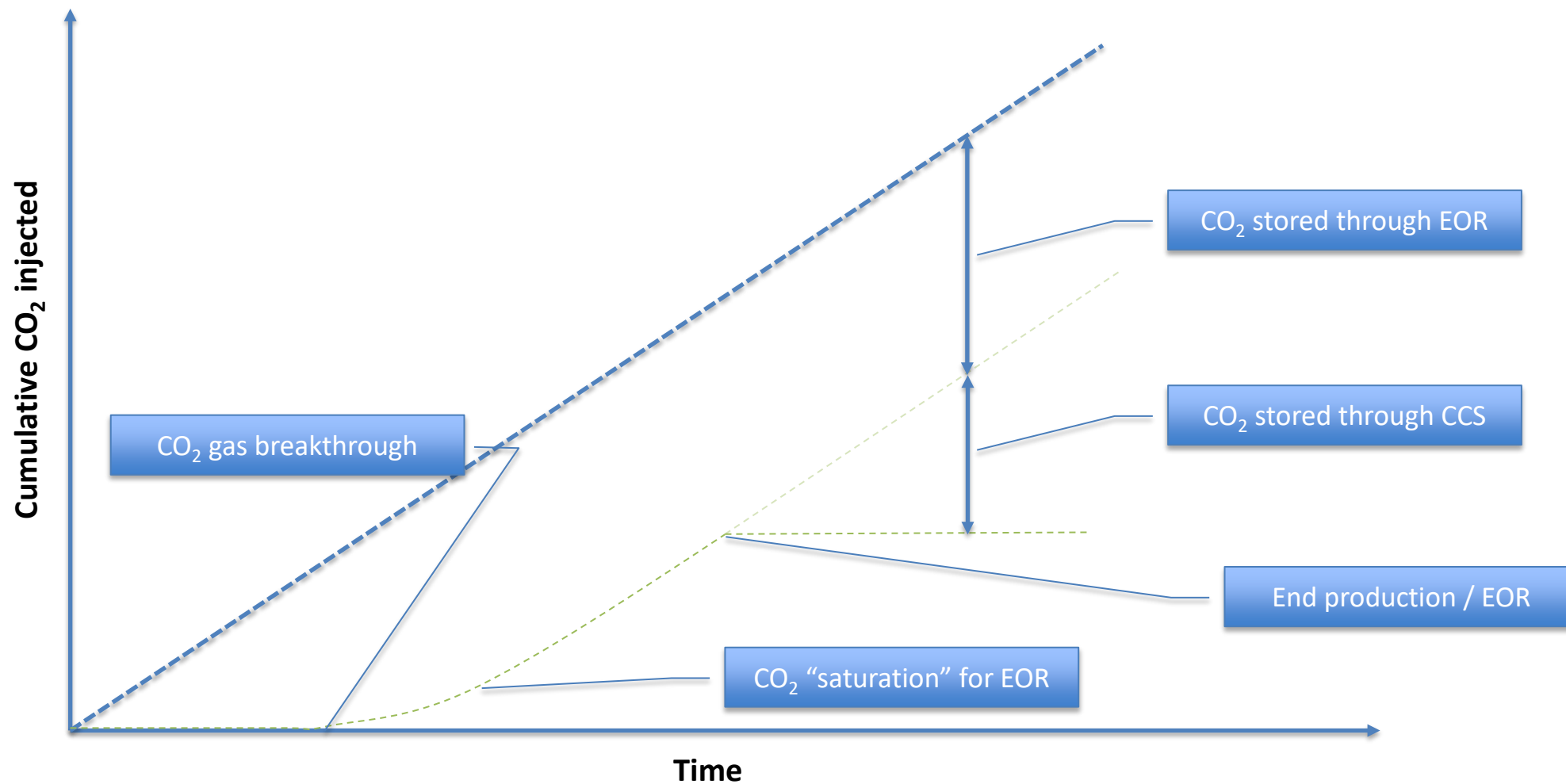


RISC can assist with finding and understanding emission reduction options

Emissions Reduction Staircase



# How CCUS and EOR can help





[www.riscadvisory.com](http://www.riscadvisory.com)

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