



North Sea  
Transition  
Authority

# North Sea Operators Emission Reduction Action Plans progress

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Topsides UK 2023

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7<sup>th</sup> November 2023

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# NSTA emissions monitoring

## NSTA's role

### ENERGY SECURITY



Helping meet UK energy demand

Oil and gas licensing and stewardship

### EMISSIONS REDUCTION



Regulating for emissions reduction

Promoting electrification and zero routine flaring and venting

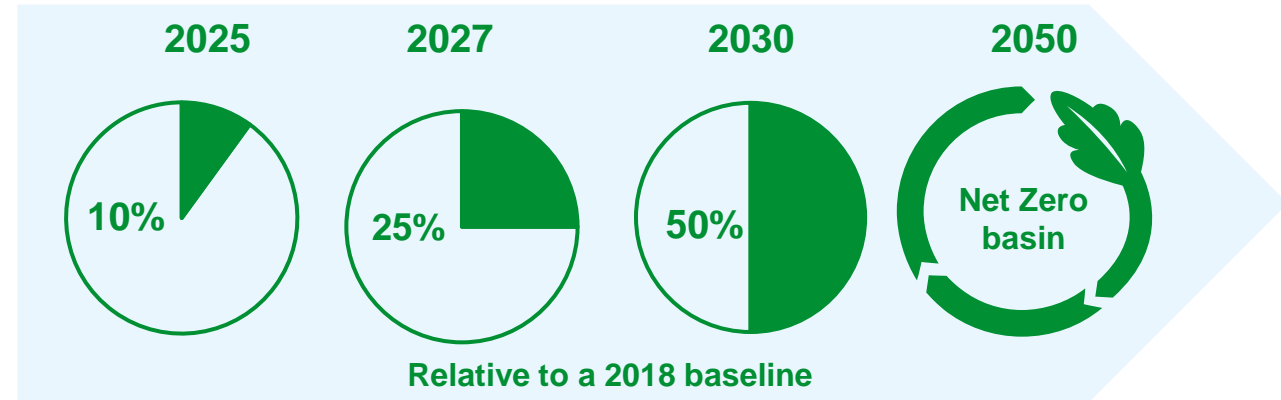
### ACCELERATING THE TRANSITION



Carbon storage licensing and stewardship

Promoting energy integration  
Providing open access data

## North Sea Transition Deal targets: established 2021



## Independent monitoring of deal targets



## Progress so far



**23%**

Reduction GHG emissions 2018-22



**50%**

Reduction flaring since 2018



**6%**

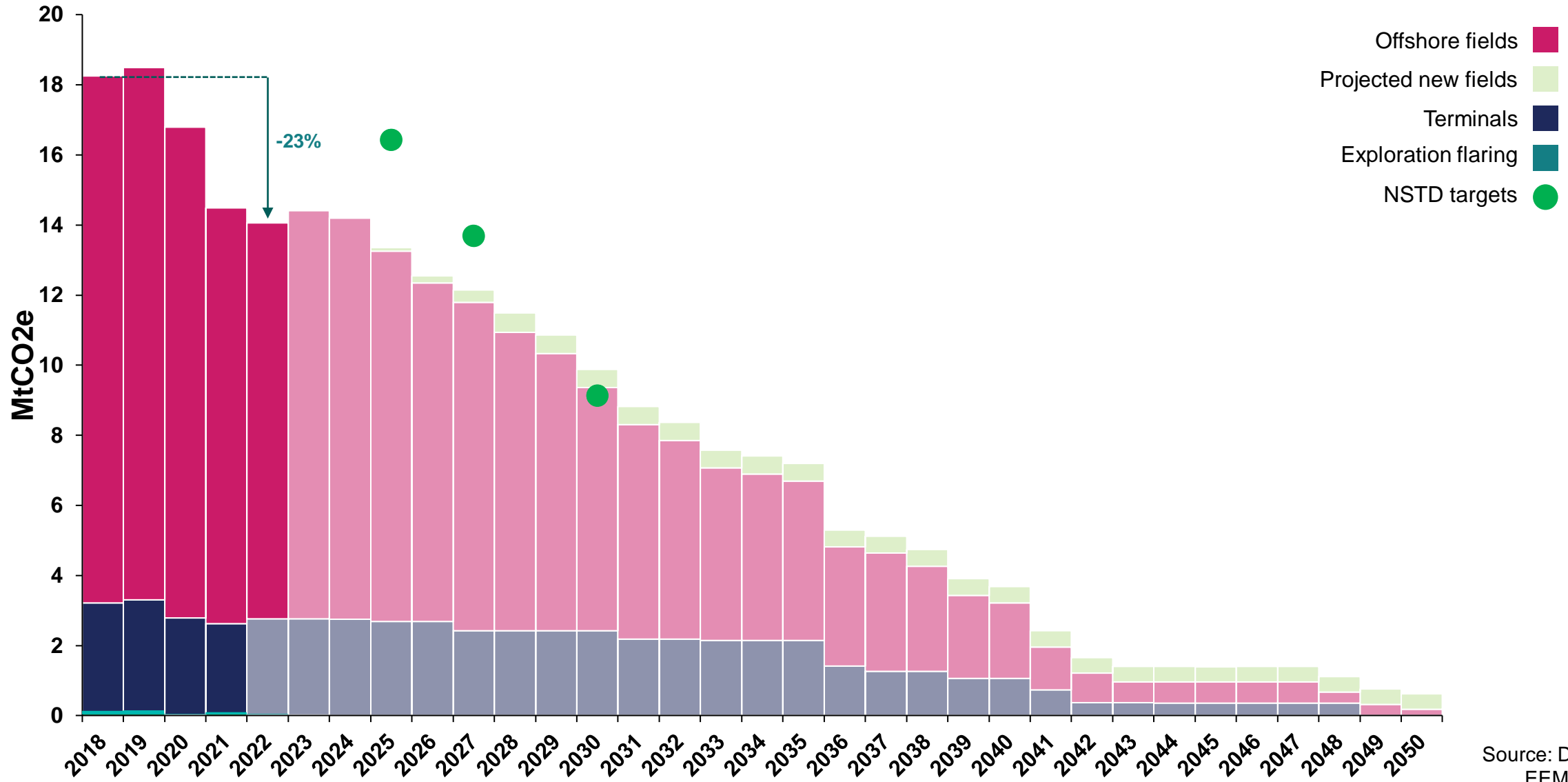
Reduction in Carbon intensity in 2022



**6%**

Reduction in hydrocarbon venting in 2022

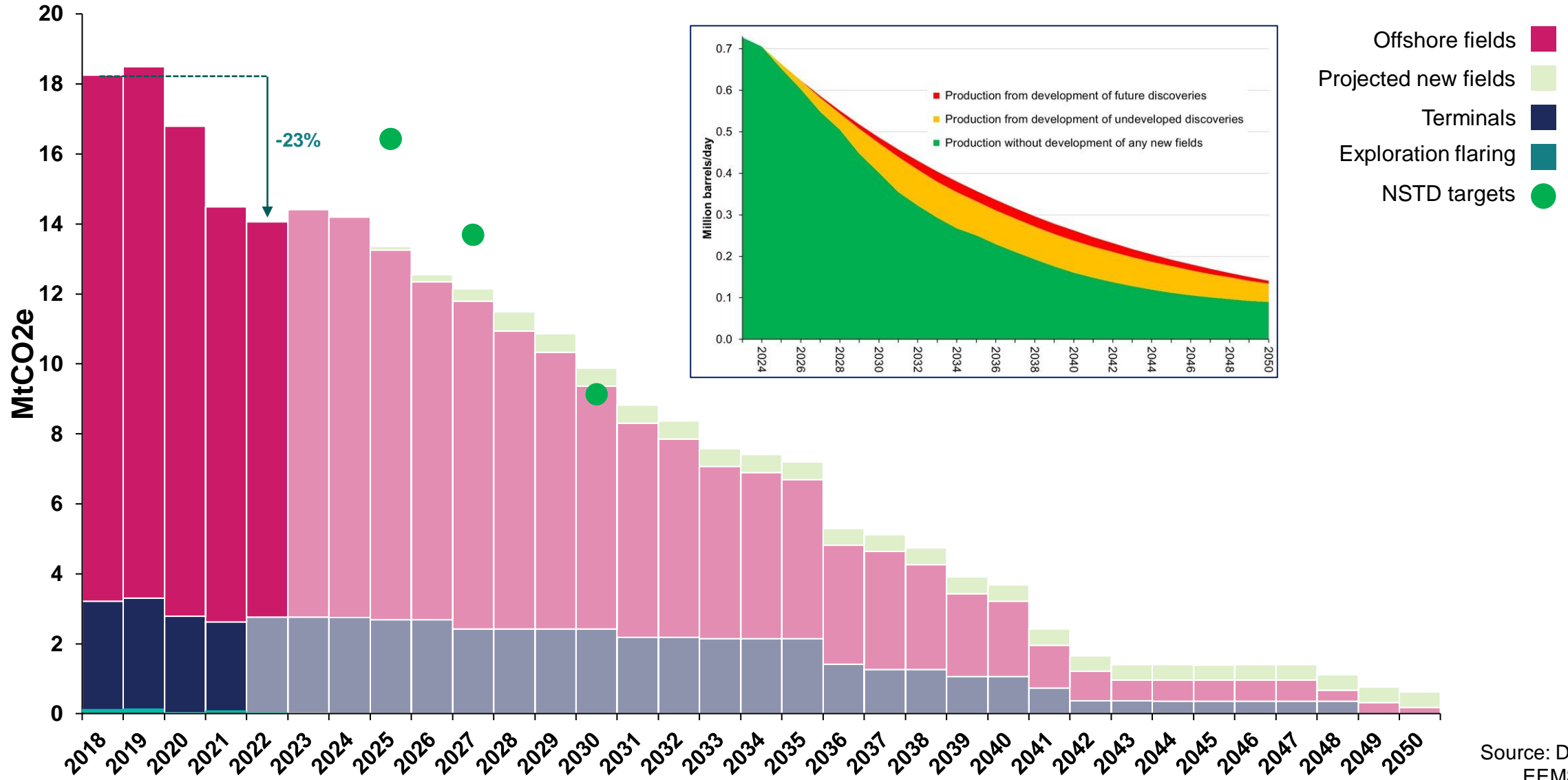
# Business as usual GHG projection



Source: DESNZ (NAEI), EEMS, ETS, NSTA

Year-on-year decline is forecast post-2023 even without further proactive abatement, but 2030 target still at risk

# Business as usual GHG projection

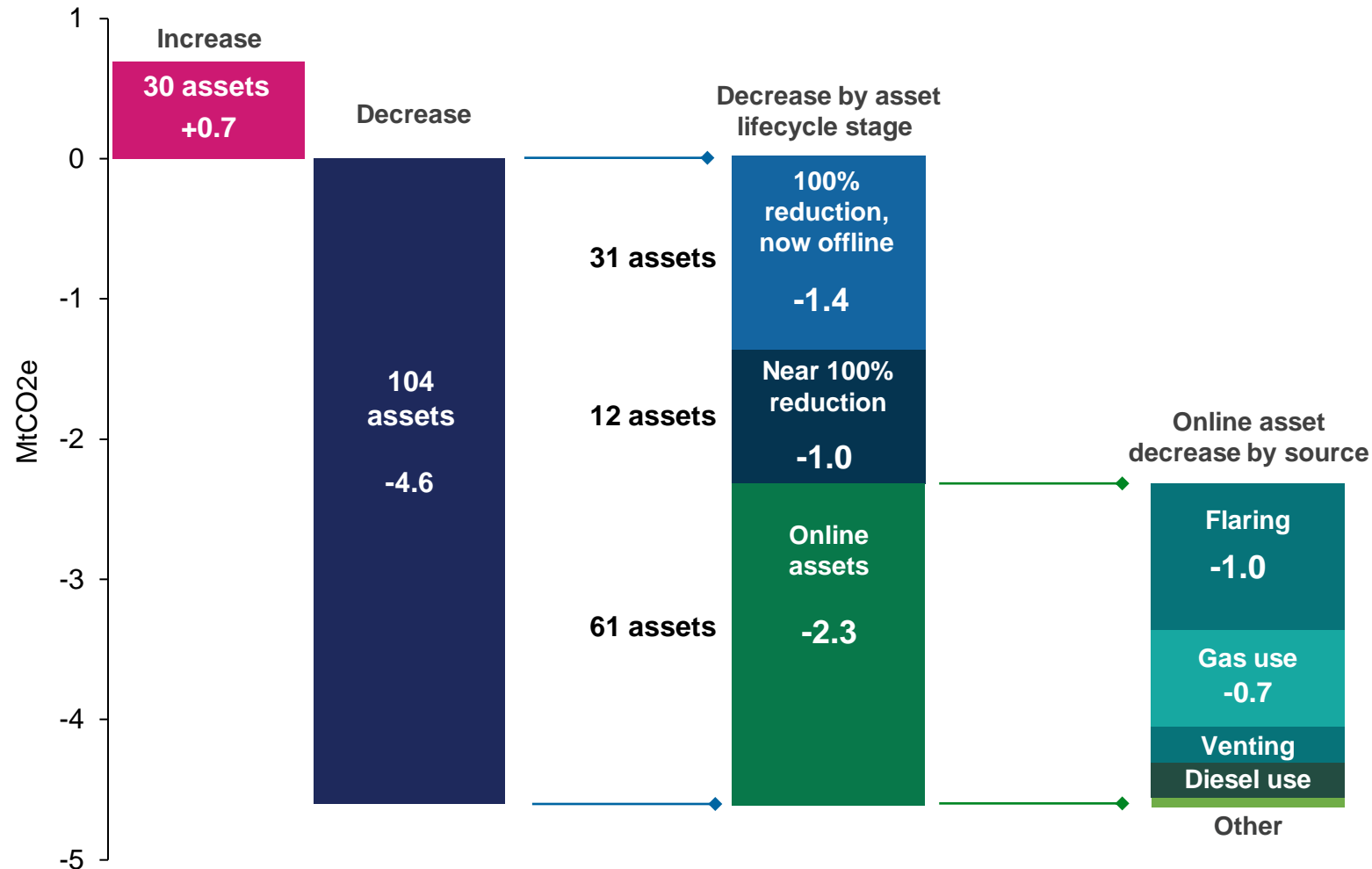


Source: DESNZ (NAEI), EEMS, ETS, NSTA

Year-on-year decline is forecast post-2023 even without further proactive abatement, but 2030 target still at risk

# Emissions reductions 2018 - 2022

Changes in UKCS GHG emissions 2018 - 2022



Half of savings from assets still producing



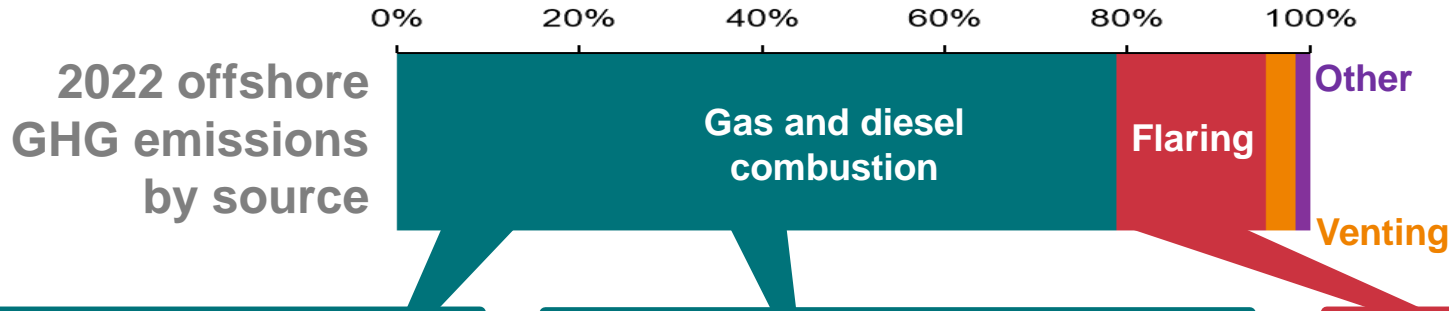
Reduced flaring was the key driver

Note, values do not add to -4.6 due to rounding.

Source: EEMS, NSTA

78% of assets decreased emissions from 2018 to 2022

# Emission reduction pathways



## Electrify offshore assets

For facilities with longevity in the basin, replace emission intensive *in situ* power generation for cleaner imported electricity.

Offshore gas turbine



460  
gCO<sub>2</sub>/kWh

UK electricity grid



2022 182  
gCO<sub>2</sub>/kWh  
2030 48  
gCO<sub>2</sub>/kWh

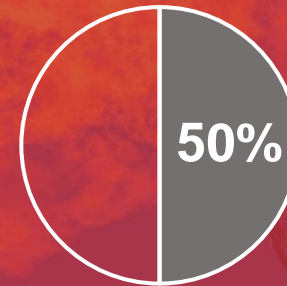
## Energy efficiency

Optimise operations to run compressors, pumps and other equipment more efficiently to reduce power demand.

5% fall = 2 MtCO<sub>2</sub>e  
2023-2030

## Eliminate routine F&V

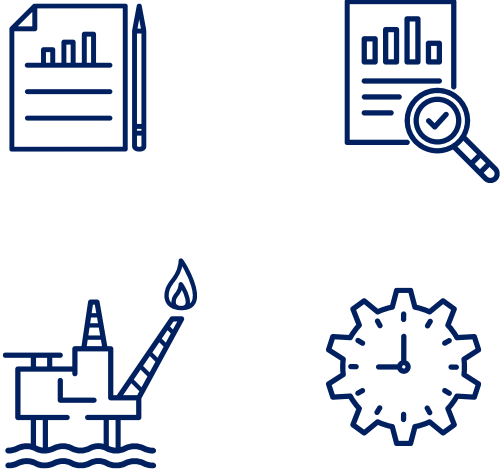
By 2030, all facilities should operate at zero routine flare and vent.



Today roughly half of all F&V is routine.

# Insights vs Stewardship Expectation 11

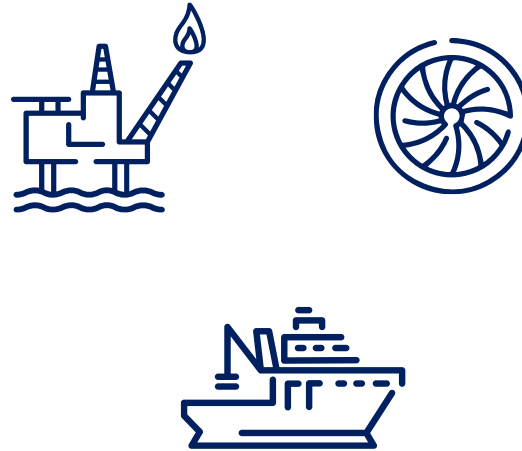
## Positive themes



### Widely in-place, advanced and maturing

- Emissions Reduction Hopper, D9
- Daily / weekly asset reporting, D12
- Active flaring reduction strategy, D15
- Asset targets/ KPIs , D18

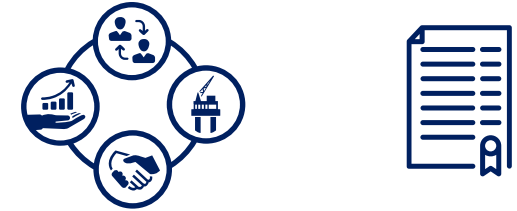
## Mixed



### Partially in-place, though progressing

- Zero routine flaring as future base case, D11
- Power generation monitoring, D13
- Active vent reduction strategy, D16
- Logistics operations strategy, D17
- Tracking implementation and results

## Challenging



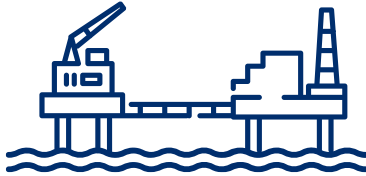
### Expectations largely not covered/ assessed

- Opportunity progression
- Integrated to hub strategy
- Execution schedules
- Maintenance & inspection strategies, D14
- Associated SCAP, D10
- Cost – benefit opportunity bias

# Overview of ERAP activities



## Optimise existing operations



**65% of ERAPs**

Power generation: reduce unit ops, fuelling [11]  
Gas compression: reduce unit ops/ restore availability/  
control mapping [7]  
Liquid pumps: Oil/ PWRI/ SWLP reduce unit ops, [6]  
F&V: VRU reinstatement, lower purge rates [4]

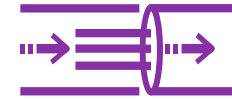
## Modifying power generation



**25% of ERAPs**

Up-grade existing unit efficiency [4]  
Right size units [3] or scale-up to electrify [2]  
Recovered energy generation [4]

## Modifying gas management



**25% of ERAPs**

Right size units: rewheels/ revamp [18]  
Change to motor-driven [2]  
Train reinstatement [1]



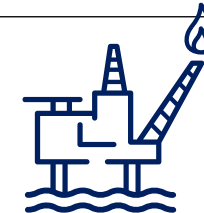
**20% are planning projects or evaluating modifying users of electrical power**

- Right size pump units/ variable frequency drives [13]



**45% are participating in/ evaluating Major Infrastructure Projects**

- Platform Elect'n: CNS, OMF, WoS, [15]
- Offshore Elect'n: INTOG/ WINTOG [7]
- Power sharing/ import [2]
- CCS: [3]
- Gas export: [1]

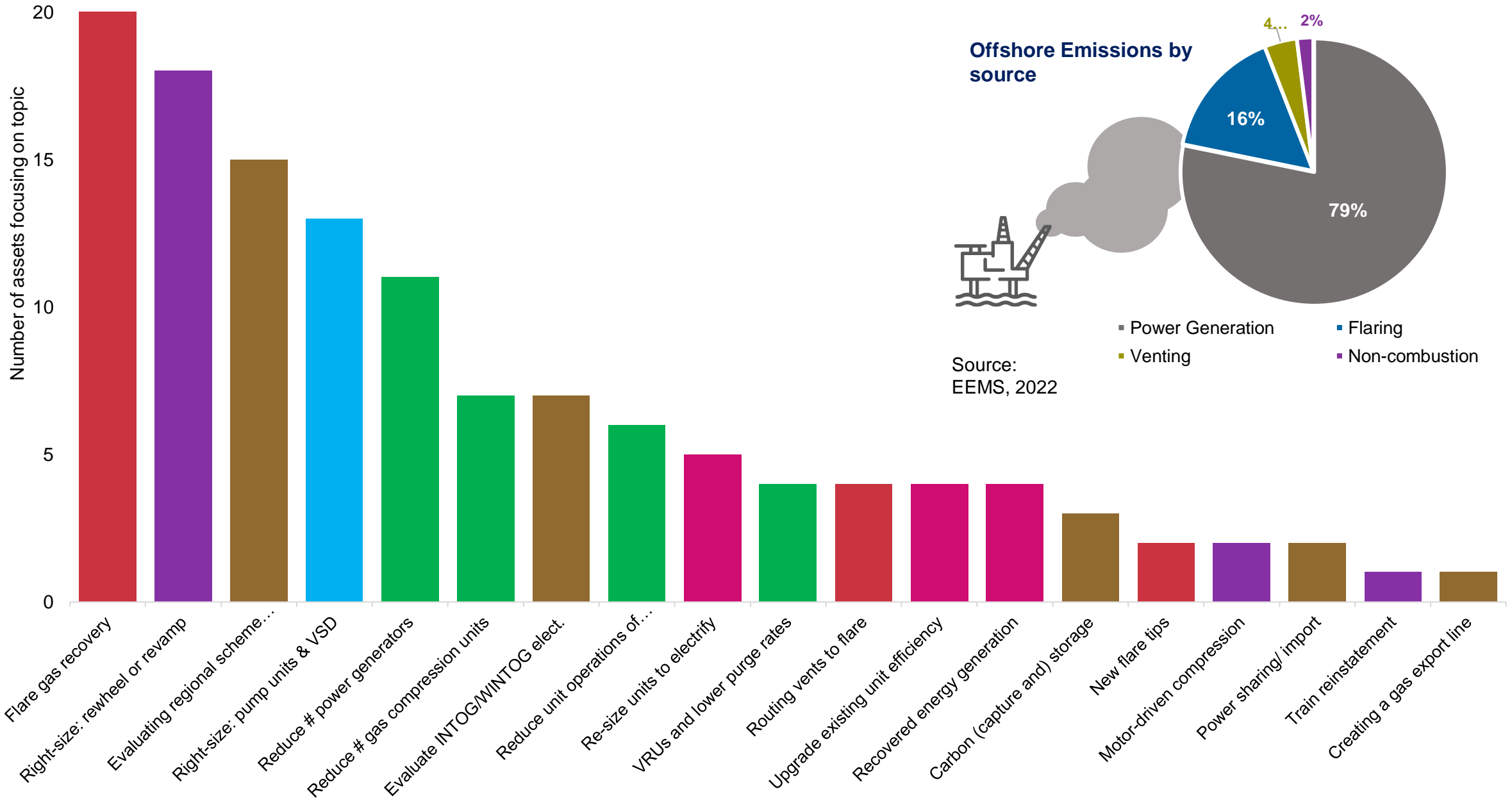


**50% are planning Projects or evaluating modifying Flare & Vent systems**

- New Flare Gas Recovery facilities [20]
- Routing existing vents into flare systems [4]
- New Flare tips [2]

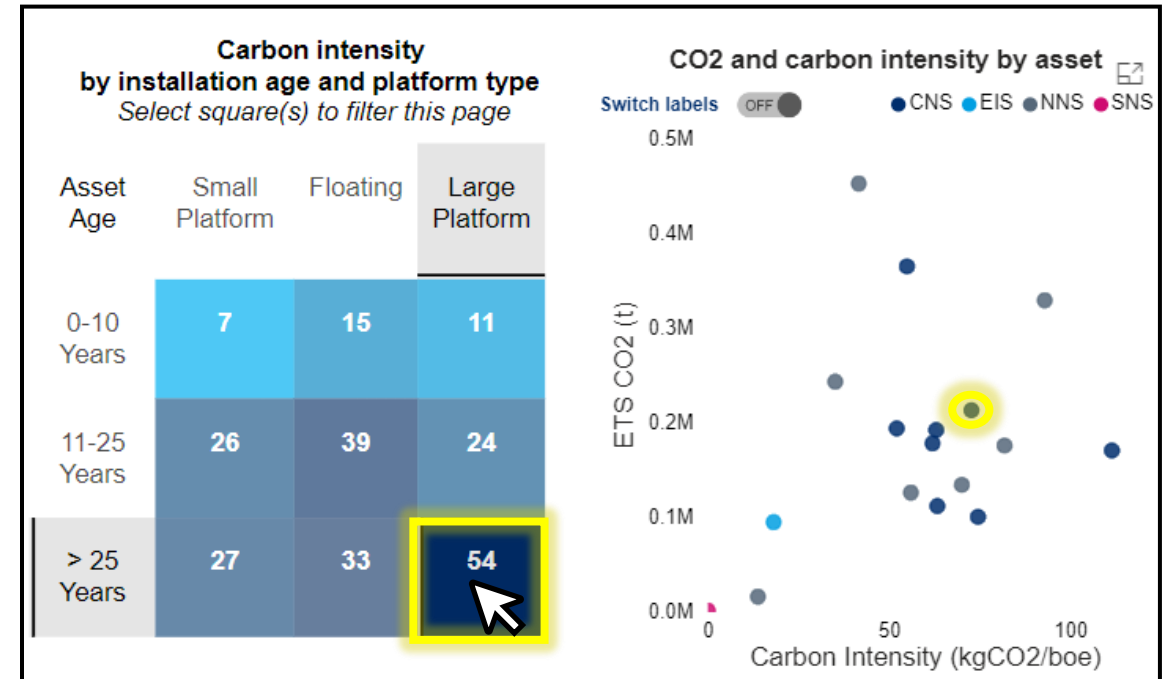


# ERAP Focus areas



- On-going stewardship by NSTA
  - Integrated Hub Strategies
  - Commitment to execution
- OGA plan to reduce UKCS greenhouse gas emissions
- Performance monitoring and benchmarking
- Continue Industry engagement:
  - Asset Stewardship Task Force working group
  - Technology Leadership Board
  - NZTC / NSTA joint technology project

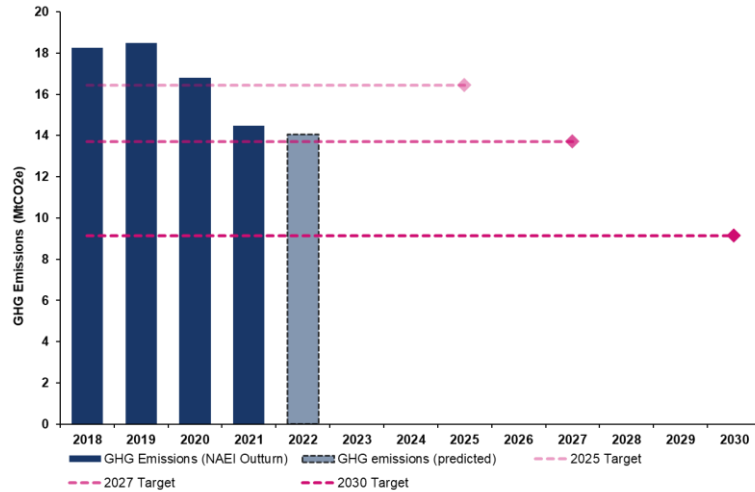
## Interactive emissions monitoring dashboard



# Summary

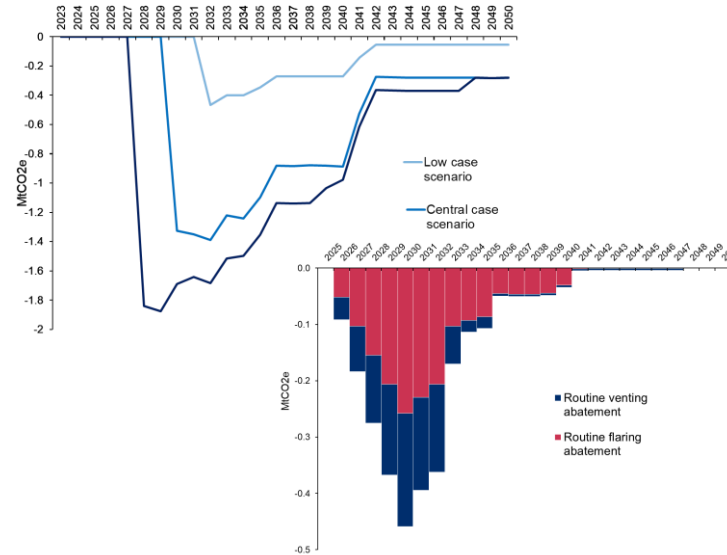


## Important progress to date



- 23% decrease since 2018.
- Half from active abatement.
- However, reductions continue to ease – a slight rise is forecast in 2023

## Timely abatement is crucial

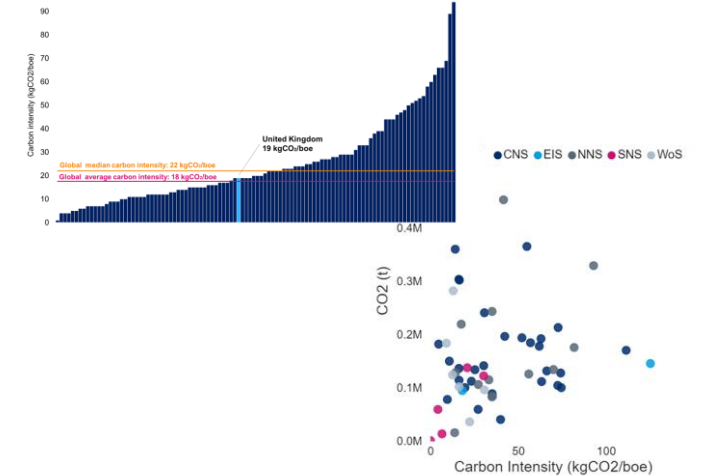


The total abatement prize diminishes the longer GHG reductions projects take to commission.

Immediate action is imperative.

Power Generation offers greatest opportunity

## Sustained focus on performance and delivery



The NSTA will continue to benchmark performance to drive regulation of the basin to ensure its global competitiveness.

Targeted Stewardship based on performance and projections



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# Thank you

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