




Nexstep introduction & Joint MLS Well Campaign

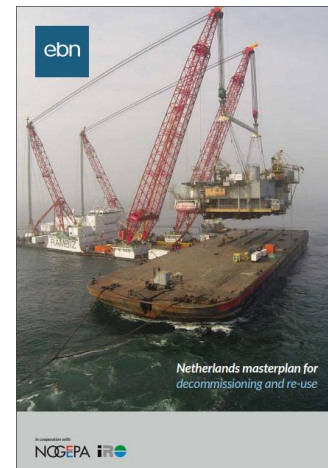
IRO member meeting – 10 February, 2023

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Nexstep history

- Reservations 2016: EUR 7 billion (100% NL)
Realised overruns: 50-80% for wells, 10-20% for installations ~EUR 2-3 billion
Uncertainty regarding decommissioning of pipelines offshore ~EUR 3 billion
Potential decommissioning cost increase to EUR 12-13 billion
 - EBN share in decom 40%, total State share 73%
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- EBN developed Master Plan Decommissioning & Re-use 2017
 - Joint Industry Project 2017 resulting in establishment of Nexstep in 2017 by EBN & NOGEPA*, in cooperation with MEAC & IRO

* since 2022 Element NL



Nexstep objectives

Public

Provide transparent information on decommissioning

Supply chain

Provide transparent information on decommissioning activity next 10 years

Operators

Identify potential collaboration opportunities

Note: pilot portal 2021 for HLV-contractors

Operators

Provide cost benchmarking



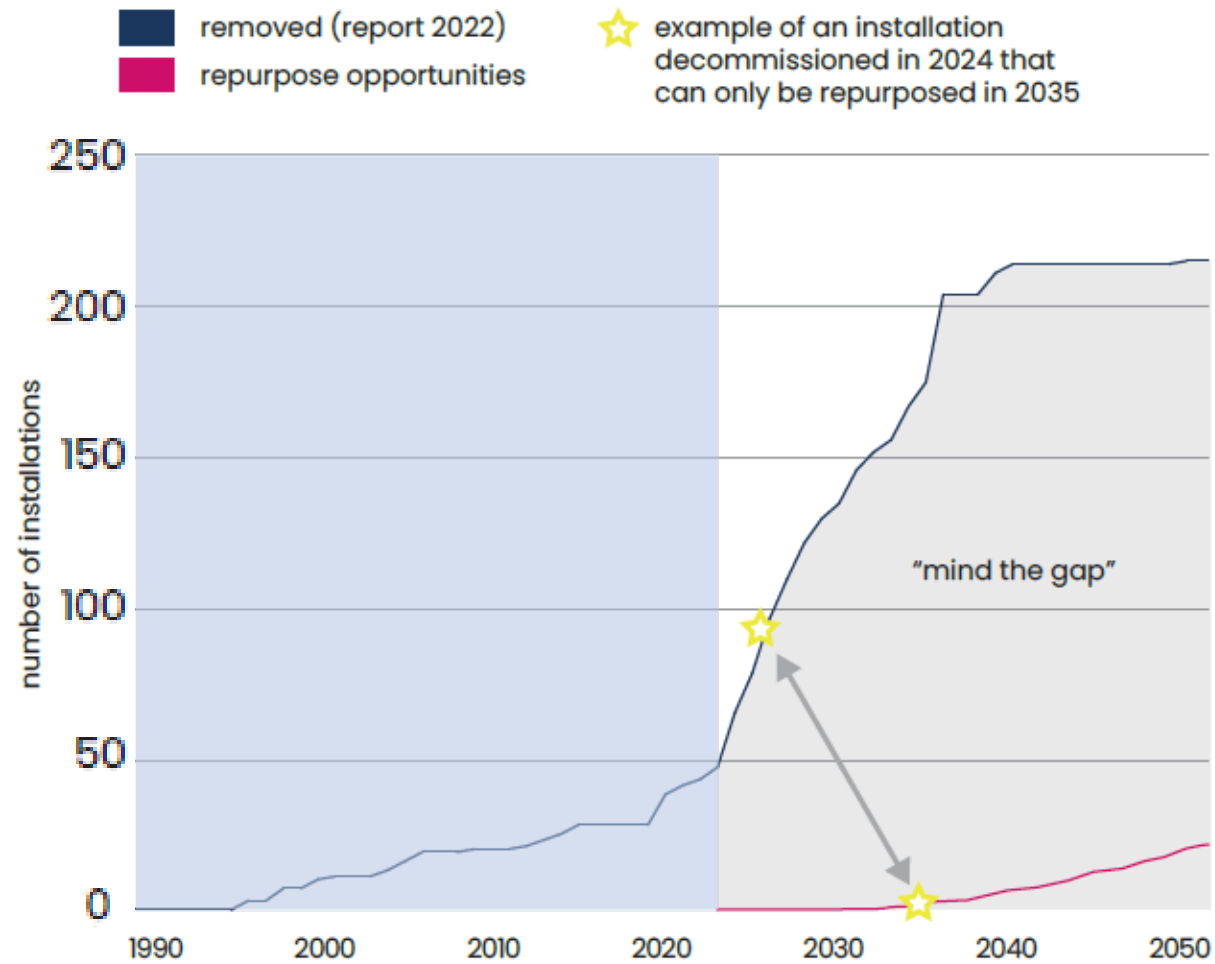
Stimulate re-use & system integration

Reduce decommissioning cost by 30%

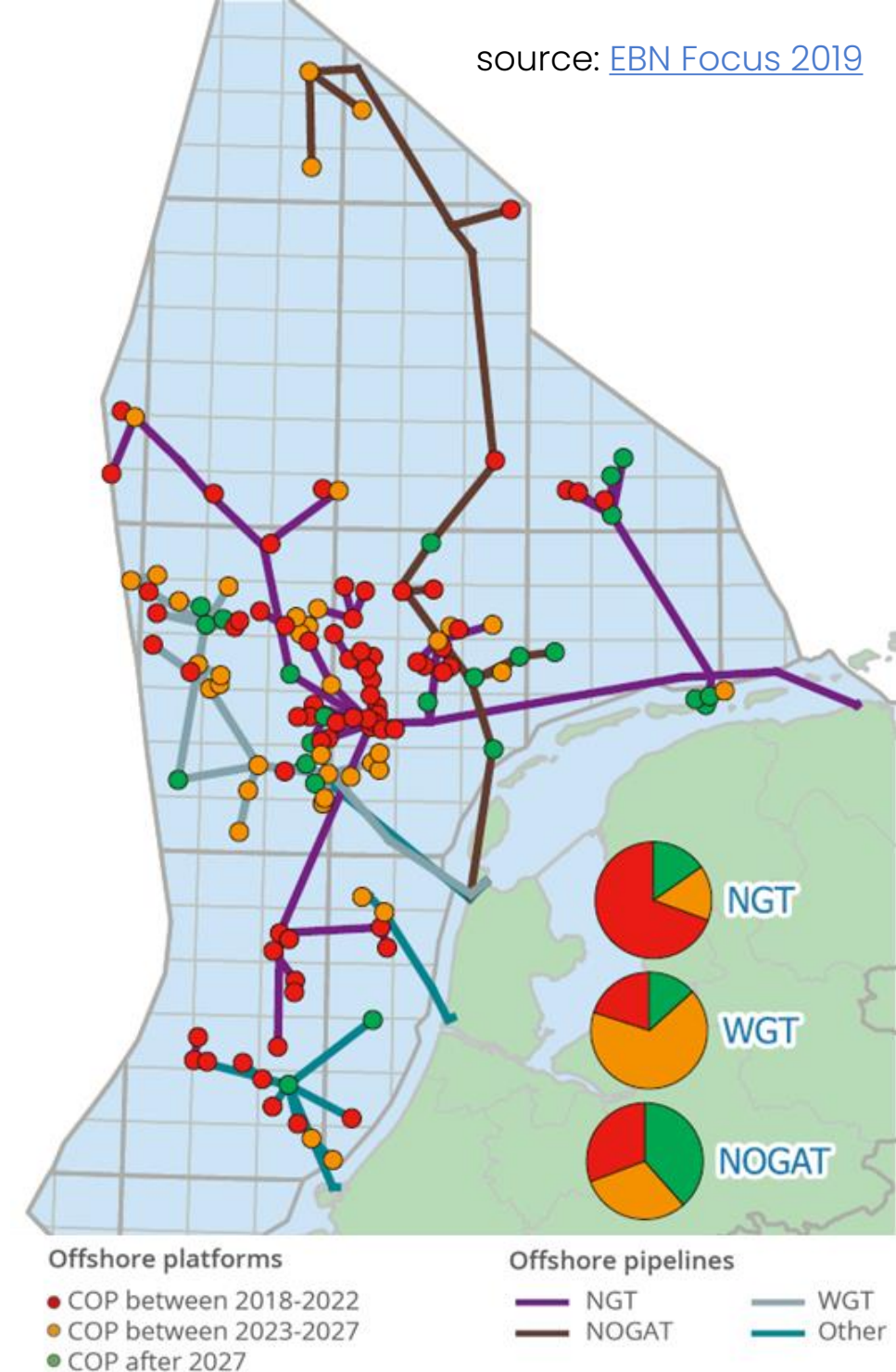


Re-use of E&P infrastructure

Number of installed and removed offshore installations



source: [Nexstep Re-use & Decommissioning Report 2022](#)



Joint MLS campaign

NEXSTEP JOINT CAMPAIGN TO DECOMMISSION
MUDLINE SUSPENSION (MLS) WELLS IN THE DUTCH NORTH SEA

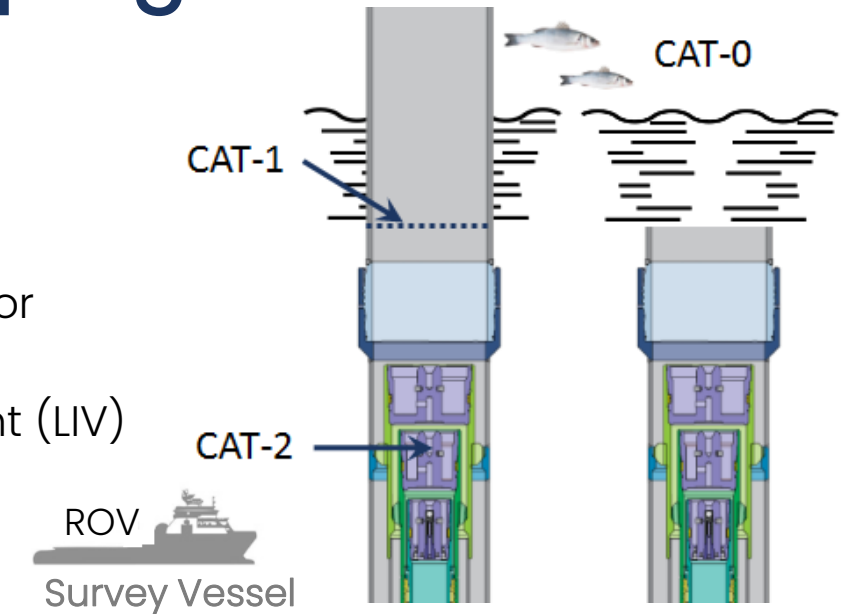


NAM, Neptune Energy, ONE-Dyas, Petrogas E&P, TotalEnergies EP Nederland and Wintershall Noordzee have signed an agreement with Oceaneering Services B.V. for the decommissioning of Mud Line Suspension (MLS) wells in the Dutch North Sea, which are wells that were once drilled for exploration purposes, but never became producing wells. This is the first time that wells from this many different operators will be removed together in one campaign.

Decommissioning complexity MLS campaign

Archetypes:

- ✓ • CAT-0 Conductor already cut below mudline (not necessarily > 6 m), no intervention required
- ✓ • CAT-1 Conductor/multistring to be cut, current suspension status acceptable for abandonment (MSV or LIV)
- ✓ • CAT-2 Well intervention required to remediate shallow isolation/annulus cement (LIV)
- ✗ • CAT-3 Requires deep intervention, drill-out surface cement (jack-up rig)
- ✗ • CAT-4 As CAT-3 with extensive work remediation work (jack-up rig)



✗ Standard/Heavy Jack-up

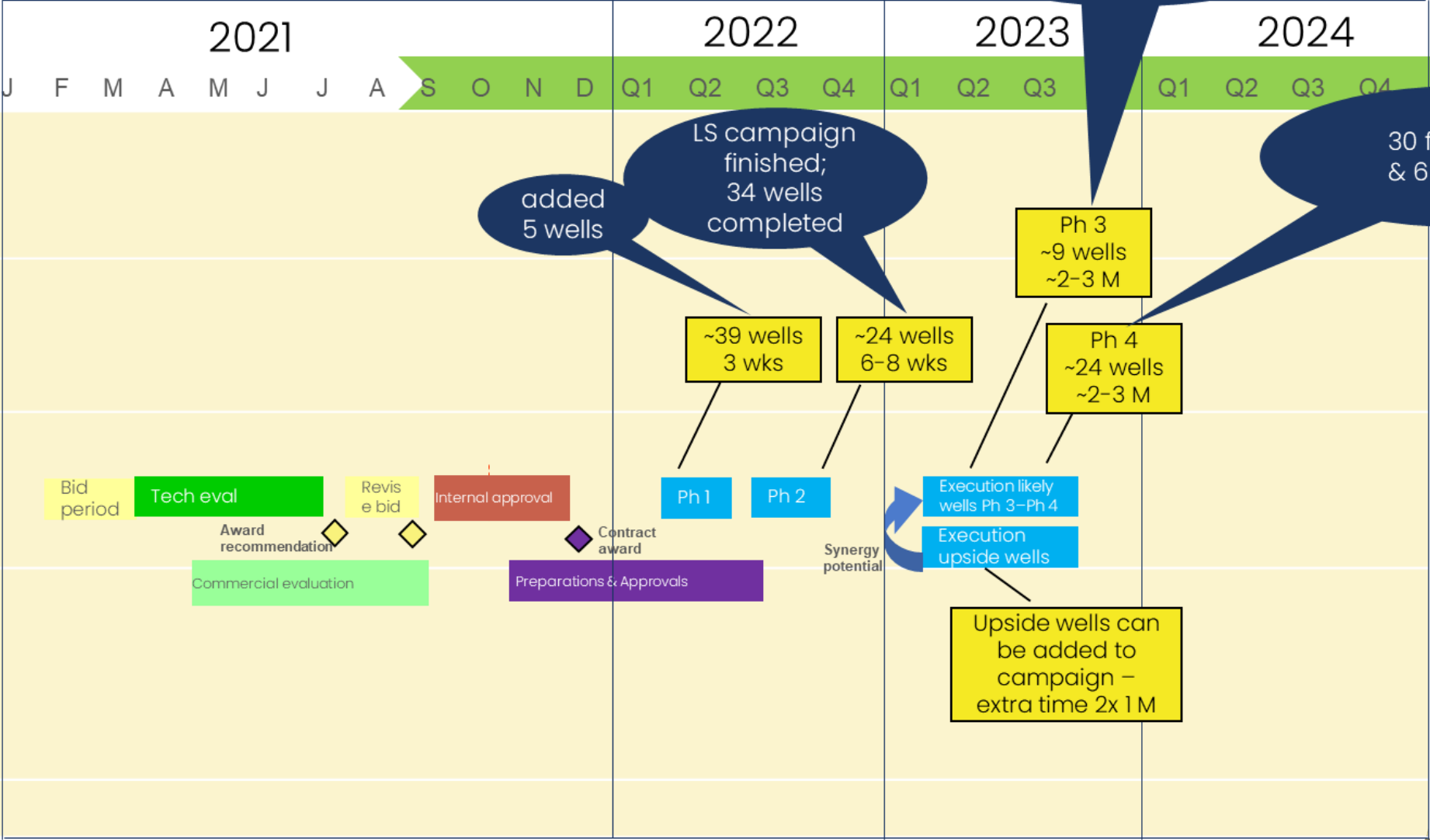


✓ Light Intervention Vessel (LIV)



✓ Multi Service Vessel (MSV)

Campaign planning roadmap



Joint Well Campaign objectives – scope



- a substantial number of mudline suspension (MLS) wells:
 - 'likely' scope was 24 wells, but by starting with survey on ~40 wells and growing confidence on SodM acceptance of ALARP assessments the scope has grown to ~40 wells in Phase 2 (cleaning & inspection)



- in a multi-operator campaign:
 - with 6 operators it is attractive to collaborate w.r.t. learnings and sharing fixed cost, as a small scope for an operator would attract high mob/demob & project management cost
 - a Joint Campaign Agreement has been put in place to arrange the collaboration, liabilities, cost allocation, etc.

Joint Well Campaign objectives – technology & legislation



- **using vessel-based technology:**

- vessel-based technology with vessel spec aligned with the requirements of the operations per phase
 1. survey
 2. clean & inspect top conductor
 3. perforate & cement
 4. cut casing & seabed clearance
- time between phases to incorporate information in preparations for next phase
- cost reductions due to use of more competitive vessels due to the larger Joint Campaign scope; the size of the campaign allowed use of vessels 'tailored' for the campaign-phase with lower vessel rates



- **in compliance with applicable legislative requirements:**

- size and importance of the joint campaign facilitated alignment with authorities on vessel-based approach

Joint Well Campaign objectives – cost & learning curve



- **at significantly lower cost:**

- significant cost reductions (>30%) have been achieved by:
 - use of vessel-based technology
 - design choices and SodM alignment on ALARP, facilitated by the size of the campaign giving it more profile toward authorities
 - sharing learnings between Operators, including peer-reviews on ALARP assessments
 - synergy cost savings due to sharing of fixed campaign cost (e.g. mob/demob)



- **with reduced risk due to shared learning curve:**

- for activities that are impacted by (unknown) well conditions 'capped hours'-mechanism is introduced, mitigating risk for Contractor and sharing remaining risk between Operators (e.g. flushing of conductor)

EPRD contract – Oceaneering/Bluestream – phase 2

