

Re-imagining Produced Water Treatment

Integrated, Compact and
Future-Ready Solutions for
Topside

Topsides UK 2025



Stricter regulations
and focus on
Environmental Social
Governance



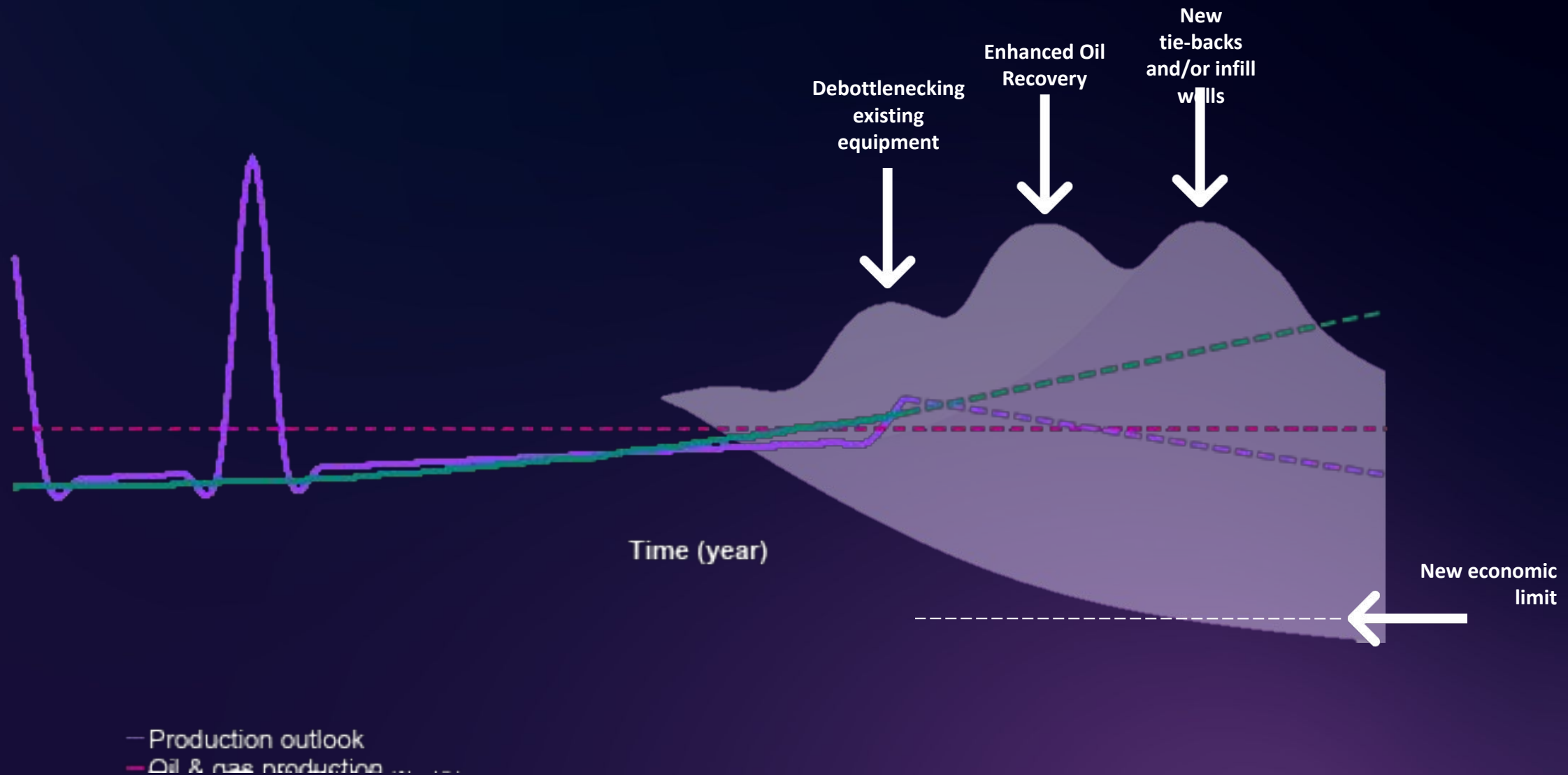
Water production is
ever increasing
during life of field



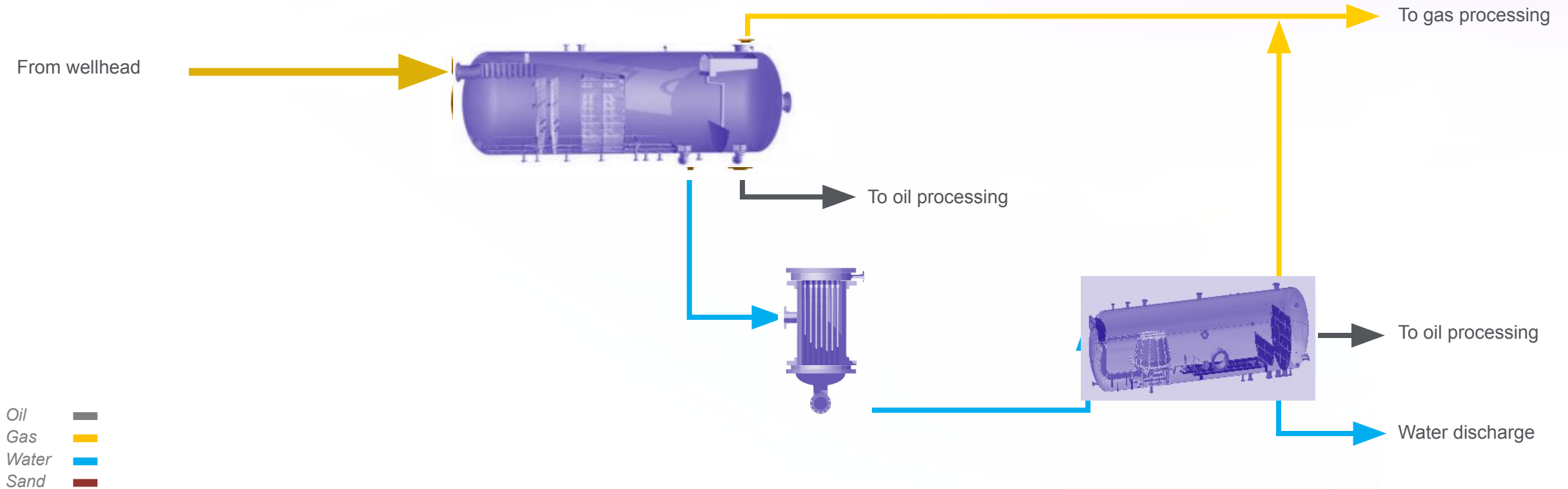
7 to 10

Barrels of water are
produced for every
barrel of oil

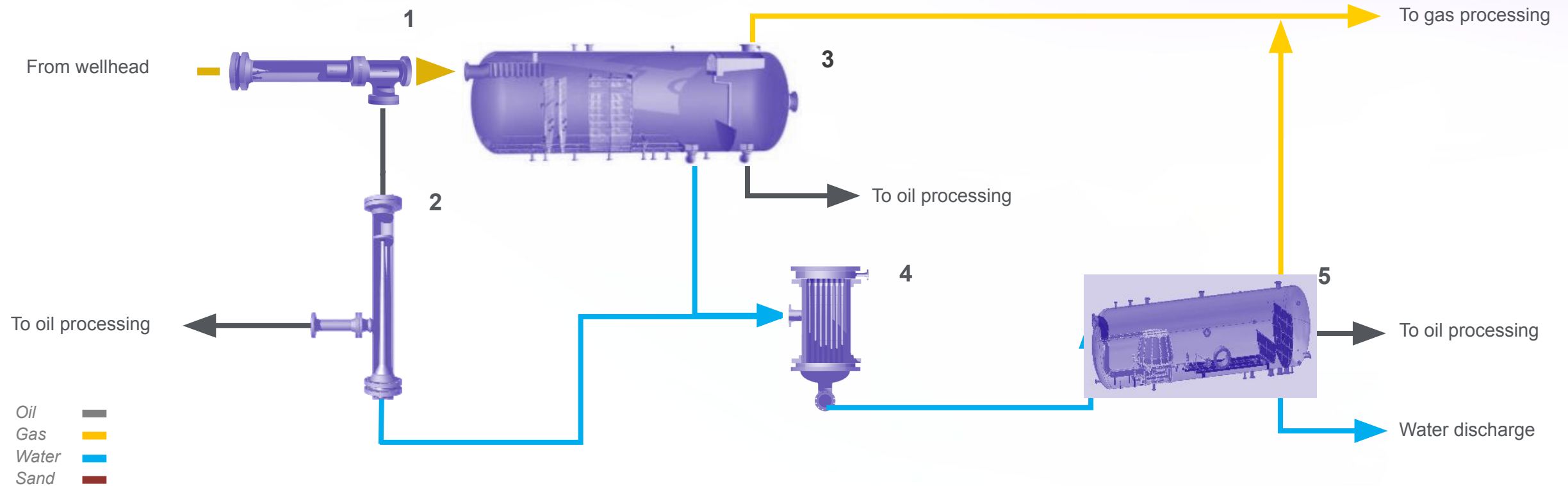
Unlocking value from Mature Assets



Debottlenecking existing equipment



Debottlenecking existing equipment



1. Bulk liquid or gas removal by InLine PhaseSplitter

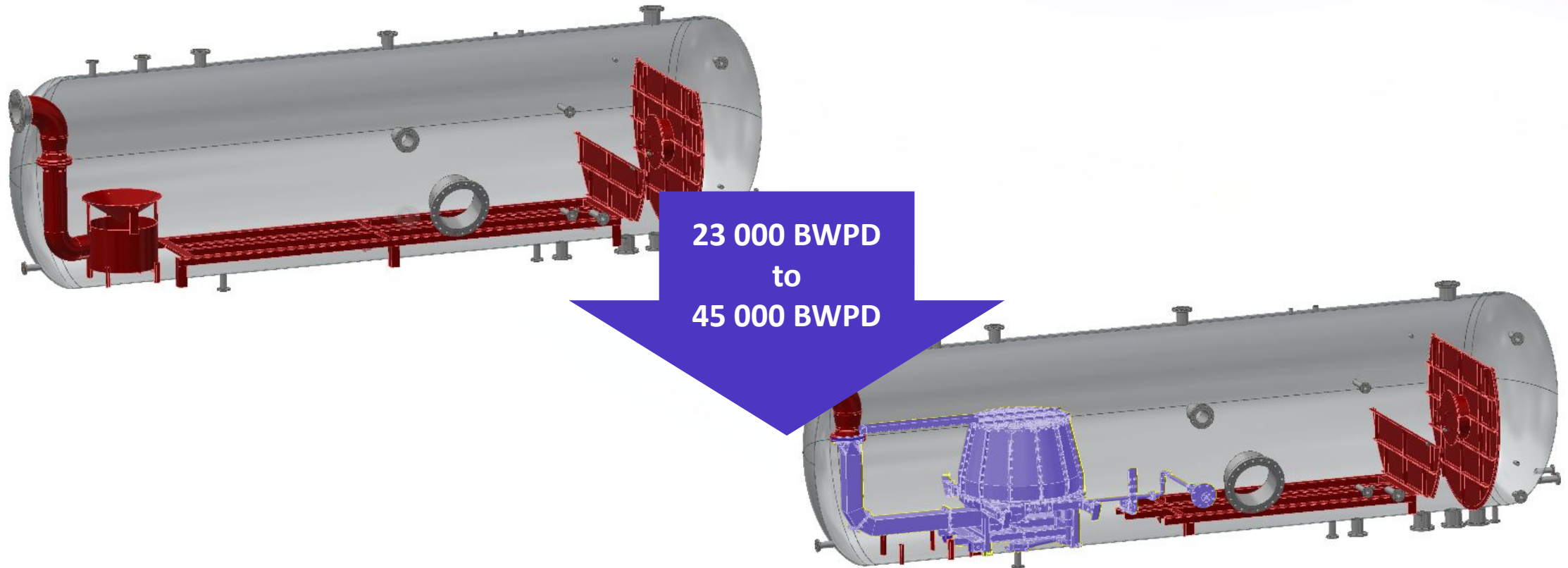
2. Oil from water removal by InLine DeWaterer

3. Retrofit High-efficient internals to optimize separator

4. Improved oil/water treatment by InLine Hydrocyclone

5. Final water polishing by Degassing Vessel converted to Flotation Unit

Debottlenecking existing equipment



Improving an asset's value stream



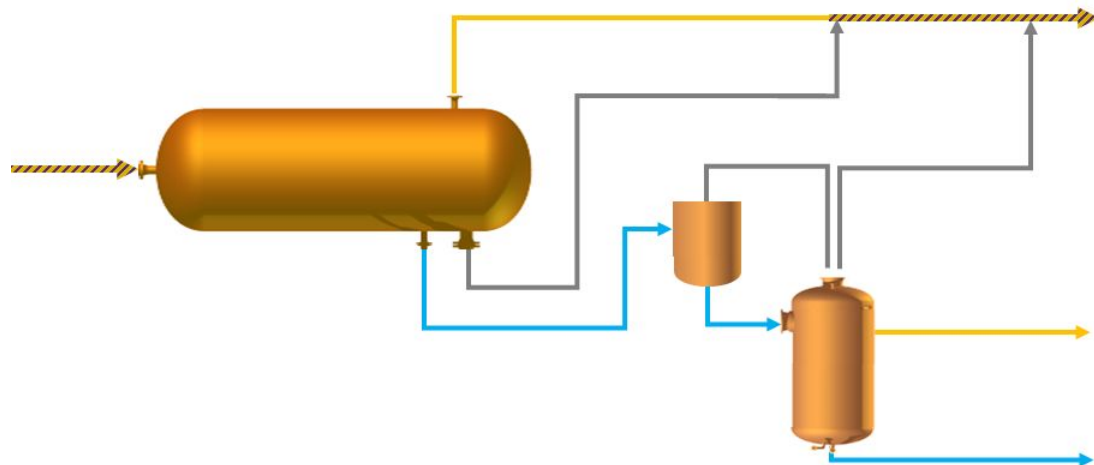
Example

- Local Produced Water Removal for Discharge
- 120 MMscf/d of gas, 195 BPD oil and 3000 BPD water
- <10 ppm, max. 25 ppm oil in water (11 ppm, 2 tonnes per day)

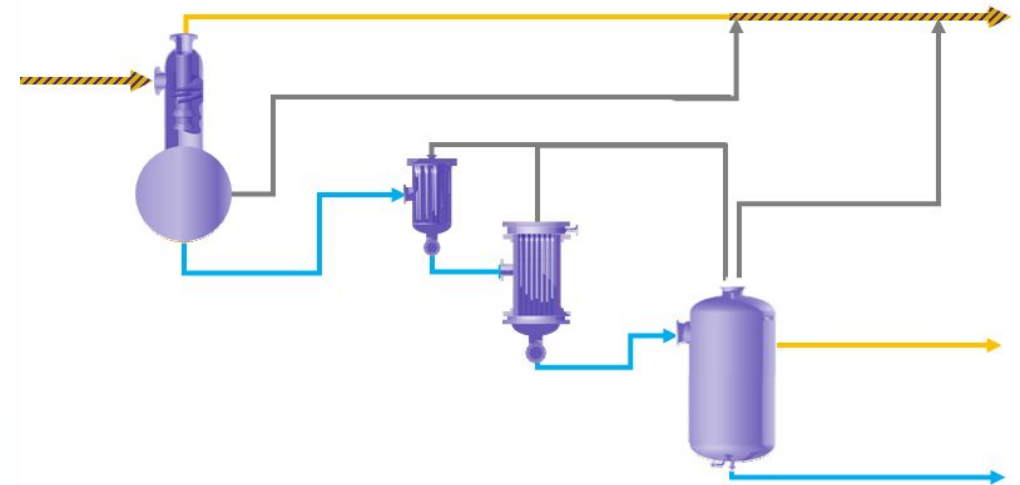


Comparison

Conventional Solution



TechnipFMC Solution



Weight >200 MT
Footprint ~12 x 5 m

Weight <70 MT
Footprint 6 x 4 m

Example

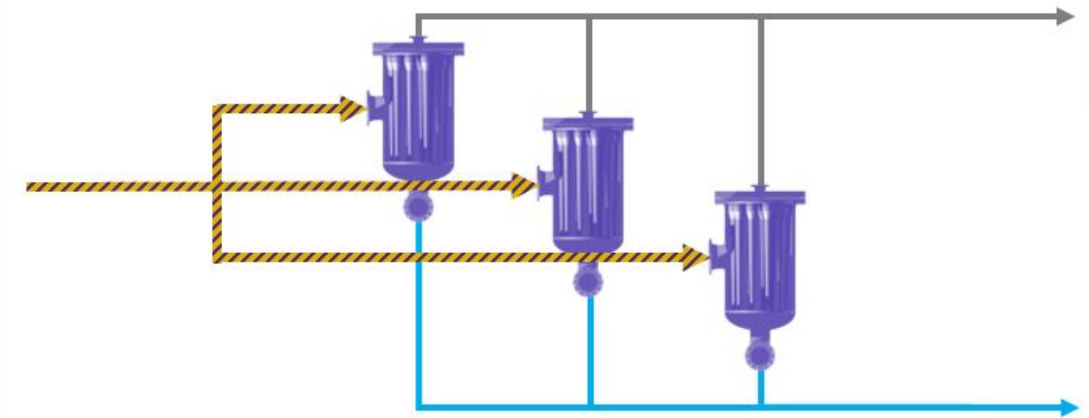
- Local Produced Water Removal for Reinjection
- 88 0000 BPD water, 80-96% water-cut, up to 15% GVF
- 500-1000 ppm oil in water



InLine DeWaterer



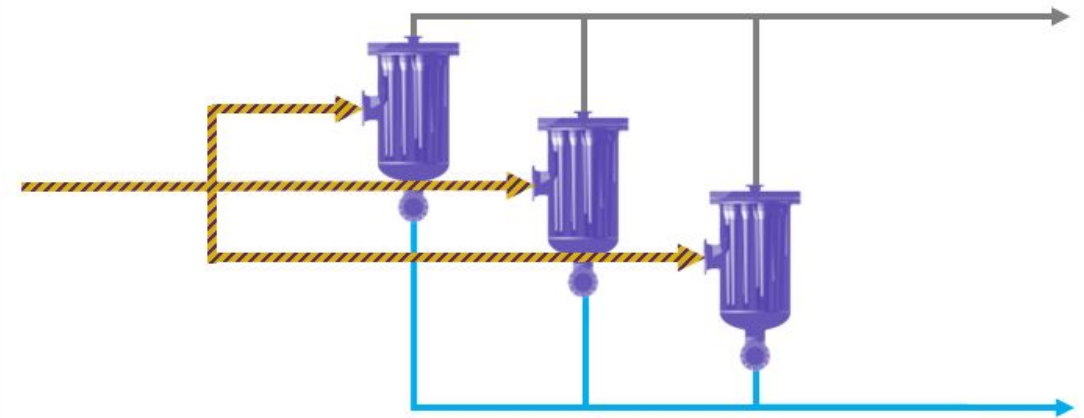
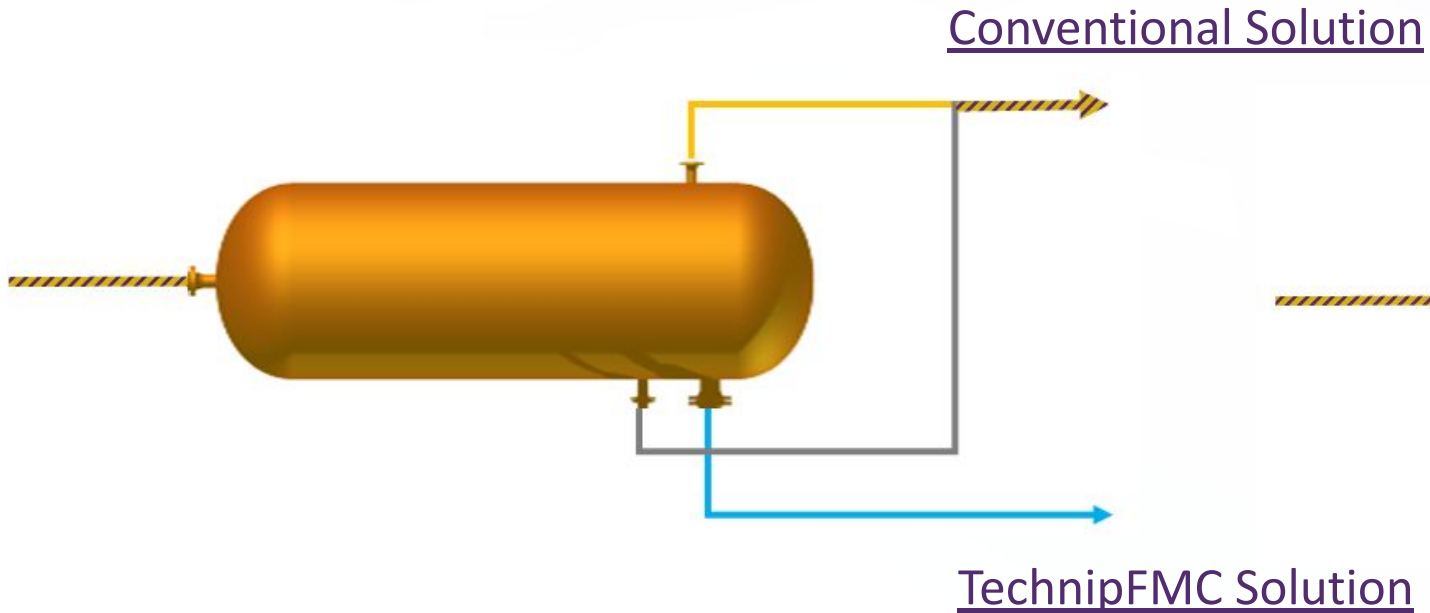
TechnipFMC Solution



Oil and gas removal using TechnipFMC's
Inline DeWaterer

Weight <80 MT
Footprint 7.5 x 3 m

Comparison



Weight >160 MT
Footprint ~10 x 4 m

Weight <80 MT
Footprint 7.5 x 3 m



TechnipFMC Production Solutions is formerly known as CDS Separation Systems

Gas-Liquid InLine & Compact Separation

TechnipFMC inhouse technology

InLine Degasser

InLine PhaseSplitter

InLine DeLiquidiser



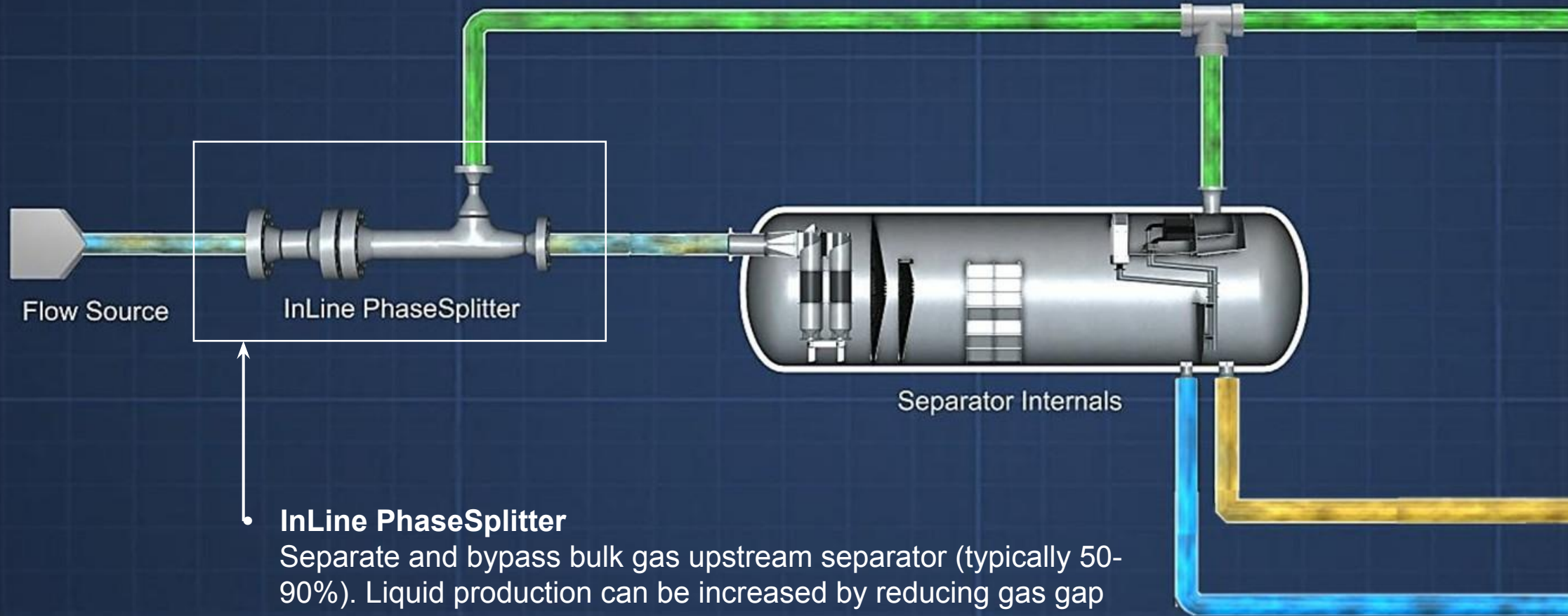
> 90% Liquid



< 10% Liquid

GVF (%)

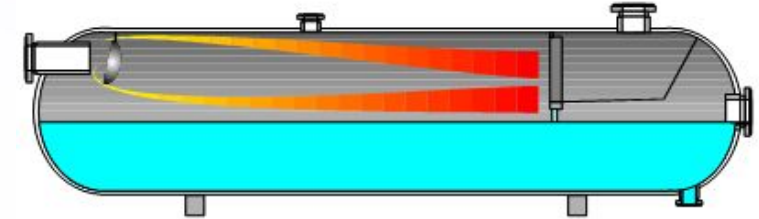
Increase capacity by InLine technology



Space, weight and CAPEX savings

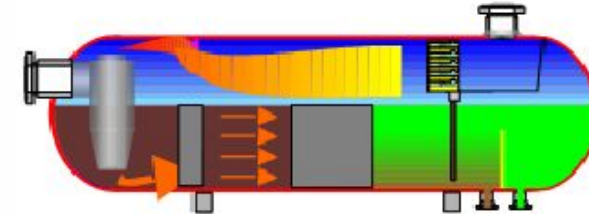
□ Conventional Separator:

- 110 ton
- T/T 16m



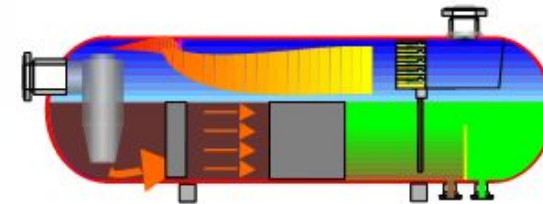
□ High-efficient Internals:

- 67 ton
- T/T 12m



□ High-efficient internals and InLine:

- 52 ton
- T/T 10m



□ 15-20% reduction in separator size