

Challenge

Globally, the average size of discoveries and developments has declined over the past 20 years, with correspondingly tougher margins. Justifying developments along with tying prospects to nearby infrastructure resourcefully are vital and valuable to improve the overall cost-efficiency of the field development. Overall field economics can be significantly improved with an added recovery factory by adding reservoir pressure support through local subsea water injection.

As discovered resources, marginal field developments represent a significant opportunity, and combined with the use of new technologies, added flexibility can be applied through providing reservoir pressure support to increase oil recovery through subsea water treatment and injection. This approach addresses the most common challenges for typical tie-back developments, including:

- Transportation of large volumes of water
- Uncertainties related to integration scope on host facility
- Uncertainties related to reservoir response

Solution

Pairing a standardized Seabox™ solution with a conventional injection pump, placed on a retrievable support structure addresses all of the mentioned challenges, and provides the flexibility required to significantly reduce the overall risk associated with a tieback development, whilst simultaneously increasing the oil recovery potential.

With water treated locally, the best possible water quality is efficiently secured, with limited integration toward existing infrastructure. There is also potential to easily retrieve or re-use equipment, and increase capacity.

Based on a 20km traditional tieback comparison, the Seabox solution provides:

x2

Double recovery factor

40%

Reduction in CAPEX

70%

Reduction in CO2