



## Oil & Gas Production Sustainability The Fast Track LCA approach

### WHATS UP

Protecting the environment and progressively reducing the environmental footprint of oil and gas production operations is, alike a safe workplace, an integrated part of business practice and license to exist. As a result a sound sustainable performance increasingly becomes an issue of strategic importance for operators, license holders and investors in the sector. Reducing the footprint will prove after all good business.



To date we pollute and disturb our planet earth at minor or no costs and at the expense of environmental degradation and depletion of resources. Both local, regional and global. For as long as fossil fuels play a critical role in the energy system, global concerns like changing climates on earth and the wide deterioration of its ecosystems underpin the urgent need for

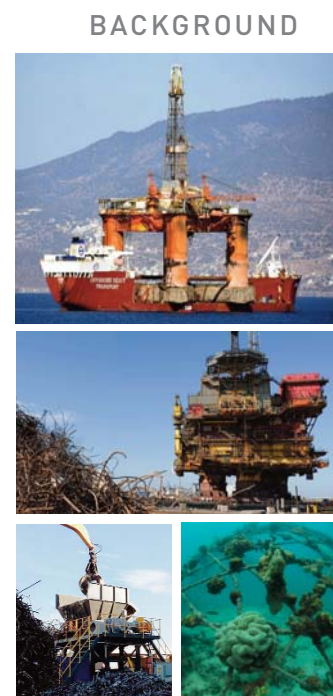
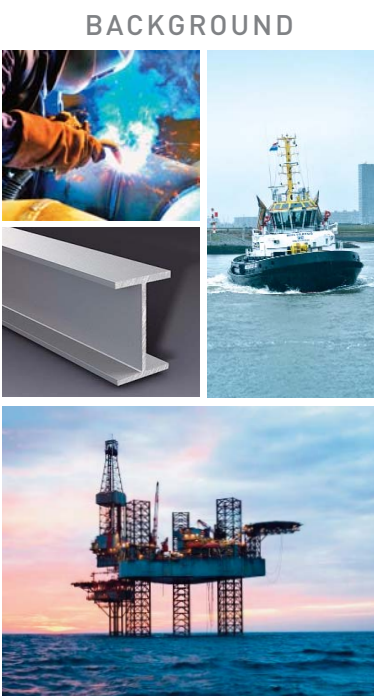
strategic choices in O&G production concepts, asset design, sources of power, mitigating measures and diversification of products. One way or another we have to fit our business within the limits of planet earth.

The industry need to be more efficient from a product (oil and or gas) cradle to gate perspective. The lower the footprint the better. This is a true challenge as higher efficiencies are often in conflict with the increasingly difficult production contexts like depletion of existing fossil fuel reservoirs and the production in deep waters or remote places.



In short, enhancing the quality of operations while simultaneously progressively reducing the impact is a necessity for all industry and consumer to become and remain a responsible contributor to society.

To make the strategy work we here present in short a proven and tested tool for the evaluation of asset environmental performance (backwards looking) and projection (forward looking) based on the cradle to gate LCA principles. The Fast Track LCA tool takes into account the asset value generation, business profitability and the Eco-costs in € as the single monetary indicator for environmental impact.





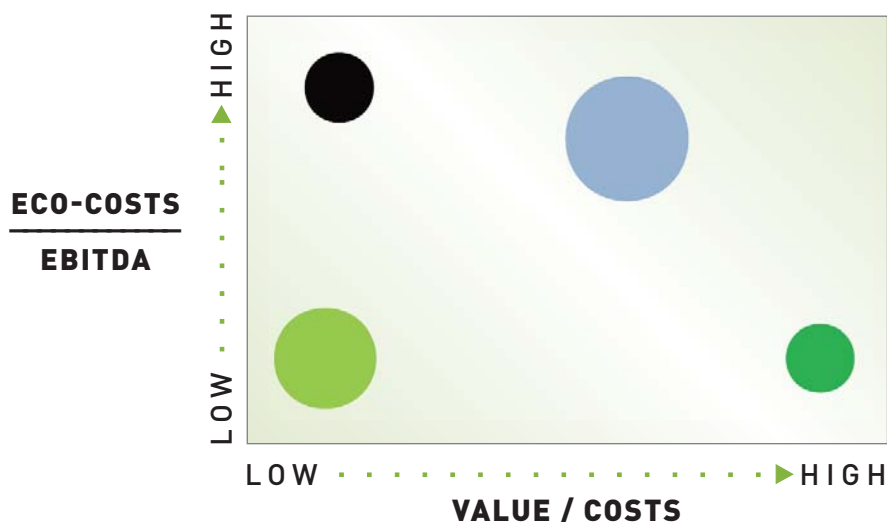
### WHAT DOES THE TOOL SUPPORT

Evaluates environmental business risks versus economic value creation to aid decisions on:

- Acquisition or divestiture of fields or assets
- Production concept selection
- Major investment decisions
- Asset performance evaluation
- Product performance evaluation

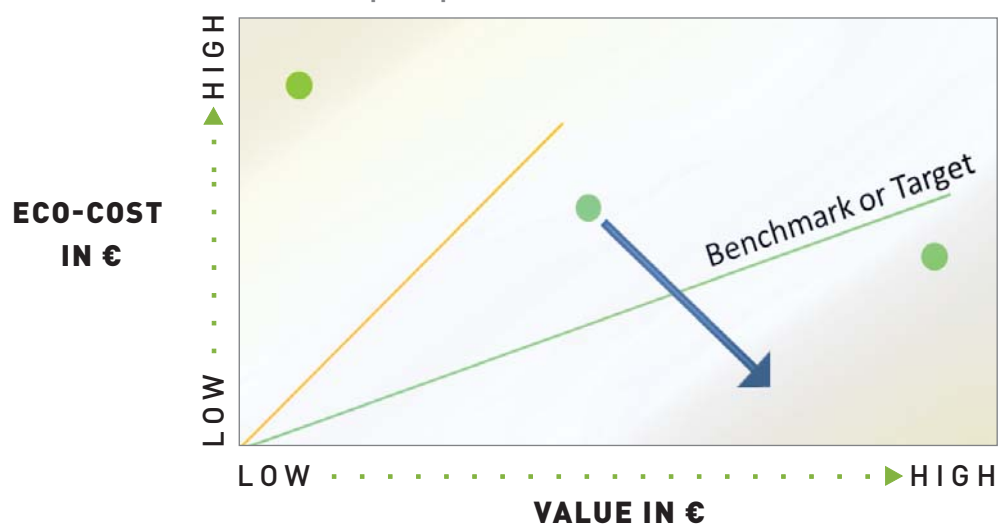
### ASSET PORTFOLIO MATRIX

Business perspective



### ASSET PORTFOLIO MATRIX

Product perspective





## WHAT DOES THE ASSESSMENT ENTAIL

- Environmental product (oil & gas) cradle (reservoir) to gate analyses: covering O&G asset construction, well drilling, production, compression up to end of life scrapping of the asset.
- The big picture; taking material impacts on humans, ecosystems and climate into account ranging from emissions to air (CO<sub>2</sub> but also a range of other pollutants), waste, recycling, toxicity and resource depletion.
- Expressing environmental burden as a single indicator. The Ecocosts expressing the environmental burden in monetary terms (€) is used as well as the s – Ecocosts for the health and safety dimension.
- Provides inside in marginal costs of preventing impacts to a no effect level (or 2°C) and inclusion in economic models.
- The evaluation and assessment tool appeals to a broad range of technical, financial and managerial disciplines to ensure maximum support is generated in decision making.



The tool uses the widely known and globally standardized Life Cycle Analyses method and tailored it to the context of the oil and gas production. Functional unit is the barrel oil equivalent. The environmental burden is expressed in Eco-costs.

For further information on the Eco-costs see

[www.sustainable-endeavour.com](http://www.sustainable-endeavour.com)

<https://en.wikipedia.org/wiki/Eco-costs>

## SUSTAINABLE ENDEAVOUR BV

ERIK WIJLHUIZEN Director

KRUGERLAAN 102

+31 6 1131 8314

2806 EL GOUDA

ERIK.WIJLHUIZEN@SUSTAINABLE-ENDEAVOUR.COM

THE NETHERLANDS

[WWW.SUSTAINABLE-ENDEAVOUR.COM](http://WWW.SUSTAINABLE-ENDEAVOUR.COM)