



release  
energy



## introduction to release energy

The fast growth of developing economies in Asia and the continued increases in consumption in the West has caused demand for Oil and Gas has to increase sharply in the last decade.

The Oil and Gas Industry can meet this demand in two ways:

- New Discoveries, although resources are increasingly difficult to find and take time to bring on stream.
- Increase production/recovery rates on existing fields by utilising new technologies.

Release Energy was formed by world leading specialists in the development and application of production and recovery enhancement technologies for oil and gas fields, and new field developments.

We aim to install these technologies into independently owned fields, returns achieved by profit sharing based on the increase delivered to field profits. Release Energy is not an exploration company, nor do we envisage any involvement in day to day production activities.

Most Oil and Gas companies have field assets that could benefit from ex-reservoir technologies, but risk aversion and performance accountability act as barriers to new solutions.

## going forward

Release energy can provide low cost, high impact, positive cash flow generating production/recovery enhancements and have them in place within 24 months. Working with owners to identify the best fields based on production data and reservoir projections and provide designs for retrofit technology.

Release energy can deliver:

- A high potential return to investment ratio
- A short time to implementation and production
- A relatively low level of absolute investment

Meeting these criteria is achievable even on large fields, and by evaluating the investments chosen we can allow a rapid path to follow on projects

## about release energy

Release Energy enables the adoption of appropriate technologies that advance recovery rates up from the industry average of 33% towards that achieved by industry leaders, which achieve recovery rates of 45% through the use of such technologies.

Release Energy profits when field owners make additional profits as a function of improvements in field:

- production rates
- recovery
- life extension

Release Energy Solutions incorporate world leading technologies including compact separation technologies. Key Release Energy personnel have been associated with Dutch firm CDS since its inception, and were closely involved in the joint technology development programs with Statoil which led to major breakthroughs in process engineering. Other Key personnel providing reservoir expertise have fulfilled high level advisory and director roles at Gaffney & Kline and Anzon.

## upstream oil and gas

### Opportunities in Upstream Oil & Gas

Upstream oil & gas production is dominated by a combination of international oil & gas companies (IOCs) and national oil & gas companies (NOCs)

such as Petronas. Virtually all of these companies hold a portfolio of production-stage field assets.

### Outlook for Upstream Oil & Gas

Global demand for oil is expected to grow significantly, driven particularly by rapid economic and population growth in emerging markets such as China and India. Demand issues are further punctuated in Asia which is expected to account for the majority of the demand increase.

Oil & gas companies are responding to this challenge by intensifying exploration activities to bring new discoveries on stream, while also focusing considerable resources on enhanced oil & gas production and recovery (EOR). These are priority strategies, particularly for NOCs who hold the vast majority of the world's oil & gas reserves.

## release energy technologies

### Release Energy Technologies (RET)

#### Enhanced Production and Recovery

Major oil & gas companies hold production-stage field assets which can substantially benefit from the production/recovery technologies to be applied by Release Energy.

Release Energy Technologies aims to qualify proprietary ex-reservoir (as opposed to in-reservoir) techniques for enhanced oil & gas recovery which usually involve skid-based or in-line installations in existing topsides facilities and subsea

## field optimisation ventures

### Our Solutions

Release Energy's Ex-Reservoir Production/Recovery Enhancement Solution can solve many common oil and gas production issues, such as:

- Inefficiencies in topside facilities
- Deep water production
- Well stream issues such as high levels of produced water
- Reservoir life issues such as decreasing pressure leading to decreased mass flow but increased volumetric flows which bottleneck production
- Riser back-pressure from water column

Solving these key problems can bring huge benefits to field operations, reducing costs, increased and more efficient production and recovery and more, all of which can shift fields from being marginal to being profitable.

### Favourable Field Characteristics

- Gas fields which contain some condensate (very light oil), where gas production is restricted by too much condensate carryover to compressors – potentially. In this case production is cut back to protect compressors from damage from the condensate droplets. We can dramatically improve gas production and recover more condensate;

- Volatile oil fields where production is constrained by too much gas production. The existing facilities are not able to cope with the increasing volume of gas (which increases dramatically as field pressure declines) and production is restricted. We can separate out the excess gas and increase oil production;
- Volatile oil fields where production is being restricted by increasing levels of produced water. It is not common knowledge that on average for every barrel of oil produced three barrels of water are produced from oil reservoirs. It can be the case in oil fields that initial produced water levels can be very low and then increase to levels as high as 90%. Clearly this puts very large limitations on existing top side facilities which are processing large volumes of water which needs to be treated to a high standard before the water can be returned to the ocean or even re-injected into the reservoir.

### Production/Recovery Example

Release Energy shareholders have been personally involved with Statoil operations in the North Sea, a mature field that lies at a depth of 200m below the sea. An investment of US \$200 million in topside and subsea production and recovery enhancement technologies is expected to improve field recovery from 49% to 55%, providing an additional 35 million barrels of oil, translating to an estimated project NPV of over US \$900 million.

## **Technology Development in Concert with Participant Partners**

Release Energy aims to implement qualified ex-reservoir production and recovery enhancement technologies along with partners around the world.

Among these partners will be owners and operators of oil & gas fields, such as Petronas, possibly alongside other participants who bring relevant opportunities, project funding and expertise.

Release Energy will consider providing solutions for the most challenging reservoirs. However, obviously there are many fields around the globe which have greater potential than others. We consider below a selection of field scenarios which can be described as favourable.

## **Release Energy and Petronas' Contributions**

- Working with Petronas to identify the best fields based on production data and reservoir projections
- Designs for retrofit technology
- Access and authorisation to field facilities and facilities personnel to enable the retrofit in a regular and suitable scheduled production shutdown period

## **Returns Sharing Arrangements**

With direct experience among the leadership team Release Energy understands how to fast track and utilise technology developments and how to minimise risk.

The Field Optimisation Agreement will provide for sharing of the upside between Petronas and Release Energy.

Funds investment contributors are reimbursed first. Technology contributions then receive agreed shares along with return on investment to funds contributors.

## The primary contact for further information

John Sullivan

Chairman

Release Energy Limited

Perth, Australia

**Email:** [john.sullivan@releaseenergy.com](mailto:john.sullivan@releaseenergy.com)

### Further contact is:

David Stanbridge

Technical Director

Release Energy Limited

Norwich, UK

**Email:** [david.stanbridge@releaseenergy.com](mailto:david.stanbridge@releaseenergy.com)

### Call us on:

+44 1603 262301