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*The Royal Society*  
The UK academy of science



25th ANNIVERSARY

# The Royal Society Esso Energy Award

## Royal Society Esso Energy Award won by CALTEC

**T**he prestigious Royal Society Esso Energy Award has been won by a four man team from CALTEC.

The award, granted yearly by the Royal Society, provided by a gift by Esso UK plc, is for outstanding contributions to the advancement of science, engineering or technology leading to the more efficient mobilisation, use, or conservation of

energy resources. The award consists of a gold medal for each of the recipients and a prize of £2000.

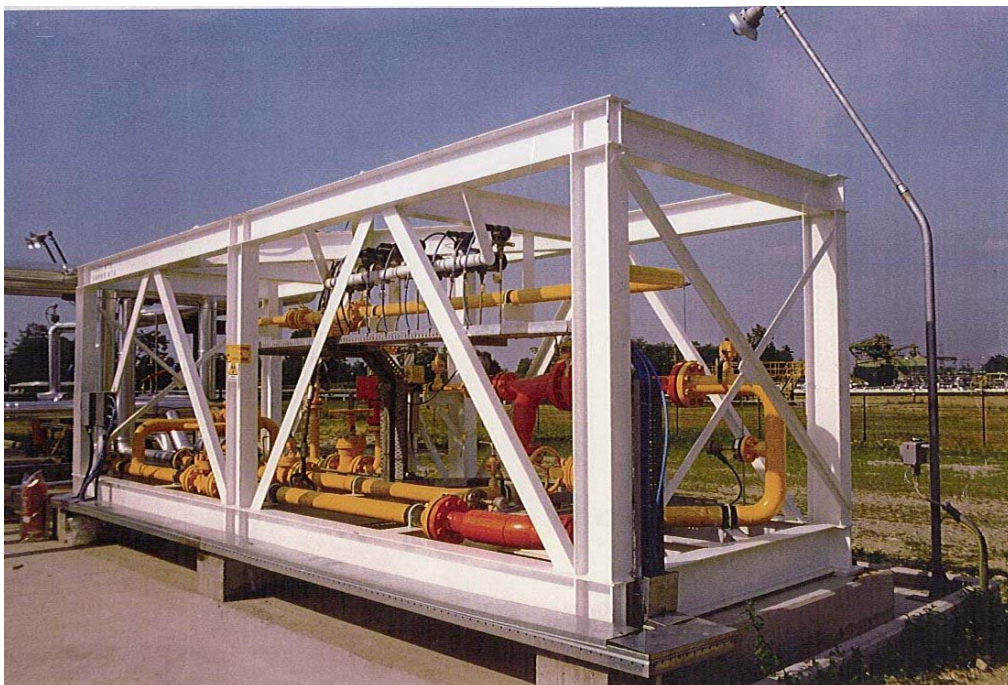
The four man team; from left to right in the picture, are: Wai Lam Loh, Dr. Najam Beg, Mir Mahmood (Sacha) Sarshar and Dr. Emil Arato, were granted the award for the development of the WELLCOM system which utilises energy from higher pressure oil or gas wells to

significantly boost the production and increase total energy recovery from lower pressure wells.

WELLCOM, short for WELL COMmingling system, has been proven to boost recovery by as much as 41% and can be used in gas, oil or multiphase applications. The system is constructed from standard components, has no moving parts or energy requirements and has very low maintenance requirements. It is the subject of a world-wide patent.

WELLCOM was supported by a wide group of industrial partners including AGIP spa, Enterprise Oil, Shell Sarawak and Amerada Hess, together with significant contributions from the DTI Infrastructure and Energy Programme, previously the OSO, and from the European Union Thermie programme.

CALTEC can be found on the European Union stand at **OTC – Stand 6273** – where they will also be presented with a Meritorious Engineering Award from Petroleum Engineering International.



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EXCELLENCE IN FLUID ENGINEERING

**Royal Society  
 Esso Energy Award  
 Won by CALTEC**

*The prestigious Royal Society Esso Energy Award has been won by a four-man team of BHR Group's CALTEC engineers for their work in significantly increasing energy extraction from oil and gas wells. The Award is made annually for outstanding contributions to the advancement of science, engineering or technology leading to the more efficient mobilisation, use or conservation of energy resources.*



From left to right Wai Lam Loh, Dr Najam Beg, M.M. (Sacha) Sarshar and Dr Emil Arato.

WELLCOM, developed by Mir Mahmood Sarshar, Dr Emil Gyorgy Arato, Wai Lam Loh and Dr Najam A. Beg enables energy from high pressure oil wells to be used to boost production and increase total energy recovery from low pressure wells.

WELLCOM reduces energy needed

to extract oil and gas from small satellite oil fields, and can produce a 10%-25% increase in revenue per well over the life of the system in the field. Simplicity, standardised components and no moving parts make the system ideal for remote applications offshore and subsea where

low costs and reliability are paramount.

The Royal Society Esso Energy Award, provided by a gift from ESSO UK plc, consists of a gold medal and a prize of £2000.

**WELLCOM Worldwide**

*CALTEC's hydrocarbon production boosting systems are being applied worldwide. Recent orders for these jet pump based units have been received from the Conoco/Chevron joint venture Britannia (UK), ARCO (Indonesia), Shell Sarawak (Malaysia) and NAM (Holland). In each application increased production with rapid payback have been realised.*

**Britannia**

The Britannia development in the North Sea, the biggest for several years, will effectively boost the UK gas reserve by 10%, when it comes on line this year. CALTEC, in association with AMEC and Britannia Operator, has designed and supplied a WELLCOM system to transport to Britannia the excess gas produced by the nearby Alba oilfield. 15 million cubic feet per day were previously being flared. WELLCOM will payback in a matter of days with an immense environmental advantage.

**ARCO Indonesia**

ARCO Indonesia, one of the biggest oil & gas producers in South East Asia, has almost 200 platforms operating offshore. ARCO contracted CALTEC to design and supply a complete skid mounted production boosting system for its KLXB platform. The system

allows new, higher pressure wells to boost production from older depleting lower pressure wells. Commissioned in January 1999, the unit was declared a huge success by ARCO. Currently monitoring performance, CALTEC will be advising ARCO on system optimisation and reviewing other potential applications.

**SHELL Sarawak Berhad (SSB)**

SSB has ordered its first multiphase WELLCOM production system, to be installed on the Barton developed in 1999. One of the original sponsors of WELLCOM development, SSB recognises the potential of the WELLCOM multiphase system to improve the production of oil & gas together.

**NAM**

A division of Shell, NAM has ordered a WELLCOM system for boosting production in one of its offshore fields in the Netherlands. NAM chose WELLCOM in preference to other boosting methods for its inherent safety, reliability and low operational maintenance costs - crucial factors in today's low oil price climate. This is



WELLCOM installation on ARCO's KLXB platform



the second unit CALTEC has supplied to the Dutch market.

*CALTEC provides free consultancy to assess likely benefits of potential WELLCOM applications.*