



SAGE Deepwater Pipeline to transport
Natural Gas from the Middle East to India.

Progress Summary
April 2010



History

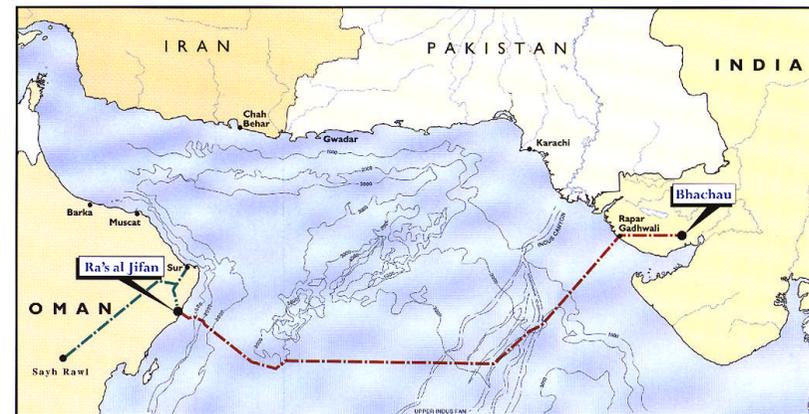
Strong cultural and business ties have developed historically between Iran and India over many centuries.

Iran and India are sufficiently close neighbours geographically that inter-connection of the two countries by natural gas pipelines is very typical of pipeline systems Worldwide.

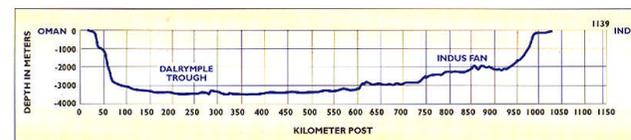
The establishment of such a gas pipeline inter-connection between Iran and India has been under discussion for over a decade.

SAGE will build on the extensive study of a deepwater route across the Arabian Sea started during the mid 1990's, strengthened by the development work now undertaken by SAGE, plus the major body of industrial deepwater pipelay experience over the last decade.

The deep water section will reach down to 3,500 meters and will be just over 1,000km in length.



Subsea Route and Sea Bottom Profile



SAGE Team:



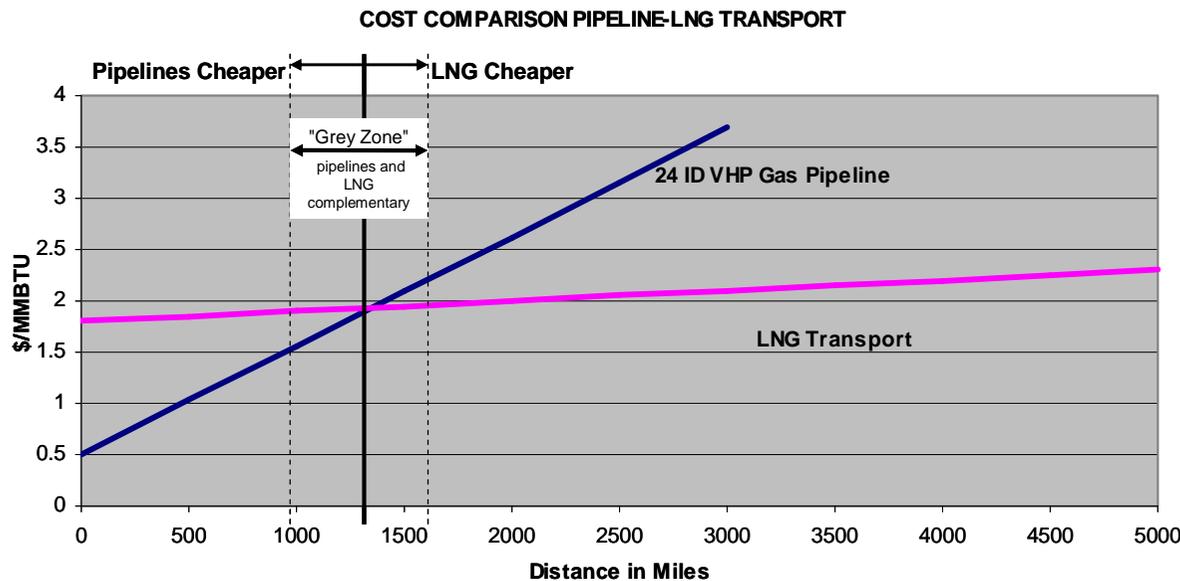
Mr. T.N.R. Rao	<ul style="list-style-type: none"> ▪ Former Petroleum Secretary, Govt. of India and “Architect of the Oman-India Pipeline” ▪ Chairman of the SAGE Advisory Board ▪ Founder Chairman, Hydrocarbons Education & Research Society, Indian School of Petroleum ▪ Founder Chairman – University of Petroleum & Energy Studies
Subodh Jain	<ul style="list-style-type: none"> ▪ Director: INOX-AIR PRODUCTS Ltd. ▪ Director: South Asia Gas Enterprise PVT Ltd ▪ Director: Siddho Mal & Sons, New Delhi ▪ Former Senior Advisor to original Oman-India Pipeline team
Peter M Roberts	<ul style="list-style-type: none"> ▪ Director: South Asia Gas Enterprise PVT Ltd ▪ Director: VerdErg Ltd, London ▪ Former Project Director of original Oman-India Pipeline
Dr Herman Franssen	<ul style="list-style-type: none"> ▪ Senior Consultant to SAGE ▪ Member of the SAGE Advisory Board. ▪ President, International Energy Associates, USA ▪ Former Economic Advisor to the Oman-India Pipeline project ▪ Former Economic Advisor to the Sultanate of Oman, Ministry of Petroleum
Rob Narold	<ul style="list-style-type: none"> ▪ Heerema Marine Contractors Project Manager for new barge design and construction ▪ HMC Strategic Development Advisor ▪ Sr. Proposals Manager - Manager New Product Development ▪ HMC Deep Water Product Manager
Milind Baride	<ul style="list-style-type: none"> ▪ Chairman, Saipem India Projects Ltd., Chennai. ▪ 26 years experience in Project and Contract management of Oil & Gas facilities, Worldwide. ▪ Worked on TransMed, Oman-India, Gibraltar Straits, Bluestream & MEDGAZ deepwater pipelines.
Ian Nash	<ul style="list-style-type: none"> ▪ UK Operations Director, Peritus (UK) Ltd. ▪ Engineering Manager for MEDGAZ FEED. ▪ Engineering Manager (Saipem Inc) for Canyon Express design EPIC. ▪ Project Manager (SASP UK) for Europe 2, 42-inch 650 Km Gas Trunkline detailed design.
Robert Hawkins	<ul style="list-style-type: none"> ▪ Project Director - FUGRO Offshore Geotechnics
Joe T. Verghese	<ul style="list-style-type: none"> ▪ Director, SELECT Upstream, Worley Parsons Europe Ltd.

- Pipelines generally transport natural gas at a lower cost than LNG over distances up to around 2100Km.
- Transport of Iranian gas by offshore pipeline to anywhere in India lying to the South and West of Jaipur (approximately) can provide a shorter, more direct route than by overland pipeline.

SO why haven't numerous offshore gas pipelines from Iran to Western India been built over the last 30 years, either along the coast or across the deep water of the Arabian Sea, to complement Middle East LNG supplies?

ANSWER:

- A shallow conventional coastal route to India involves laying a pipeline across the Indus Canyon which is extremely challenging, technically, even today.
- Until recently, the geo-politically attractive Arabian Sea route was too deep but experience with new lay-barges now makes it practical.



Recent Expansion of SAGE Group



- MOU regarding gas supply/swap signed with NIGEC late 2009
- Saipem s.p.a. Milan. Saipem has extensive and pioneering experience of deepwater pipelay reaching back to the 1980s and executed an MOU with SAGE in mid-2009.
- Principles of Cooperation Agreement executed with GAIL.
- Ernst & Young (London) is now under contract to advise SAGE on the commercial and financial aspects of the project.
- WELSPUN of India has become the World's leading supplier of marine line-pipe in recent years and is still expanding with a new plate mill. An MOU between SAGE and Welspun was executed on November 6th 2009.
- MOU with EIL executed February 2010.
- MOUs with FUGRO and Omani Government signed 04/2010.

Summary of recent progress:



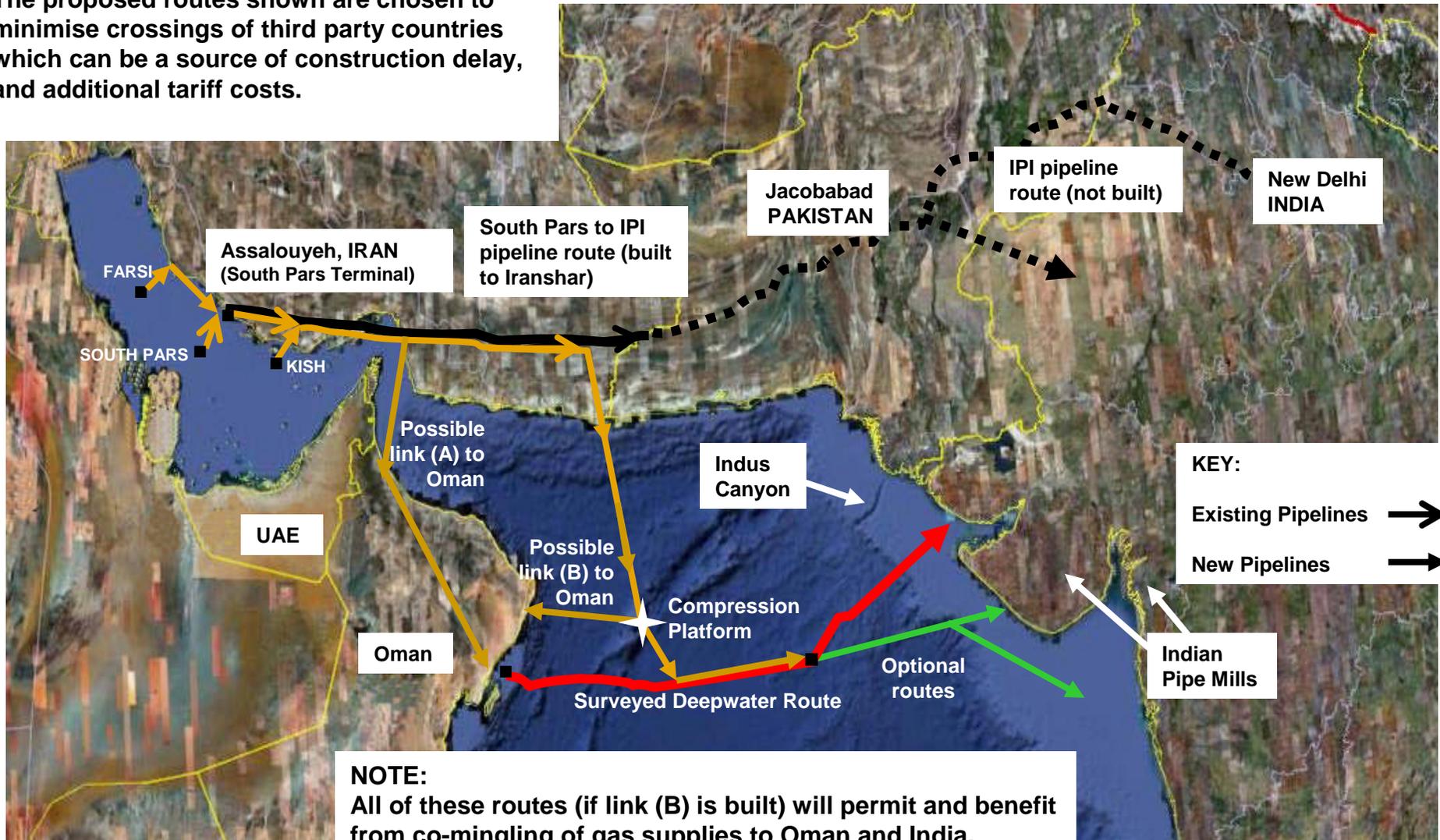
- Continuing refinement of route.
- Feasibility Study updated by INTECSEA.
- Extensive discussions with Saipem of installation feasibility. Risk Assessment update started.
- Future gas price scenarios studied.
- Ernst & Young commercial feasibility study under way. SAGE gas transportation tariff estimates updated.
- Further testing program at Welspun set up.
- Positive discussions with all Indian parties including OVL and GAIL.
- Successful Turkmenistan visit to discuss gas swap 26/27 December 2009. Follow-up imminent.
- PARS discussions March 2010.

Route Refinement



NOTE:

The proposed routes shown are chosen to minimise crossings of third party countries which can be a source of construction delay, and additional tariff costs.



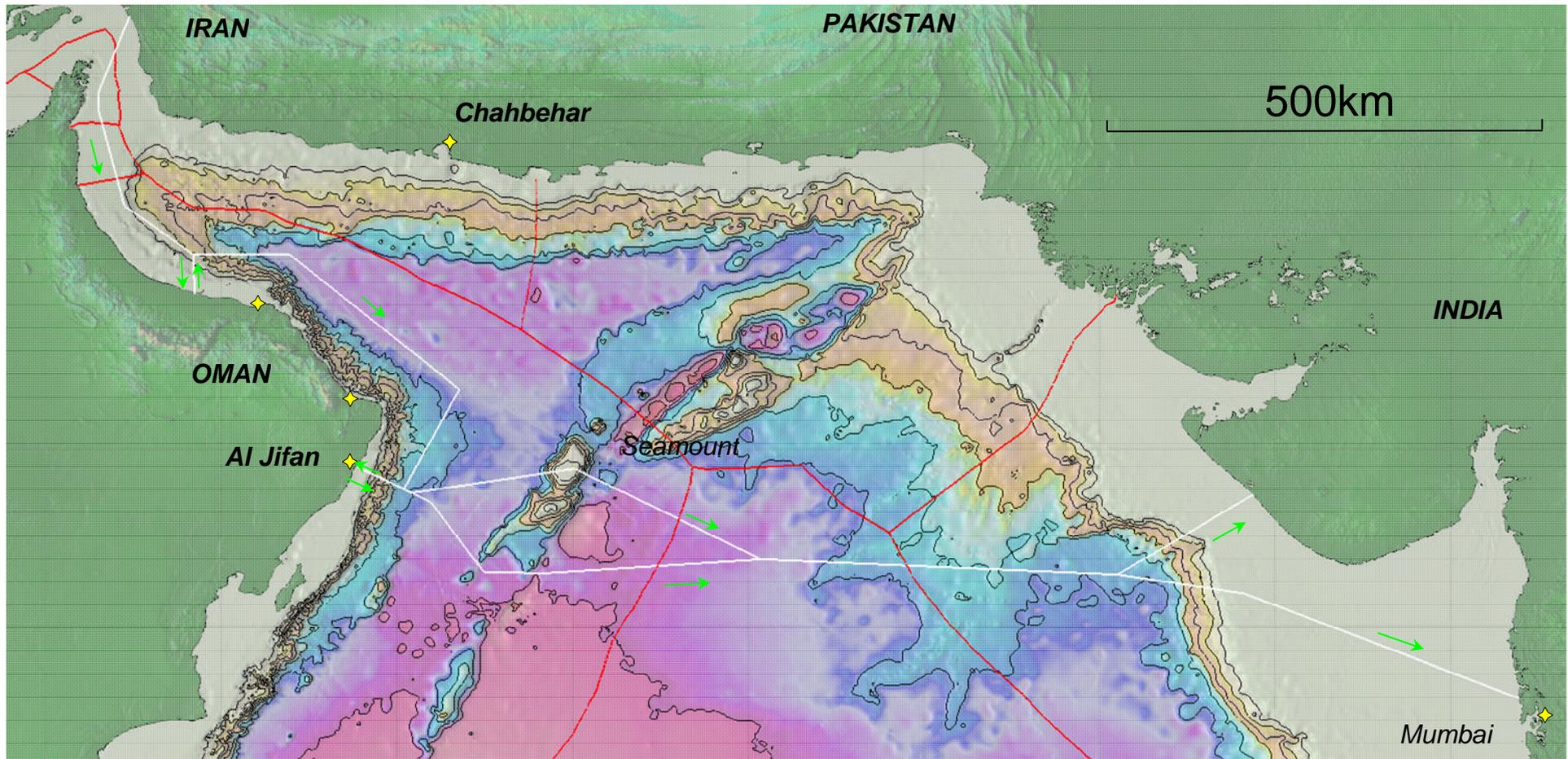
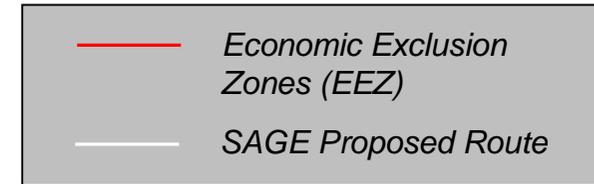
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Proprietary to South Asia Gas Enterprise PVT Ltd (SAGE)

Route Options



- Iran to India via Oman
 - Option for offshore compression at seamount
 - Option for alternative landfall at Mumbai



Route Options



- Iran to India with Backline to Oman
 - Compression station at the seamount
 - Alternative landfall at Mumbai

