

SUNRISE ALTERNATIVES

March 2015

ABOUT THE PIPELINE / LNG PLANT AND THE ASSESSMENT OF RISK

1. Unprofessionalism in the making of decisions about petroleum resources in the Timor Sea will destroy the country's chances for future prosperity. Alfredo's stubbornness suggests plain madness.
2. DeepGulf's research and reports, worth \$20 million, have been both ignored and falsified. Alfredo has misrepresented the results of the studies in his reports to the press, to business, to people in Government and most likely in his reports to Parliament.
3. Alfredo and Monteiro have repeatedly declared that they can build a pipeline and an LNG plant, contrary to all professional studies and common sense. Their claim does not deal with risk. It is money belonging to the people, not Alfredo and Monteiro and they must disclose the risk to the people.
4. DeepGulf's studies have demonstrated that a pipeline may be technically feasible theoretically, but have also emphatically and strongly stressed the many steep technical problems and the very high risks associated with trying to build it.
5. Even if a pipeline was laid and an LNG plant was built at Beaço, major components of the production system would still need to be installed offshore, in particular the separation and gas treatment platforms and the condensate floating production, storage and offload facility (FPSO), thus greatly reducing the vaunted financial and social gains. Mixtures of gas and liquids can only seldom travel through a pipeline but never through a sharply U-shaped pipeline.
6. While the pipeline may cost \$800 million to build, its successful completion is very far from guaranteed. In fact the known risks are extremely substantial and there are many unknown risks. It is worthwhile noting that DeepGulf quoted the pipeline to Timor GAP in 2012 at \$800 million exactly, including Timor GAP's 10% commission. At the time other concurrent offers stood at \$2 billion.
7. There are known risks with the pipelay vessel, if the pipeline gets flooded or if the pipeline is dropped, or both, as not a single pipelay facility in the world is able to lay such a large pipeline if it becomes accidentally flooded, a very common occurrence in the industry. Alfredo and his consultants have systematically ignored this very serious risk that no professional oil company would ever neglect in Alfredo's cavalier way.
8. There are exceptionally high risks with the unknown sea bottom slope, roughness, and instability. There are also very large risks associated with the essentially unknown chemical and physical soil properties at such abysmal depth as in parts of the pipeline route.

9. There are very substantial risks onshore where the LNG facilities are to be built, with no port facility to start construction, no sufficient power, no road access, no possible weather and sea state protection, etc, let alone the environmentally significant destruction of a beautiful and rare mangrove.

TIMOR LESTE TAKING OVER THE OWNERSHIP OR OPERATIONS AT GREATER SUNRISE

10. There is the huge risk of not having all the current lessees of the field agree to relinquish the lease, and, if they did, Australia never agreeing to lease the field to Timor GAP. Contrary to Alfredo's statements, the lease, or part of it, is not freely transferable.
11. There is the risk (in fact almost a certainty) of Australia never granting ownership of Greater Sunrise to East Timor. The existing lateral boundary in the vicinity of Greater Sunrise, a line of verifiable calculated absolute equidistance to the nearest islands, is a maritime boundary with Indonesia, the seabed belonging to Australia. Both Indonesia and Australia would have to agree to transfer their sovereignty to East Timor but without any logical justification on their part – which is difficult to explain to their people. In the miraculous but very improbable event that the International Court of Justice ruled in favor of East Timor, neither Indonesia nor Australia are bound to abide by the court rulings. Short of any serious legal or geometric justification, the only way to acquire the whole of Greater Sunrise is to militarily take it from both Indonesia and Australia.
12. There is the serious risk of both Australia and the present lessees of Greater Sunrise suing East Timor in court for obstruction of the project in contravention with Article 12 of the Agreement relating to the Unitisation of the Sunrise and Troubadour fields. It is worth remembering that the Petroleum Fund is kept overseas and is therefore subject to US jurisdiction.
13. There is an overwhelming accumulation of risks associated with sovereignty, ownership, operations operatorship, pipeline, terrain, soil, plant installation, etc., and the accumulation of risks, means the project will be unable to secure investment funds, leaving the Petroleum Fund as sole source for its entire amount. If the risk of failure is only 10% for each of 10 possible steps, the overall risk of failure is 65%; if the individual risk is 25% the overall risk of failure is 95%! You only need a 6% risk for each of 10 steps to end up with a 50/50 chance of failure. No one in his right mind would ever attempt such an overwhelmingly risky project with such limited resources as East Timor.
14. If not only the pipeline, but any other part of the project, fails and not a single cubic foot of gas is ever transported via the pipeline the whole accumulated national wealth will be lost. If only delays and more importantly over-costs occur, the whole Petroleum Fund having been spent, the project will be halted indefinitely while the country will have lost all its savings
15. In case of a failure, partial or total, not only will the Petroleum Fund be entirely lost but all revenue from the field will be forfeited until a concurrent project is put in place by others.

ALTERNATIVE 1

16. If on the other hand the project is left to the responsibility of the oil corporations, they will have an obligation to take it to fruition and jointly the four lessees have pockets deep enough to make good on their commitment, in addition to the fact that the courts of Australia have means of coercion that East Timorese courts lack . For information, the joint annual revenue of the Greater Sunrise partners is \$600 billion dollars. East Timor's annual revenue when the Petroleum Fund will be spent will be just \$0.3 billion. The ratio is 2,000 to 1 with nobody at risk of starving if the responsibility is left to the oil corporations whose job it is to develop such projects. Revenue for East Timor would be irrevocably guaranteed.

DEEPGULF PRIOR INVOLVEMENT

17. DeepGulf conducted the Bathymetric Survey and warned Alfredo of the dangers associated with laying a pipeline. A possible route of lesser risk was proposed but was ignored by Alfredo without any acknowledgment or comment.
18. DeepGulf introduced Alfredo in great detail to the need for an AUV study and made an offer. The offer was ignored. DeepGulf was never contacted to bid, in contravention with tendering rules. The contract was awarded to Fugro three years later for a significantly higher cost. The results of the survey were never mentioned, let alone published, and are suspected to be either inexistent or negative.
19. DeepGulf conducted the Suai Port Survey and presented results and a design for an affordable unconventional port, which were neither acknowledged nor commented and were ignored in the award of the Suai Port project, which incidentally never went anywhere. Alfredo was warned of the difficulties and huge cost of building a conventional port in Suai because of the realities of soil properties and climate. Warnings were neither acknowledged nor commented.
20. DeepGulf conducted the Beaçó LNG Feasibility Survey and warned Alfredo about the huge risks and unsurmountable technical hurdles associated with building an LNG plant in Beaçó. Additionally, Alfredo was warned that the number of jobs created locally by an LNG plant could not exceed a few hundreds. All the warnings were ignored, or even laughed at by junior employees of Timor GAP.
21. As mentioned above, DeepGulf made an estimate for the pipeline three years ago for an amount that surprisingly coincides exactly with that announced by Alfredo last week, but DeepGulf never received any acknowledgement or comment.

ALTERNATIVE 2

THE COST-EFFECTIVE OPTION FOR THE DEVELOPMENT OF SUNRISE

22. Because production at Greater Sunrise and Bayu Undan are quite similar, at the end of condensate production at Bayu Undan in 2015/2016 the Bayu Undan FPSO can be retrofitted and moved from Bayu Undan to Sunrise via the shipyards of Singapore. The FPSO having been depreciated over the first few years of production will be acquired at a steeply discounted price, perhaps \$150 to \$300 million plus retrofitting in Singapore. Contrary to certain opinions, the FPSO is the property of the lessees, not of the Government.
23. A shallow water 207 km 26" pipeline spur can be installed between the Greater Sunrise fields and the existing Bayu Undan to Darwin pipeline in 200 to 35 meters of waterdepth. Cost, by reference to the existing 502 km Bayu Undan pipeline: \$200 million
24. The LNG plant available in Darwin once gas production at Bayu Undan ends would be retrofitted for the Greater Sunrise gas. Residual cost could be as little as \$500 million. For information, the new Timor Sea LNG project, Ichtyis, will use another LNG plant, of which construction has already started.
25. The existing but now idle port infrastructure at Wickham Point in Darwin will continue being used for LNG exports.
26. Total probable cost will be of the order of \$1 billion (see above), plus \$1 billion for FPSO and LNG plant retrofitting and \$2 billion for additional field installation, which will be deducted from income to Australia and East Timor by the operators. East Timor's share of the cost through deductions from taxation for recovery would be in the vicinity of \$1.6 billion. The technical risk is negligible and is entirely borne by the operators.
27. For reference, Alfredo's option could exceed \$20 billion including the acquisition of the Greater Sunrise fields, and would take 20 years to negotiate plus 10 years to build, if at all feasible. At such cost Sunrise would not be profitable and its development could not be undertaken.
28. Real benefit of the cost-effective option for East Timor:
- a. \$20 billion (saved from Alfredo's white elephant)
 - b. - \$1.6 billion (cost of retrofitting and installation to East Timor)
 - c. \$1.5 billion (Bayu Undan extra revenue. See point 30 below)
 - d. \$8 billion (Sunrise revenue, see Remarks below)
- Total benefits for East Timor, savings and profit: \$28 billion
29. Another benefit is that production of condensate at Greater Sunrise could start only a year or so after the end of condensate production at Bayu Undan in 2015/2016, thus quickly compensating for the loss of revenue

30. Another benefit is that production of natural gas at Greater Sunrise will start concurrently with reduced production at Bayu Undan, which not only will compensate for the lost revenue after 2018/2019, but will extend the economic production lifetime of Bayu Undan, probably returning an extra income of between \$1 and \$2 billion.
31. Bundled with the negotiation of the Greater Sunrise development plan will be the negotiation of the Bayu Undan (and later Greater Sunrise) availability of natural gas for East Timor's domestic consumption for at least 50 years.

RECOGNIZED RISKS OF NOT ACTING NOW IN SUPPORT OF THE COST-EFFECTIVE OPTION

32. The Bayu Undan lessees could decide to sell the FPSO and LNG plant to either one of several projects or a combination thereof (Evans Shoal, Tern, Petrel, Prometheus and Rubicon), giving them a sizeable boost to the detriment of Greater Sunrise.
33. The lessees could decide to develop Greater Sunrise despite East Timor's objections and illegal obstruction, using the assets described above. CMATS having been invalidated, the operator would pay tax to East Timor based on East Timor's ownership of 18% of the field, thus decreasing payments by a 64% margin, which would go to Australia.
34. Australia could invalidate the Unitisation Agreement and unilaterally decide to develop its 82% share of the fields, leaving the development of the uneconomical 18% to East Timor.
35. If nothing is done and Alfredo persists in his irrational stubbornness, all of East Timor's resources will be wasted and new revenue after the end of Bayu Undan will be sacrificed.
36. The total reserves tagged for development or imminent production in the Timor Sea exceed 100 tcf. These very large reserves will be developed much more economically per unit of production than the 5 tcf Greater Sunrise field, FLNG or not, except if Greater Sunrise takes advantage of the temporary opportunity offered to its operators to develop it at a greatly discounted cost by using readily available recycled, although almost new, equipment.

REMARKS

37. Australian and Timorese income from Sunrise was assessed to be a global \$26 billion at the height of oil and gas prices at the end of the 2000's. In the current environment the combined income will not exceed \$16, optimistically, \$8 billion for each. International market pressures suggest that the abnormally high prices of the 2000's are not likely to reoccur anytime soon.

38. The badly misguided policy of taking the fields of Greater Sunrise over Australia, and also Indonesia, is absolutely unsupported by any credible and realistic fact. This policy promises only ruin. See www.hydrographer.org
39. If East Timor does not make the right, reasonable, rational, sensible but also judicious decision right now, it will lose all hope of any future petroleum revenue, despite the many wild statements proffered by Alfredo since 2008. Short of a quick decision, the Bayu Undan assets will go to other projects (see 32.), giving these projects a big boost and making nearby Greater Sunrise uncompetitive.
40. By entrusting us with the negotiations with Woodside and ConocoPhillips large benefits will be added, not only for the development of Sunrise but also for the natural gas delivery system for the next 50 years
41. It is highly probable that the cost-effective option described above is the very option the developers of Bayu Undan and Sunrise have contemplated for quite a while. This would explain their unhurried attitude in the face of Alfredo's opposition. The developers were probably too happy to have Alfredo not only not pressing for a hurried completion of the project, as should have been its priority, but actually volunteering to actively delay it forever. In order for East Timor not to look like the developers gave it an ultimatum that it had no way to refuse, it would be advisable to have the Government actually propose the new option and have it bundled with additional benefits, so as to make it look to the world as if the idea was theirs.

