

## ANÁLIZA RISKU NO BENEFISIU PIPELINE GAS KAMPU GREATER SUNRISE MAI TIMOR LESTE



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Mínarai no gas sai faktor importante ba ekonomia TL iha tempu agora no futuru. Timoroan inklúindu governu TL insiste makas *pipeline* tenke mai TL tamba sei fo benefisiu independente ekonomia. Iha parte seluk, *pipeline* mai TL iha risku ou dejafius hanesan tuir mai:

I. Risku ba *pipeline*. *Pipeline* mak pipa nebee uja hodi transfer gas husi kampu greater sunrise (GS) mai beasu ho distansia 233 km no tasi nia klean 2.800 metru. Pipa tenke dejeinu didiak tuir standarte internasional no bele atasi presauun husi tasi ben no tasi klean bele fo impaktu negativu ba tempu no difikulta fundus. Ho ida nee, *pipeline* tenke buka *rute* ida nebee besik liu para bele hamenus pipa, tenke dok husi laloran tasi, konstrusaun pipa tenke dok husi area tasi nebee fasil *longsor*. Wainhira determina *rute pipeline*, presija tebes estudu seismiku, peskija topografiku iha tasi laran (*bathymetric*) nebee klaru para aseguara no determina *rute* pipa no tasi nia klean nebee *akurat*.



II. Risku no ameasa husi enviromentu no natureza: *gempa bumi*, *angin topan*, *badai*, *tsunami* ou inundasaun bele kauja dejastre ba infrastruktura fasilidade planta LNG no *pipeline*. Planta LNG mak atu likifika gas ba faze liquidu hodi uza ba produktu oin-oin. Ho ida nee, selesaun ba fatin ou enviromentu fasilidade planta LNG tenke hare didiak no hadok husi insidenti geofisika nebee ekstrim. Tamba nee presija tebes estudu sensitivitas LNG para hare didiak no hili fatin nebee *akurat*. Nasaun Timor Leste nia rai tuir seismiku aktivu hela tamba mosu husi *lempeng* tektonika India-Australia no Eurasia nebee nafatin halai kuaje 7 cm kada anum. Inklui risku ba fatin protejidu: fatin fasilidade planta LNG tenke hadok husi rai nebee protezidu, stratejiku no sensitivu ho rajaun para nafatin konserva enviromentu nebee naturalmente diak, prezervadu, kultura no ekonomia.



III. Risiko husi strutura rai: fatin fasilidade planta LNG besik iha tasi presija strutura rai nebee bele *retain* equipmentus no todan durante tempu naruk no *permukaan* rai la bele tun ou la bele iha mudansa ba rai. Inklui fatin fasilidade LNG tenke hetan asesu diak husi *tanker* LNG ho nia naruk 300 meter ho tasi nia klean minimu 15-20 meter para ro bele sadere. Inklui risiko ba selesaun fatin atu hari fasilidade LNG tamba planta LNG depende ba medida no montante equipmentus, presija rai ho luan kuaje to'o 1-2 km<sup>2</sup> nunee bele tau sasan no equipmentus mekaniku, tanki-tanki akumulasaun gas, jenerator no equipmentus seluk tan. Fatin ba fasilidade refere tenke besik ba tasi para hamenus distansia *supply* gas ba ro tanker.



IV. Risiko finanseiru tamba aumenta tusan ou debe ba TL. Fundu petrolifera (FP) agora dadaun rai iha Banku Federal U.S hela deit \$ 16.98 billioens dollars, enkuantu tusan ba nasaun aumenta ba bei-beik, TL nia debe hamutuk \$ 452 millioens hodi konstrui estrada iha teritoriu TL. Iha parte seluk receitas domestika TL nia sei kiik tebes. Dadus hatudu 2018 ita nia receitas domestika kobra deit \$ 198 millioens dollar amerikanu. Tamba nee karik OJE kada anum mak kontinua sae to'o \$ 1.4 billioens dollars mak estimasaun FP bele hotu iha tinan 12 ou 13 nia laran. Risiko tusan sei mai husi tan imprestimu nebee Timor Gap halo hodi investa ba projeitu *pipeline* no hari fasilidade planta LNG. Ho partisipasaun TL via Timor Gap 56.56% iha kampu GS, TL tenke garante: tusan atu lori *pipeline* mai TL, tusan selu kompanya operador woodside, kompanya *joint venture* kompanya Osaka no parseria seluk, inklui fundu kontijensia ba seluk risiko tomak 56.56%, fundu manutensaun no ect. *Apakah* ida nemak ita hanaran risiko investimentu ba TL?. Se nunee, alternative no dalang stratejiku tuir pratika industria minarai mak governu TL via Timor Gap bele negocia fali ho *international oil company (IOC)* ruma para investa iha *upstream, midstream* no *downstream* nunee bele minimize no share risiko. Tuir informasaun husi Timor Gap, governu TL sei evita no la uja fundu petrolifera (FP) nebee agora hela deit ona \$ 16.98 billioens dollars nudar oxigeniu ba vida nasaun TL. Enkuantu tuir estudu husi Timor Gap nudar *national oil company (NOC)* investimentu ba *upstream, midstream* no *downstream* kustu purvolta \$ 10.5 billioens to'o \$ 12 billioens dollars nunee Timor Gap sei la uja FP hodi halo investimentu. Investimentu bele mai husi partnership ou debe (*loan*). Kompanya no partnership mak sei investa *engineering, procurement and construction plus finance (EPC plus finance)*. *EPC plus finance* signifika kompanya mak sei investa osan no konstrui projeitu intermu investimentu iha *pipeline, marine* no *surface facilities*. Kompanya operador, *joint venture* no Timor Gap bele halo imprestimu hodi halo investimentu no sira sei hetan fali osan wainhira hahu halo produsaun ba kampu Greater Sunrise ho potencia rezerva gas 7.7 tcf (*trillion cubic feet*) no mina 300 MMbbls kondensadu no LPG. Kompanya sei rekopera osan via *profit share, cost recovery (CR), internal rate of return (IRR)*, ho insentiva seluk.



V. Risiko ambiental. Mega projeitu sei lori impaktu negativu ba ambiental, projeitu nee sei kria potencia ba emisaun karbon ba *atmosfera* no sei kria material polusaun hanesan *hydrogen sulfide (H<sub>2</sub>S)*, mina, lisu, be foer no lisu seluk ho kuantidade boot nebee bele estraga kondisaun enviromentu. Ezemplu risku ba biodiversidade no ekolojia tasi nebe akontese iha dezastre *Deepwater Horizon* mina nakfakar estraga animal no rikusoin iha tasi laran. Husi nee hakarak fo rekomendasaun ba governu: katak presija tenke reve lei konaba *Analisis Dampak Lingkungan (AMDAL)* no presija dezentolve modul nebee komprehensivu hodi hala'o AMDAL ba projeitu. AMDAL tenke kompostu planu jere enviromentu nebee detailu esplika konaba jere no atuasaun polusaun, jestaun planu ba dejastre no mekanismu hodi kontrola no minimija impaktu negativu tantu kultura no sosial. Objektivu reve lei hodi kontrola polusaun no difini klaru konaba *konstraint* ou *batasan zat-zat* polusaun, inklui CO<sub>2</sub>, gas, no material kimika nebee estraga tasi ben, kualidade be no estruktura rai, inkui isu konaba polusaun sunu gas. Lei mos tenke define klaru sobre dezvantelasaun projeitu depois de perioudu operasaun hodi asegura katak labele husik hela foer, material kimika no poizon sira seluk nebee bele hafoer no estraga rikusoin sira iha teritoriu TL. Rekomendasaun seluk kada lei nebe halo tenke esplika klaru konaba nia sensaun, nunee karik kompanya ou empregador kontra lei bele submete an ba justisa no kumpri tuir lei nebe vigor.



VI. Risiko ba isu sosial no kultura. Maske projeitu planta LNG no refinaria lori implikasaun pozitivu, maibe nia mos lori impaktu negativu ba povu TL tamba projeitu refere sei fo "ameasa" ba ema sira nebee nain ba rai, fo risku ba sira nia vida loran-loran no bele estraga fatin sagradu nebee representa valor tradisional. Inklui prejensa empregador no kompanya husi estranjeiru sei fo ameasa ba ekonomia lokal hanesan aktividades peskas no agrikultura, no sei hasa'e numeru vulnerabilidade ba sirklu feto, idouzu no labarik foin sae. Husi nee hakarak fo rekomendasaun ba governu: katak direitu ba rai nain no

propriadade seluk tenke define klaru, ho rekonesementu no direitu ba rai kada pessoa inklui sistema nain tradisional. Ho ida nee, presija revizaun ba lei konaba rai no lei ba area protejido. Desijaun saida deit konaba fatin projeitu tenke hahu uluk ho analija no kordenasaun kompostu husi tradisaun, sosial, kultura, fatin sagradu, rai no faktore seluk nebee integra iha rekomendasaun para ikus mai bele atasi impaktu negativu ba projeitu. Tamba nee presija involvimentu aktivu husi sosiadade sivil no lokal. Iha parte seluk, rekuirementu kontraktual kompanya tenke konstitui ho arbitrase nebee sei mosu tamba influensia husi empregador estranjeiru no liu-liu empregador husi estranjeiru sira tenke respeitu no valorija valor no kultura lokal, inklui iha obrigasaun tenke hakruk ba tribunal no lei nebee vigor iha TL. Ho ida nee, bele minimize konfliktu entre empregador lokal no internasional. Rekomendasaun seluk, entidade governu tenke tau atensaun didiak ba isu jeneru para la bele kria diskriminasaun iha servisu fatin.



VII. Risku seluk mak sei laiha rendementu ba taxa ne'ebe signifikante, dependente maka'as ba industria petrolifera, kuaze servisu hotu fo ba ema estranjeiru bele prejudika vida sosial no estabilidade, estraga meu ambiente, muda ema husi sira nia rain-rasik no projeitu sei okupa rai no tasi hodi limite to'os nain no peskadores sira hodi kaer ikan no ect, asidente katastrofiku, violasaun ba direktus humanu no komunidade bele prejudika impresan seguransa no politika, projetu enklave sei la rekruta ema Timor-oan ka aumenta infrastrutura lokal ka industria. Konsekuensia sira ne'e tipiku tebes ba projetu petroleu iha nasaun barak no akontese nunee. Tamba nee presija antesipa no tenke iha planu integradu hodi kombatte risku hirak nee. Skenariu hirak temi ona iha leten sei la akontese, depende ba asaun no boa vontade husi entidade nasaun nia tenke involve no partisipa aktivu komesa husi governu, kompanya minarai, lideransa no autoridade lokal, sosidade civil, lideransa adat, igreija, forsa FFDTL, PNTL, no kada individu tenke preparadu kontribui no promove paz, dame, estabilidade no unidade nasional hodi simu no kontribui ba projeitu *pipeline*, hari fasilidade planta LNG, refinaria no industria derivativa seluk para aseguira katak mega projeitu refere sei lori benefisiu no oportunidade boot ba ekonomia TL.

VIII. Pra duga katak iha risku seguransa no politika interna no externa karik TL la fahe receitas ho Australia. Maibe tamba TL fahe receitas 30% ba Australia tuir akordu fronteira maritima (FM) asina iha 06 marsu 2018. Signifika Australia mos sei tulun diminui impresan seguransa no politika interna no externa tamba Australia hetan benefisiu nunee sei ajuda hodi halo kontrolasaun no seguransa ba vida kampu greater sunrise. Australia sei tulun aseguira kontrolasaun iha tasi no fo seguransa util *pipeline* mai TL. Fahe 30% ba Australia nudar mos rekursu nain tuir regime nebee preve iha akordu FM hodi garantia ratifikasaun ba FM, inklui garante kondisaun equivalente, aseguira relasaun bilateral nasaun rua nian, diplomasia, seguransa, politika no futuru koperasaun iha rejaun nee.



IX. Risku ba equipmentus *pipeline*, facilidades planta LNG no refinaria. Refinaria mak fabrika ou facilidade industria hodi produs mina ou *crude oil* sai produktu *petroleum* nebee bele uja diretamente ou produktu oin-oin nebee sai nesesinde baziku ba industria petrokimika. Produktu refinaria mak *gasoline*, combustivel diesel, *kerosene*, elpije, mina *nafta*, no produktu seluk. Planu governu TL refinaria sei hari iha Betanu. Enkuantu suai *supply base* signifika fatin lojistiku ou apoiu lojistiku ba actividades industria nebe opera iha teritoriu TL, tantu aktividade industria iha tasi laran nomos iha rai maran. Risku ba equipmentus *pipeline*, facilidades planta LNG no refinaria signifika katak iha industria mina no gas nafatin hare ba efektividade kustu projeitu (*cost effective*) no investimentu projeitu to'o tempu naruk. Tamba nee identifikasaun ba rezervatoriu mina no gas (proven reserve) importante tebes hodi optimiza no garantia continuidade operasaun facilidades planta LNG to'o tempu naruk. Wainhira kampu greater sunrise produs besik remata, presija tebes identifikasaun kampu *petroleum* seluk hodi asegura continuidade operasaun equipmentus no facilidades planta LNG. Tamba rekursu mina no gas nebee limitadu no hotu sei prejudika equipamentus planta LNG sai frujen, barailu, at, ikus mai abandona. Tamba nee bain-bain iha pratika real industria minarai, presija tebes investimentu massiva ba actividades explorasaun. Actividades explorasaun signifika actividades sira nebee ligadu ho buka mina no gas, ikus mai hatene TL nia *proven reserve* mina no gas hodi asegura continuidade no sustentabilidades industria petrolifera.

X. Risku no oportunidade merkadu LNG (*demand and bayer market*). Saida mak LNG?. LNG mak abreviasaun husi *Liquefied Natural Gas*. LNG hetan husi *pemampatan* no *cooling* gas natural to'o pontu kiik liu ou *due poit* ho aproximasaun  $-160^{\circ}\text{C}$  ( $-260^{\circ}\text{F}$ ). Gas natural signifika gas nebee facil atu sunu, komponentes importante nebee eziste iha natural gas mak husi *metana* ho volume liu 80%, inklui komponente *etana*, *propane*, *butane*, *nitrogen* no *helium*. Produktu *helium* importante tebes uja ba seitor defeza. Gas natural mosu iha rai nia okos no dala ruma mistura ho mina. Benefisiu husi gas natural mak bele uja hanesan kobustivel no bele produs produktu ou various sasan kimika. Korea, China, Japan, no ect, nudar nasaun importador gas. Agora dadaun gas nebee produs iha kampu Bayu Undun supply tuir pipa ba Darwin LNG, depois liquifika molok faan ba Jepan. Merkadu mundial konaba LNG sei kontinu dezenvolve tebes. Tuir data husi *BP Statistical Review of World Energy* hatudu actividades komersiu LNG internasional ho montante negosiu hamutuk 211 billioens metru kubiku. Montante ida nee kuaze 7% husi natural gas equivalente nebee konsumu iha global no restu 93% seluk *supply* tuir pipa ba konsumedor sira. Husi gas natural nebee uja iha mundu, 15,4% mak konsumedor maioria iha nasaun asia-pasifiku no numeru konsumedor kada tinan sempre aumenta 7% (*BP Statistical Review of World Energy*, 2007). Data hatudu tinan 2020 nasaun Amerika sei sai nasaun terseiru eksportir LNG boot iha mundu tuir *Energy Information Administration/EIA*. Amerika nia kapasidade eksportasaun LNG liu Malaysia. Maibe iha tinan rua liu Australia ho Qatar mak eksporta LNG boot liu Amerika. Data hatudu eksportasaun LNG Amerika atinji 1,94 milliaun kubiku feet kada loron iha tinan 2017. Eksportasaun LNG husi Amerika kuaze ba 25 nasaun. Amerika nia LNG exporta ba nasaun konsumedores: Meksiko (20%), Korea Selatan (18%), no China (15%). Iha tinan 2 mai Amerika sei dezenvolve tan projeitu LNG iha Georgia, Louisiana no Texas.

Tuir estudu no prediksaun global 2025 sei iha *flooding LNG*, tamba nasaun barak mak agora dezenvolve LNG. Nasaun hirak nebee agora LNG makas mak Qatar, Australia, Amerika, Nigeria, Rusia, Norway, Filipina, Singapore, Indonesia, libya, no ect. Nasaun sira nebee agora presija LNG makas mak Japan, Korea, Cina, no ect. Iha futuru mak *flooding LNG* signifika sei iha *surplus* ba merkadu nunee bele kauza presu LNG la estabil ou monu (*BP & Pertamina*, 2018). Iha parte seluk, nasaun barak agora dezenvolve

*reservoir unconventional* hanesan *coalbed methane (CBM)*, *shale gas*, no ect. Hodi responde ba sira nia ekonomia no energia rai laran, nune sira hahu redus importasaun mina husi nasaun estranjeiru. Iha Amerika agora dadaun sira revitalija ratusan posu mina nebee uluk abandona agora produs hotu hodi responde ba neseseidade energia rai laran. Data hatudu Amerika nia mina husi shale oil, CBM, no ect bele responde ba Amerika nia neseseidade kobre to'o tinan 100 ba leten. Nune Amerika agora la depende importasaun mina husi timur tengah, lybia, nigeria no ect. Iha parte seluk nasaun barak agora dezentolve industria batera hodi responde ba sira nia neseseidade energia rai laran no hamenus dependensia ba mina. Industria batre ekonomia kustu baratu, numeru konsumidor barak, kria polusaun ba environmentu ki'ik kompara ho mina no gas. Presija tebes hare didiak isu global no antesipa antes para buka solusaun diak ba dezentolvimentu mina no gas iha ita nia rai TL.

Enkuantu iha Indonesia investimentu ba LNG dominante liu investimentu ba mina. Indonesia potencia ho rekursu gas natural. Data 2015 hatudu Indonesia nia rezerva provadu gas ou *proven reserve* total 98 tcf (*trillion cubic feet*). Iha asia Indonesia sai nasaun rangkin terseiru eksportir LNG depois Australia no Qatar. Indonesia nia LNG mai husi kampu Arun, Bontang no Tangguh. Sira nia LNG faan ba China, Korea selatan, Taiwan, Jepan no ect. Signifika demanda LNG sei massiva. Nasaun barak mak sei presija tebes LNG tamba nesidade no ekonomia rai laran, elektrisidade, transportasaun, gas ba neseseidade uma laran hodi tein, hotel, restaurante, no ect. Inklui nasaun sira eropa mos sai konsumedor ba LNG. Signifika futuru mai presu LNG autentikamente sei sae makas. Nune neseseidade merkadu LNG sei massiva. Hare ba demanda no kresimentu neseseidade LNG fo certeza no posibilija TL hodi produs kampu gas greater sunrise nebe ho potencia rezervatoriu gas 7.7 tcf (*trillion cubic feet*) no mina 300 MMbbls (kondensadu no LPG) ho kampu gas seluk nebee identifikadu ho rezerva gas produs hodi asegura sustentabilidade receitas ba kofre estadu. Wainhira TL produs ona LNG, ita bele faan ba nasaun seluk, nune mos bele utilija ba neseseidade rai laran para tulun dudu ekonomia rai laran no redus importasaun gas husi nasaun seluk. Presija intende katak iha industria minarai sempre inherente ho risiko, maibe industria nemos mai ho nia metodu rasik hodi identifika risiko, mitiga risiko hodi optimiza projeitu. Estudu, dadus, konhesementu, siensia no teknolojia nebee sophistikadu sei asegura sucessu ba projeitu *pipeline* no hari LNG iha Timor Leste.

### **Benefisiu ou vantajem *pipeline* gas kampu greater sunrise mai Timor Leste.**

Iha mos benefisiu ou vantajem direita no indireita *pipeline* gas kampu greater sunrise mai TL no hari facilidade planta LNG: benefisiu sei mai husi rendementu taxa, bele loke kampu servisu ba Timor-oan, kria subkontratu ba emprezariu lokal, tulun dezentolve infrastrutura rai laran, stimula no hamoris motor dezentolvimentu ekonomia, fasilita industria sekundariu no derivativa seluk, inklui vantajem fiskal.



I. *Pipeline* gas mai TL, harii konstruksaun planta LNG no refinaria sei kria kampu serbisu ba timor oan barak bele to'o mil ba pozisaun tekniku no non-tekniku. Esperiensia hatudu iha nasaun seluk bele absorve kampu serbisu ba ema hamutuk 12000 tantu ema husi estudu area minarai no non-minarai. Tuir informasaun husi Timor Gap ep., Eng. Francisco Monteiro, *pipeline* gas mai TL sei kria kampu servisu bele kobre to'o 10.000 pessoas (Fontes informasaun; Timor Gap ep., Eng. Francisco Monteiro deklarasaun iha noticias gmntv.tl, edisaun 12 maio 2019).

II. Vantajem ekonomia rai laran: vantajem premeiru mosu kedan wainhira komesa hari konstrusaun ba projeitu, konstrusaun *pipeline* nebee dada husi tasi laran to'o mai rai maran inklui aktividade seluk. Aktividade hirak nee sei konsume fundus billioens dollar amerikanu. Montante hirak mak ekonomia

timor nia sei hetan tulun hadia povu nia moris. Osan ba emprejariu lokal no osan ba empregador timor oan rasik hodi hadia rendimentu iha sira nia moris. Vantajem seluk hetan husi jasa-jasa durante konstrusaun projeitu no sosa sasan husi rekursu lokal. Maneira seluk nebee fasil hodi tulun dudu ekonomia lokal wainhira projeitu hahu mak emprejariu no povu TL prepara hahan no uma ba empregador no kompanya husi estranjeiru hodi aluga ou hola uma, hotel, modo, hahan iha restaurante no nesesinde loron-loron nebee produs no prepara husi negosiu lokal. Ikus mai sei estimula ekonomia rai laran no tulun hadia povu nia moris.

III. Vantajem taxa ba governu: vantajem fijiku nebee hetan husi dezvoltimentu projeitu mak vantajem taxa. Vantajem taxa mak rendimentu nebee governu TL hetan husi empregador no emprejariu tantu nasional no internasional. Taxa nebee emprejariu no empregador sei selu ba governu, inklui aktividade ekonomia nebee iha possibilidade sei mosu durante periodu konstrusaun no operasaun projeitu. Konsekuensia taxa husi aktividade projeitu *upstream* no *downstream* depende kondisaun taxa nebe governu TL prepara. *Apakah* sei kria taxa iha rai laran?, apakah sei halo regulamentu foun konaba taxa ba fasilidade?, no ect.

IV. Benefisiu direita husi mina no gas natural mak bele uja hanesan kobustivel no bele produs produhu ou sasan kimika hanesan pupuk, sepatu, roupa, lem, triplex, tinta, plastiku, roda, bola, CD, tasu, oklu, payung, pasta, mangeira, fiu eletrisidade, fatin cas ahi ou terminal ahi, metro, pinsel, sasan halimar ba labarik kiik, supeita, kadeira, butyl ou fatin mina morin, camera dijital, no ect. Sasan ou equipmentus sira nee hotu produs husi mina no gas natural. Signifika sei hamoris industria no ekonomia husi area nee.

V. Benefisiu seluk mak bele estimula no garantia sustentabilidade industria *petroleum* ate futuru. Fasilidade planta LNG nebee sei harii iha beasu laos deit produs ou likifika gas husi kampu greater sunrise (GS) ho potencia rezervatoriu 7.7 tcf (*trillion cubic feet*), maibe mos sei produs kampu seluk lokaliza iha tasi Timor identifikadu ho rezervatoriu gas mak kampu gas Chuditch ho rezerva 0.7 tcf, kampu gas Kelp Deep ho estimasaun rezerva 8.4 – 13.6 tcf, no potencia gas em jeral iha teritoriu TL (Fontes informasaun: ANPM). Tuir informasaun husi Timor Gas ep., Eng. Francisco Monteiro, potencia mina TL emjeral inklui kampu greater sunrise ho potencia mina equivalente 6,3 billioens barel petroleum nebee bele produs to'o 50 anos ho valor osan \$ 378 billioens dollars. Potensia nee bele reprezenta fundu explorasaun nebee sei konsume \$ 223 billioens dollars ba nesesinde sira hanesan kestaun teknika, dezvoltimentu, manutensaun, operasaun no benefisiu fiskal no rendimentu publiku liu \$ 47 billioens dollars (Fontes informasaun; Timor Gap ep., Eng. Francisco Monteiro deklarasaun iha noticias sapo.tl, edisaun 18 abril 2019, horas 19:12).

VI. Benefisiu husi profit rezultadu faan mina no gas kampu GS. Komersialidade kampu GS depende ba rezerva mina no gas, presu no demanda gas iha merkadu. Investimentu kustu ba projeitu ou Capex (*capital expenditure*); explorasaun, perfurasaun, produsaun, pipeline no fatin prosesamentu produhu ate to'o *marketing* ou hanaran *upstream*, *midstream* no *downstream* purvolta \$ 10.5 billioens to'o 12 billioens dollars. Maibe wainhira hahu halo produsaun inisiu ba kampu GS kustu rekoperasaun nebee sei hetan premeiru bele to'o \$ 28 ate \$ 54 billioens dollars amerikanu, nunee fo certeza boot ba TL no atrai *international oil company (IOC)* hodi investa no halo produsaun hodi aseguara fundu petroleum ba jersaun agora no futuru (Fontes informasaun; Timor Gap ep., Eng. Francisco Monteiro deklarasaun iha noticias gmntv.tl, edisaun 12 maio 2019).

VII. Benefisiu adisional husi planta LNG no refinaria mak uja fasilidades laos deit likifika gas ou produs mina husi rai laran, maibe mos bele importa mina no gas husi nasaun seluk hodi halo prosesamentu molok hodi ba merkadu.



VIII. Benefisiu intermu fahe produsaun iha kampu greater sunrise (GS). Profit indikator nebee bain-bain uja iha industria minarai mak; *net present value (NPV)*, *internal rate of return (IRR)*, *benefit cost ratio (B/C)*, no *payback of time (POT)*. Kompanya sempre investa wainhira valor IRR boot liu *minimum attractive of return (MARR)*. Analizasaun *project economics* nudar sasukat ba kompanya operador, *joint venture no host country* foti desijaun ba dezvoltimentu projeitu kampu GS. Ho realizasaun fronteira maritima (FM) hamosu regime especial foun iha kampu GS, maibe fo vantajem boot ba TL. Tuir akordu FM preve katak *pipeline* gas mai TL sei fahe rendimentu 70% mai TL no 30% ba Australia. Redimentu husi *royalty* 10% (5% ba governu no 5% ba kontraktors). Husi 5% ba governu sei fahe tutan ba governu TL no Australia ho percentajem 70%:30%. Enkuantu 5% seluk ba kontraktors. Rendimentu seluk TL sei hetan husi investimentu kustu kapital. Kustu kapital mak tuir kontratu hare liu ba kustu peskijas hotu nebee hahu husi explorasaun geolojia, seismiku, ou buka minarai no gas husi inisiu to'o hetan *petroleum* ou deskobre mina no gas. Kustu kapital tuir maneira kontratu nebee iha kuandu wainhira kompanya investa osan ona hodi buka mina no gas, estadu tenke selu 100% hafoin aumenta tan 127% hanesan kreditu investimentu (*investment credit ou IC*). Nee maneira kontratu uja hodi atrai ekonomikamente ba kontraktors sira hodi halo investimentu iha ita nia rai. Ho partisipasaun 56.56% TL nia iha dezvoltimentu kampu GS, signifika TL mos sei benefisia husi instrumentu IC 100 + 127%.

IX. Benefisiu regime kontratu iha kampu greater sunrise (GS) depois de Fronteira Maritima (FM). Rendimentu *upstream pipeline* gas mai TL rejultadu sei fahe 70% ba TL no 30% ba Australia. *Downstream* exceptu karik IOC ruma hakarak investa entaun konserteja 100% mai TL. Fahe lukru iha kampu GS tuir kontratu sei fahe 50% ba governu (husi 50% nee sei fahe 70% ba TL no 30% ba Australia) no 50% seluk ba kontraktors. Kontratu fahe rezultadu sei aplika mos ba produsaun produktu liquidu no gas iha kampu GS. Nemaq lalaok regime kontratu iha kampu GS depois de FM asina. Ho partisipasaun TL iha kampu GS sei hetan benefisiu dobru liu tan ba receitas TL. Rendimentu ba TL iha GS sei mai husi *royalty*, lukru, impostu, no reimbolsa ba kustu kapital, *domestic market obligation (DMO)* no ect. Enkuantu kompanya sei hetan benefisiu husi *profit share, cost recovery (CR)*, *internal rate of return (IRR)*, no instrumentus fiskal seluk.

Ikus mai TL mak maioria sei benefisia entermu de fahe rezultadu ou rendimentu, *royalty*, impostu, reimbolsa kustu kapital 100 + 127%, forneselementu bem servisu 90% sei mai husi TL ou sujeita liu husi TL, forneselementu equipamentus no apoiu lojistika, karantina sei liu husi TL, ikus mai TLNG sei tulun diversifika rendimentu ba estadu, hamosu *multiplier effect* boot ba ekonomia nasaun, transfer teknolojia, konhesementu, no skills ba jovem no foin sae sira, hamoris investimentu seitor privadu, hamoris investimentu iha area turismu, edukasaun, saude, peskas, agrikultura, hotelaria, infrastruktura, emprededorismu, no ect. Ikus mai TL 90% sai benefisiariu husi projeitu, no expanda TL nia ekonomia sai independente no *berdikari* wainhira *pipeline* gas mai TL.

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