THE CHANGING LANDSCAPE OF DSU

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Ton van Everdink

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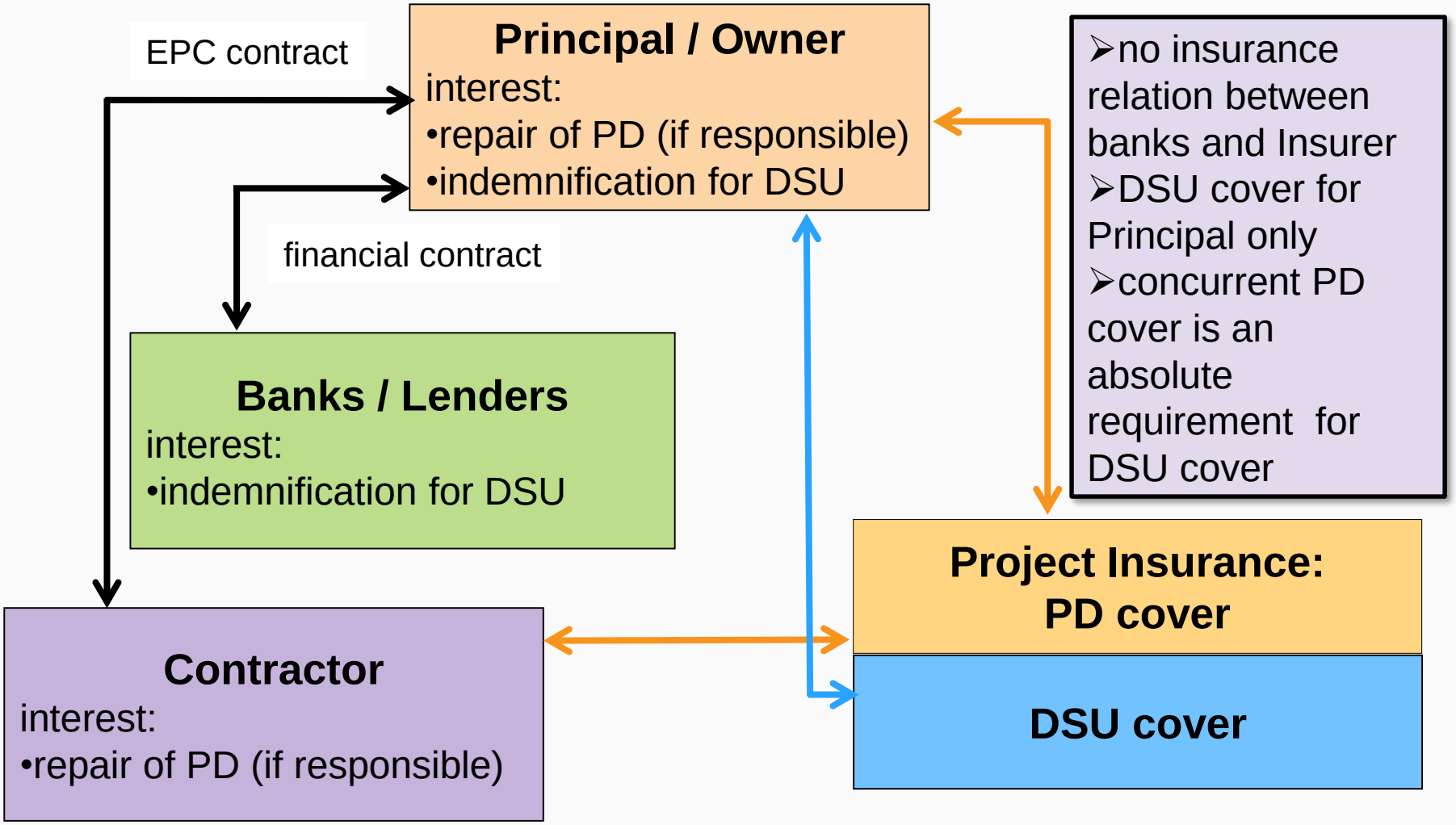
1. DSU GENERAL INFORMATION
2. UNDERWRITING SUBMISSION
3. DSU LOSS ADJUSTMENT
4. COVERAGE EXTENSIONS
5. QUESTIONS

Physical Damage and Loss of Profits Basics
Parties involved and Insurance Relations



The general understanding of DSU covers?

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The basic principle of DSU cover:

"Pay me for what I would have earned if there hadn't been a loss"

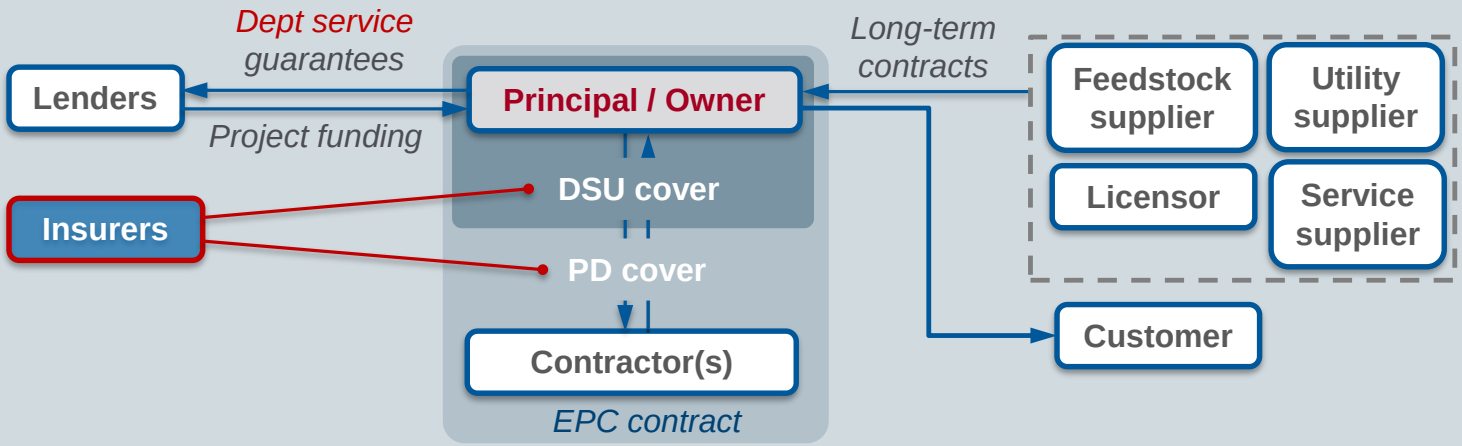
The key message for the underwriter is:

"You need to know your risk before you sign it"

…but what should you and what can you know before you sign your risk?

Three essentials of DSU covers

- To make good the financial loss which a business suffers after an insured loss event at the insured location
  ⇨ *Material damage proviso*
- Basic principle: no standalone DSU policy.
  The issue: PD loss requires a “cost effective” repair vs. DSU requires a “quick repair”, but “quick repair” is typically an expensive repair
  ⇨ *conflicting indemnification interests*
- Basically, the principal as the future operator of the plant is insured with DSU cover - not the contractor as on the PD side (principal’s delay in start-up)



Perceived problems in the market with DSU

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What are the issues?

1. Lack of product knowledge and no common understanding of the scope of cover among project owners, lenders, brokers and insurers…which even varies from market to market

2. Paradox: the contractor usually has the best options to mitigate a physical damage event, but little financial incentive to do so.

3. High loss frequency of DSU claims, aggregate loss potential of >US$1bn.

4. Inconsistent quality of underwriting information in terms of DSU figures, this combined with steadily increasing DSU sums insured

5. In respect of ICOW, additional expenditure must be for the sole purpose of avoiding or diminishing a delay.

6. Today there is scarcely any construction cover that does not include DSU cover; this is combined with ever increasing DSU sums insured

Why is onshore energy so special? Key elements

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…in relation to economic aspects

- Tight time schedules in order to minimise construction period and thus costs for financing
  ⇨ *Increased number of critical paths, critical components and lack of buffer time*
- Growth in size and complexity of projects driven mainly by economy of scale and technical developments
- In case of a project delay, insufficient compensation of financial losses for owners through alternative safeguards granted by contractors, such as liquidated damage, penalty, fines or bond covers
- Lower equity/higher portion of external capital dominates the interest on timely payback
  ⇨ *difficult to forecast reliable DSU sum insured*
- Supply and purchase contracts are fixed a long time before projects are financed, but high fluctuation and cyclical feed, product pricing and earnings
- Reduction in numbers of suppliers of (key) components

Why is onshore energy so special? Key elements

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…in relation to plant technology

- Large number of bottleneck and custom-made equipment used. In some fields of technology, key contractors/suppliers are dominating the market
  ⇨ *Shortage of skilled personnel and equipment with long lead times*
  ⇨ *Small PD losses may trigger a considerable delay*
- Locations often close to waterfront, high hazard or remote areas
  ⇨ *Elevated NatCat exposure*

…in relation to products

- High degree of intermediate products with downstream customers fixed by supply contracts several years in advance
- High influence of loss-mitigating measures due to intermediate products

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Underwriting submission
PD cover extension with potential to trigger DSU

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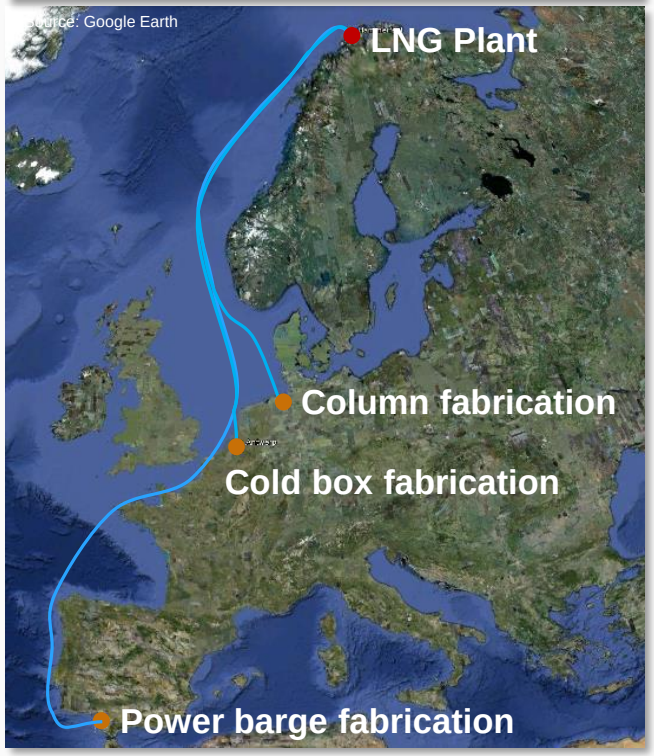

Underwriting submission
The waiting period: Remote areas with extreme climate conditions

Winterstrom at LNG plant about 900 miles southeast of the North Pole

Underwriting submission
The waiting period: Remote areas with extreme climate conditions

Fire at oilsand upgrader in Alberta/Canada

- Explosion on the cutting deck at 3:30. At time of the incident, temperatures were down to -40°F
- Main concern: the entire plant and especially the bitumen in the feed lines were expected to freeze and solidify due to plant shutdown and heavy winter conditions
- Cause of loss and loss reserve couldn't be assessed for two weeks since inspection of the area concerned was hampered by extreme cold weather that turned fire-fighting water into ice


Source: Edmonton journal


Source: Loss adjuster report

Underwriting submission
Do we really understand what's written there?

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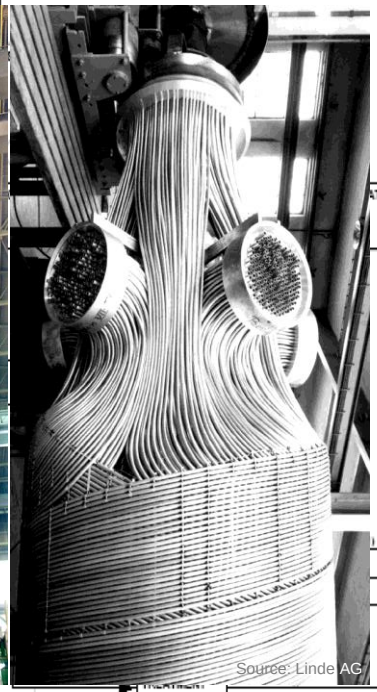
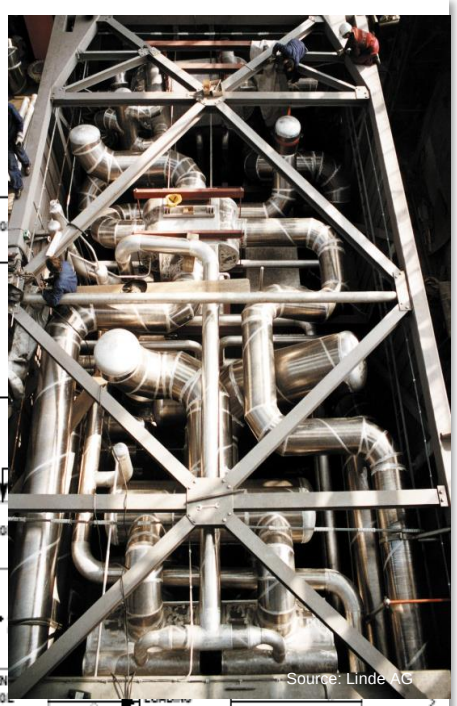
LNG plant - Process block diagram





Large number of bottleneck equipment, but only a few suppliers with high lead times

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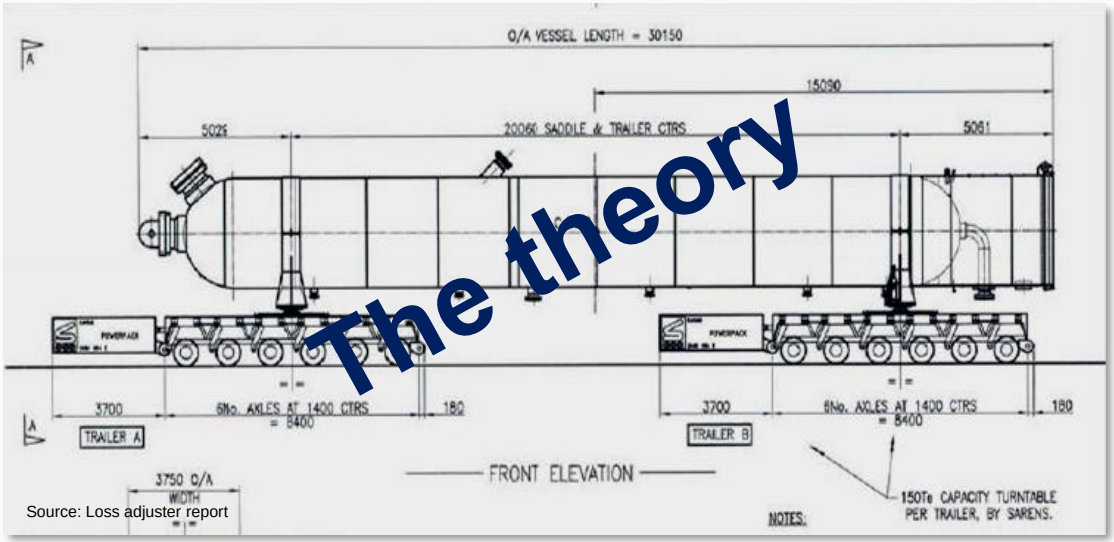
Inland transit



Source: Loss adjuster report

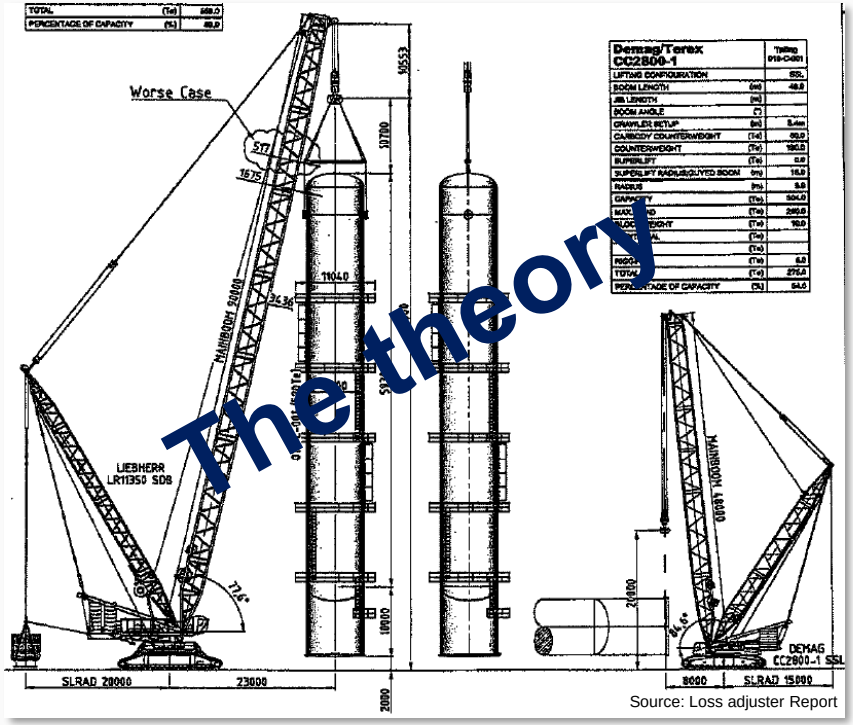

Source: loss adjuster report

- Cover for inland transit expands DSU cover substantially
- The underestimated part: the equipment warranty after an incident. Equipment has to be sent back to the workshop, otherwise manufacturer declines equipment warranty


Source: loss adjuster report

Underwriting submission
PD cover extension with potential to trigger DSU

Heavy lifting



Source: Loss adjuster Report

Source: Loss adjuster report

Again, equipment warranty issue:
column was sent back to the workshop

Underwriting submission
Forecast of feed and product prices

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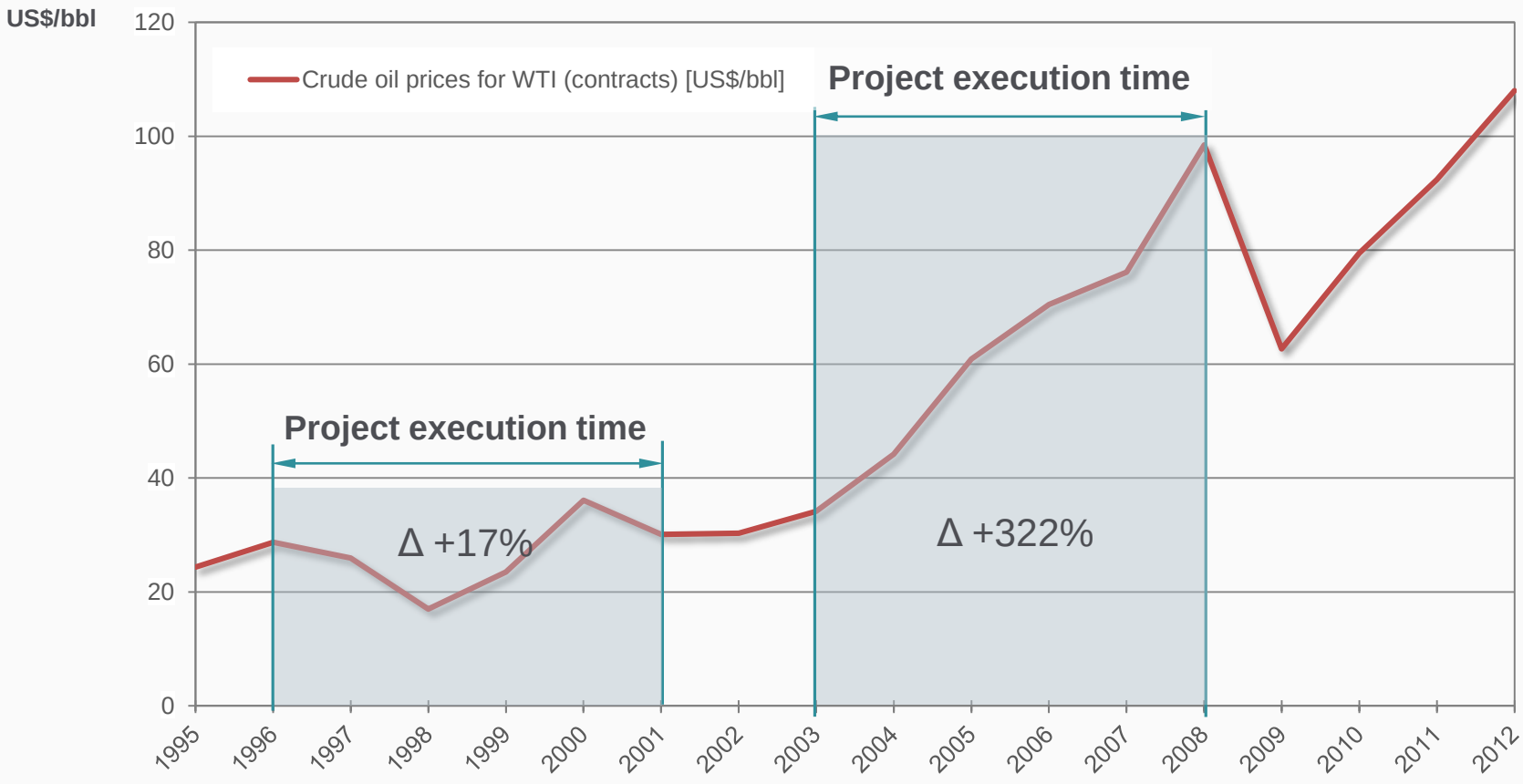
Feed prices: Crude oil

Historical crude oil prices



Source: BP

Underwriting submission
Forecast of feed and product prices

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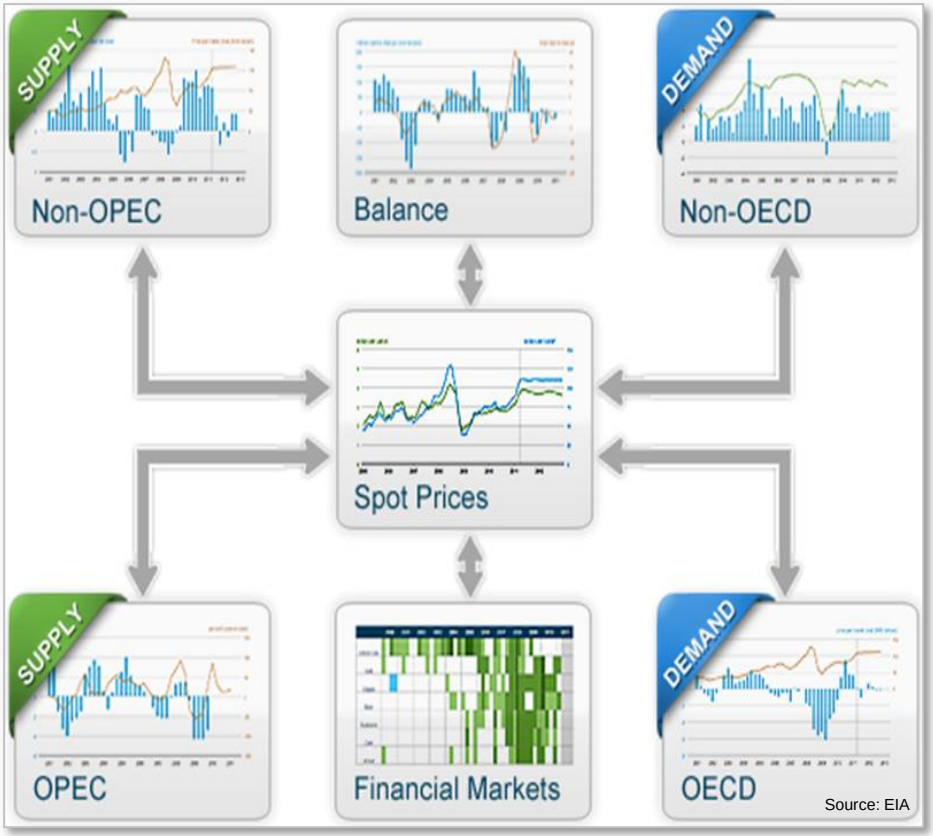
Feed prices: What influences the price of crude oil?

Supply and demand are influenced by:

- Trading and speculation:
  spot, futures, options, spreads or swaps
- Spot and contract prices
- Economic growth and industrial production
- Export regulations, subsidies
- Royalties, price regulation
- Very low interest rates provide capital for speculation
- Weather
- Available refining/upgrade capacities

…and all factors are linked

The high importance of the spot market



Underwriting submission
Do we really understand what's written there?

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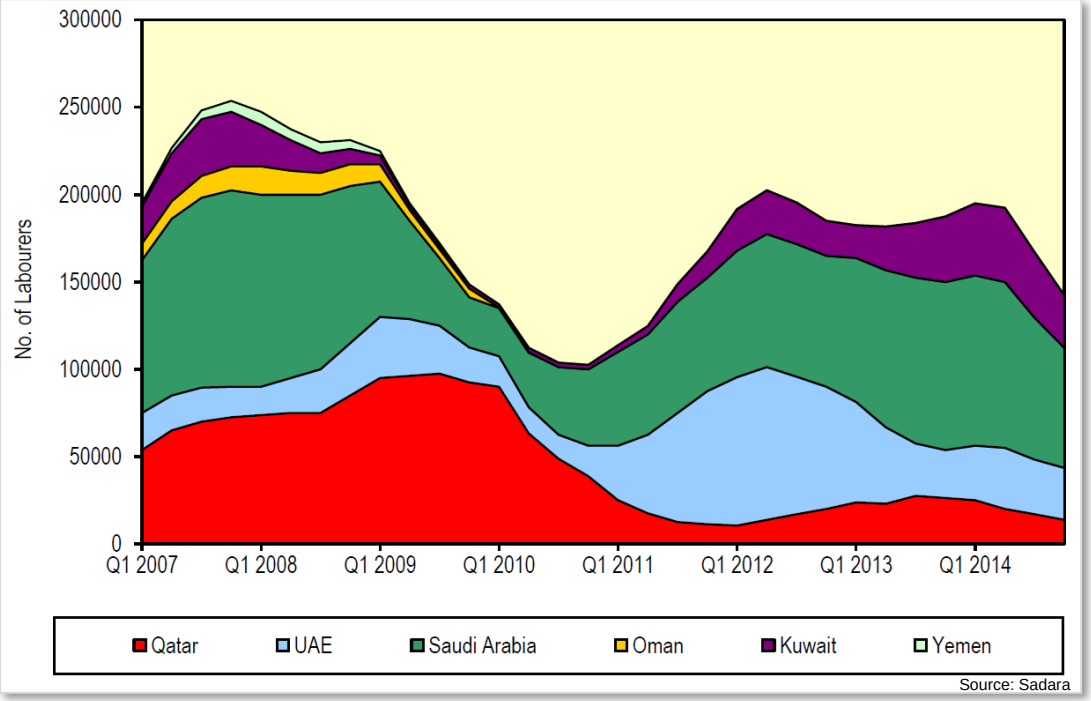
Future oil, gas and petrochemical labor requirements in the Middle East



- For an average world-scale refinery, up to 1,8mill. man hours are scheduled
- On a world-scale plant, up to 30,000 workers per day are on site at peak – including up to 2,000 specialised welders
- In remote areas, difficult to hire skilled workers locally

Shortage of skilled workers can lead to an unforeseen but drastic time delay.
Even more so after a loss, where higher manpower is required to catch up the time schedule

Underwriting submission
Do you know where your offsite fabrication yards are?

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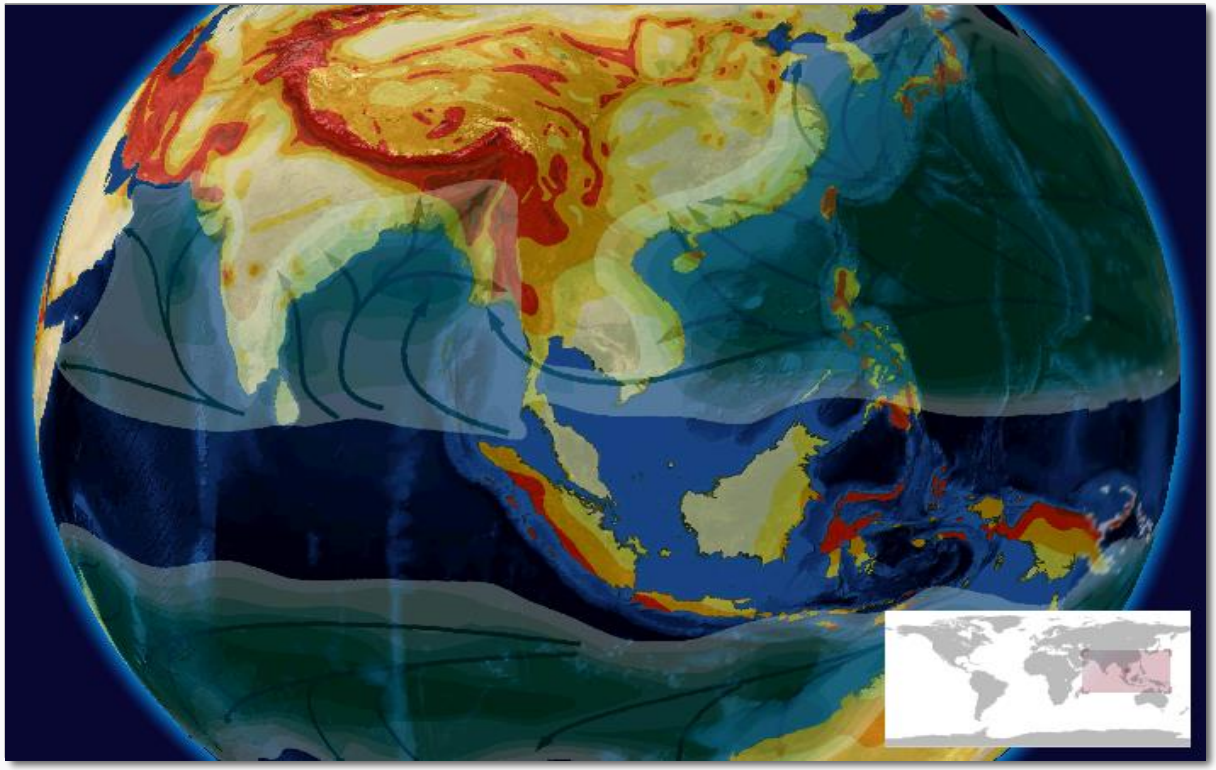
Property in offsite storage/fabrication



- Additional exposure to time schedule due to high values at offsite fabrication yards
- For the advantage of transport offsites are often located directly on the waterfront
- Most of the offsite fabrication yards in Asia are highly exposed to NatCat

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PD cover extension with potential to trigger DSU

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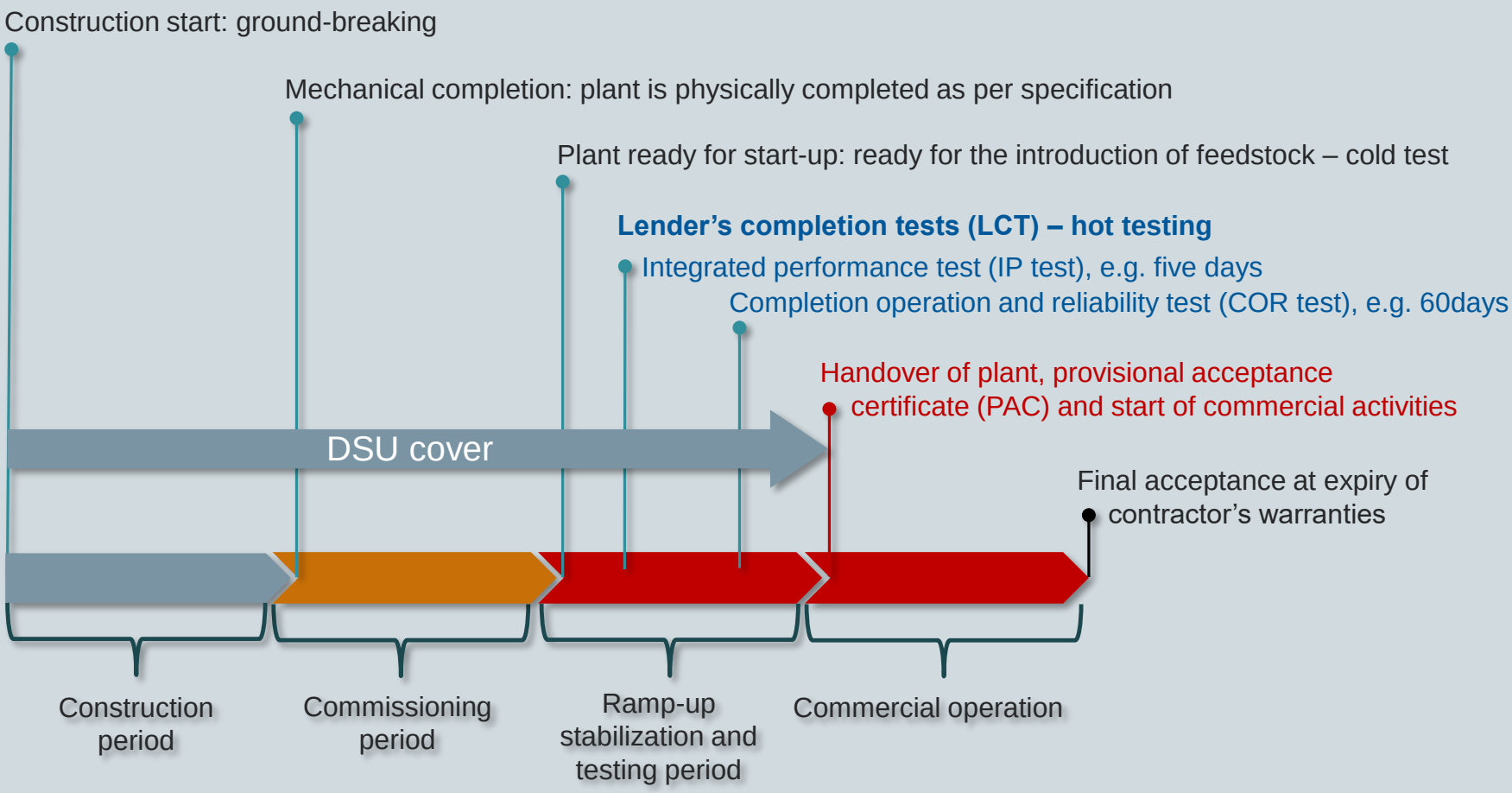
Time schedule, nomenclature:



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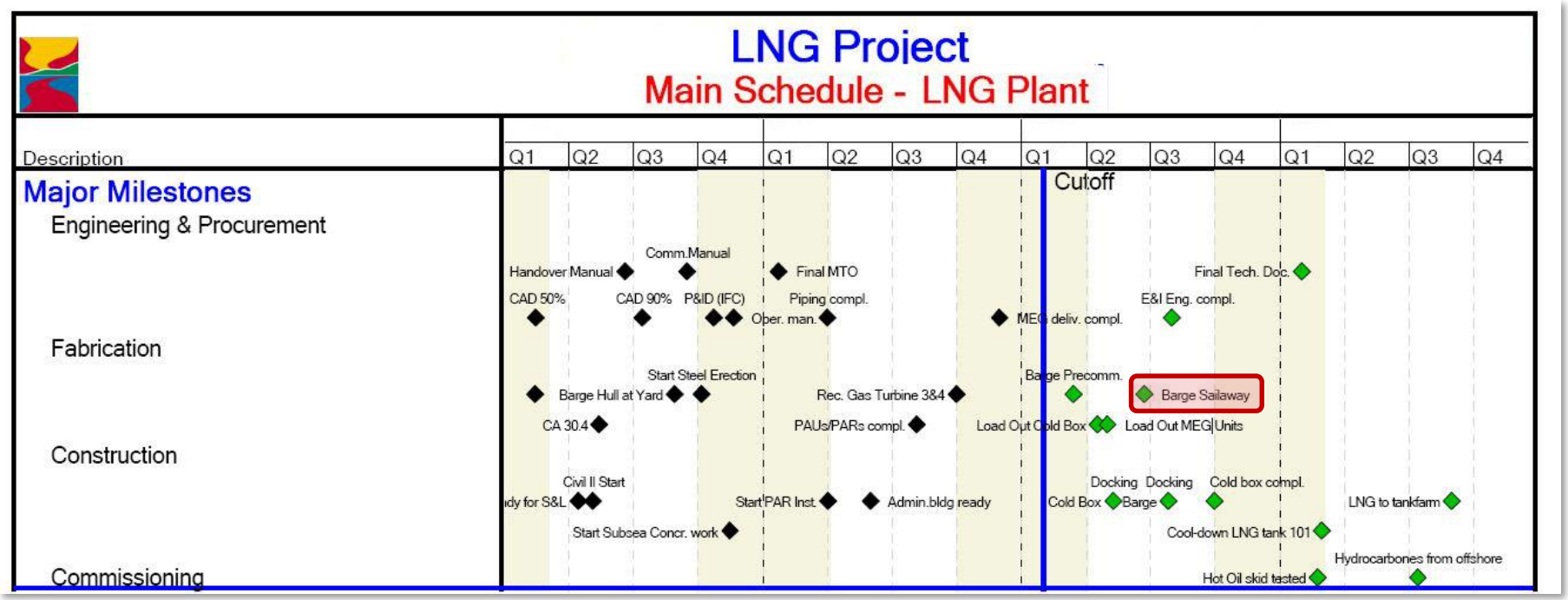
Property in offsite storage
Time schedule



A single small point in the construction schedule can look like this:

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PD cover extension with potential to trigger DSU

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…but it can also look like this:

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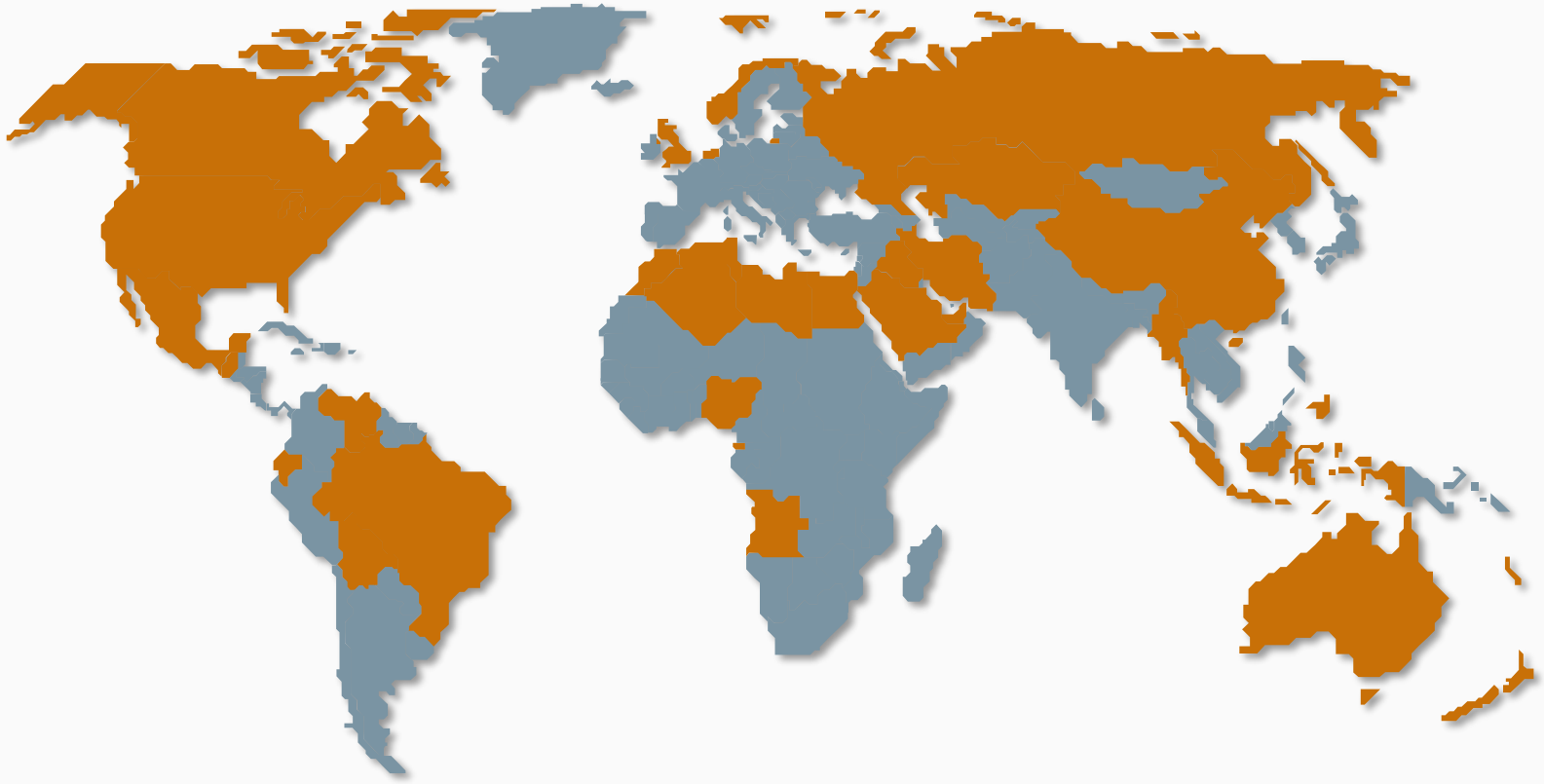
Cover for strike, riots and civil commotion (SRCC)

- Top 20 oil and gas exporting nations



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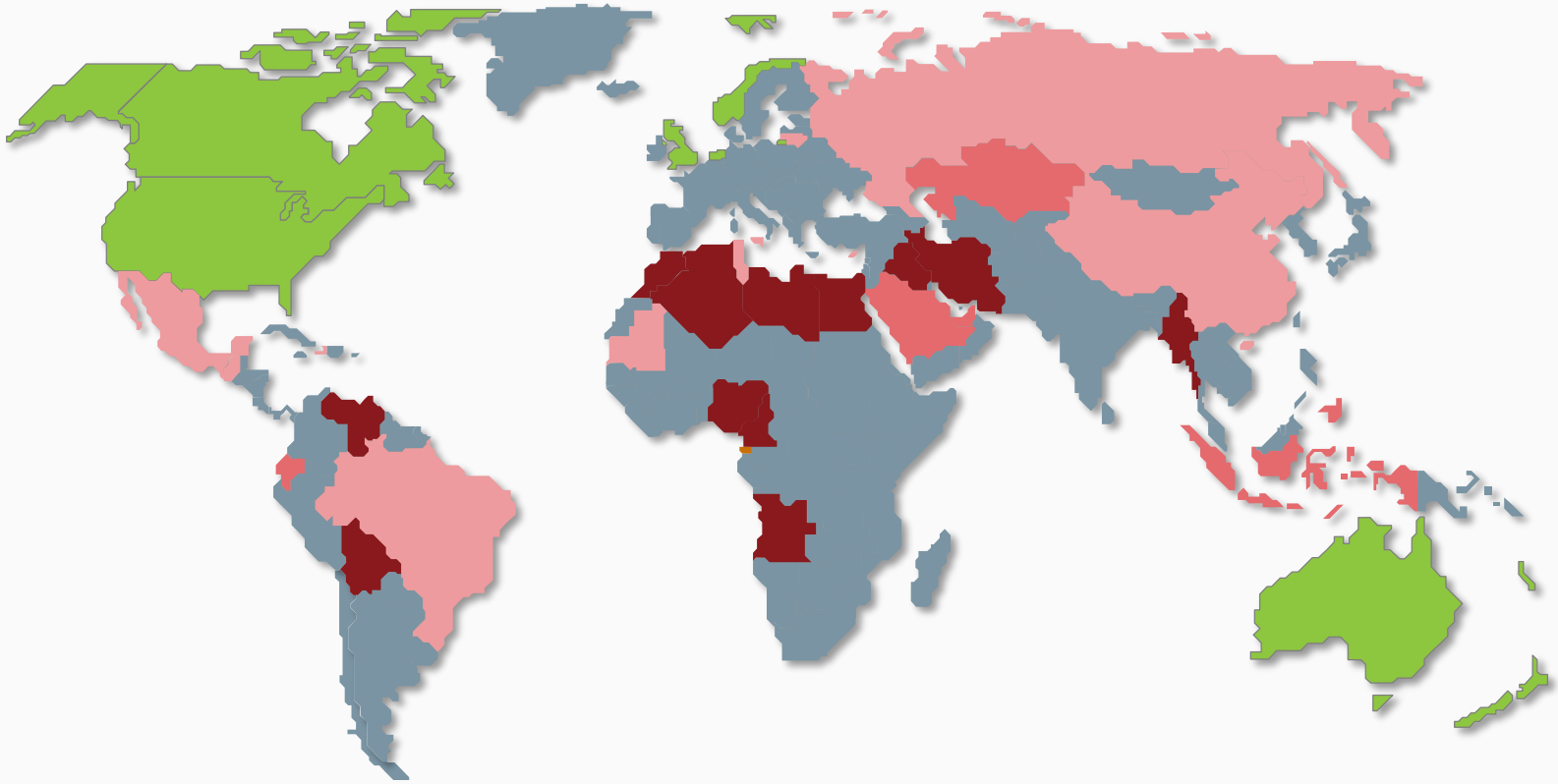
Cover for strike, riots and civil commotion (SRCC)

- Top 20 oil and gas exporting nations, and the political (in)stability of these nations



Source: Aon

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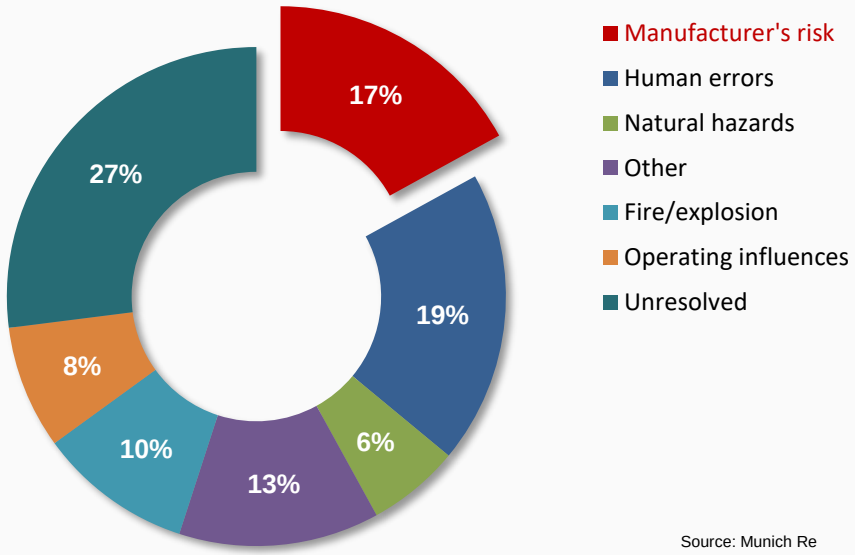
Cover of manufacturer's risk

Triggers for advanced loss of profit covers



Source: Munich Re

Total number of risks: 1,176
Total insured values: US$115bn.
Total paid DSU claims: US$600mio.

In principle, the oil, gas and chemical process industry is slow-moving and conservative in relation to new processes, but:

- Trend towards higher capacities, higher throughputs and higher efficiency requires larger and therefore unproven equipment. Scale-up issue
- If a new process is established, just a few units are built

Underwriting submission
The standard case: Insurance on a gross profit basis

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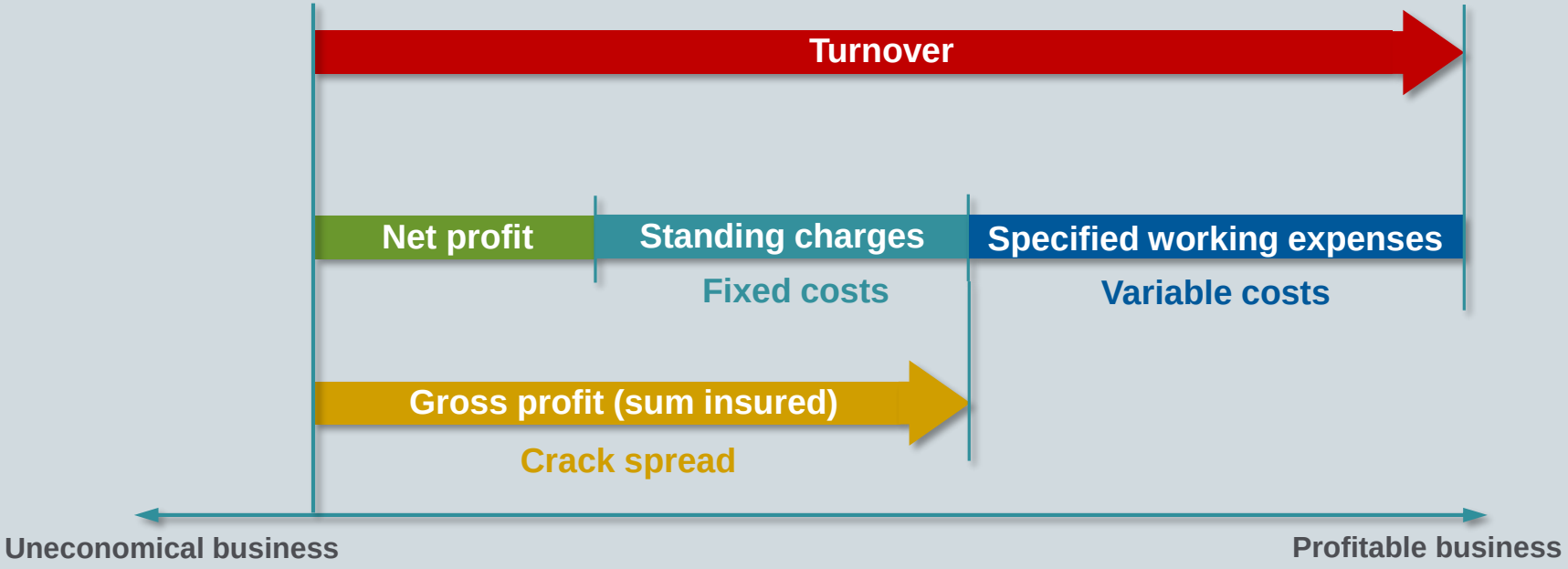
Standard case: Indemnification of standing charges and net profit – on "as if" basis

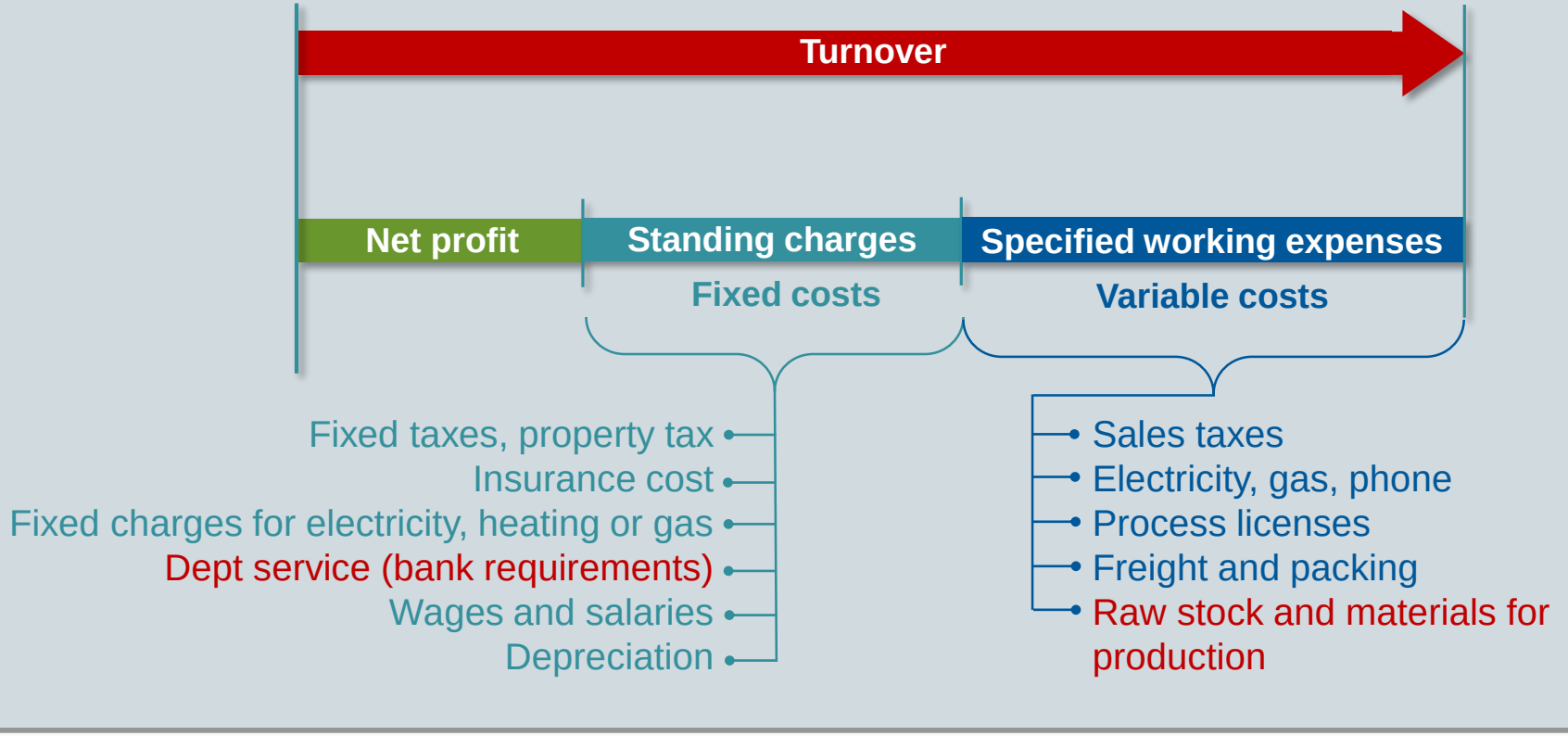


Alternative covers:

- **Cover on "valued basis" – fixed monetary amount x loss of production**
  Average daily value (ADV) or cap (US$/bbl or US$/tonne)
- **Cover for lender or bank requirements only (e.g. dept, interest payments or royalties)**
  Interesting mainly for smaller companies with a high portion of outside financing
- **Cover for standing charges only – no profit element**
  Interesting mainly for large oil and gas companies with equity financing

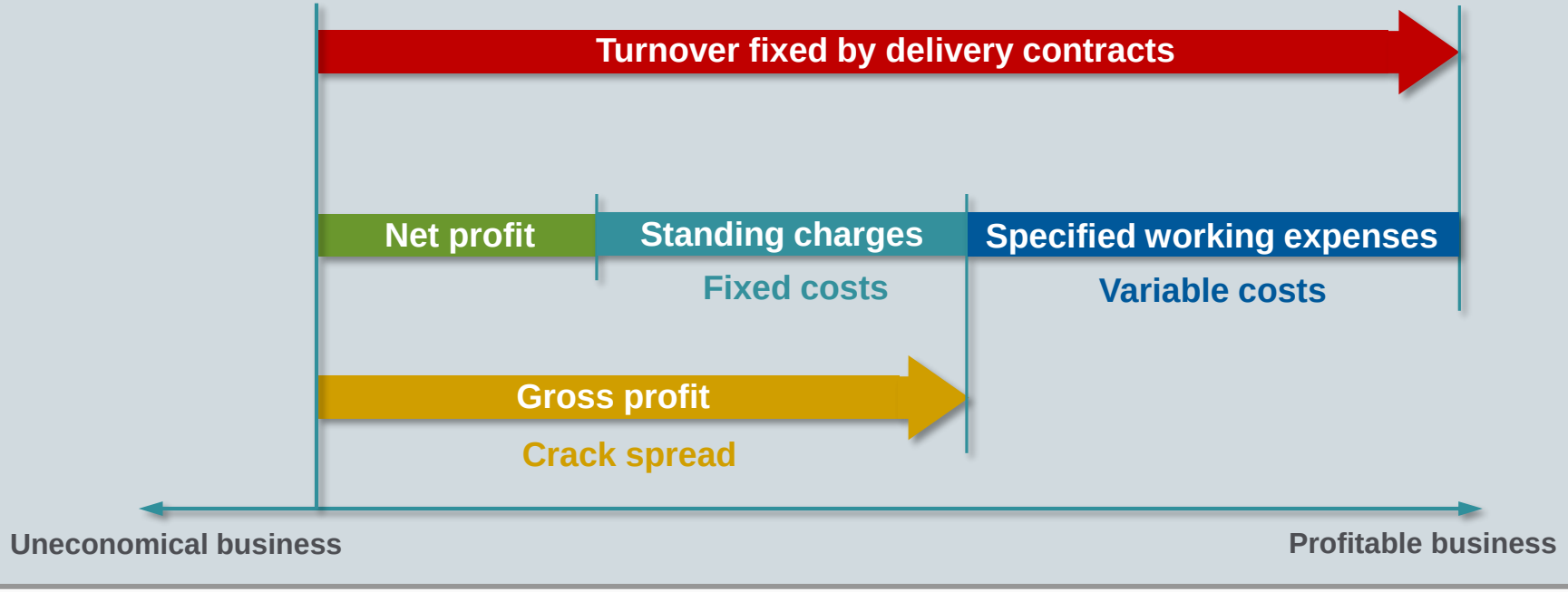
Underwriting submission
The standard case: Insurance on a gross profit basis

Fixed costs vs. variable costs



Underwriting submission
The standard case: Insurance on a gross profit basis

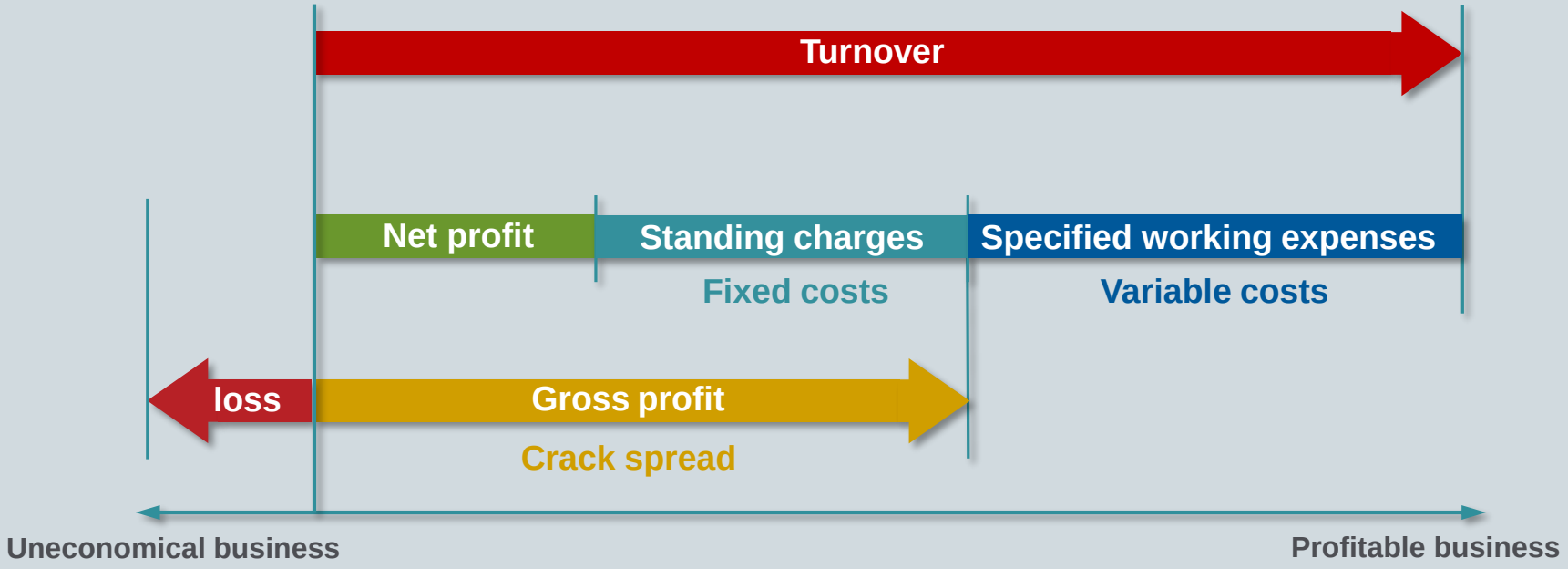
Case I: Dramatic increase in feed costs at fixed turnover (delivery contracts)



⇨ Indemnification on gross profit basis (“as if”): “…had no loss/delay occurred …”

Underwriting submission
The standard case: Insurance on a gross profit basis

Case II: Price deterioration or loss of market



Strong decrease in turnover – decrease of gross profit down to cover not even the fixed costs.

⇨ But loss of market is a not insured event!

⇨ Still, indemnification on gross profit basis ("as if"): "…had no loss/delay occurred …"

Adjusting a DSU claim.

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What are the issues?

1. This is one of the most complex business classes for claims
2. Loss is sustained because the commercial operation date is delayed (DSU)
3. Or, loss is sustained due to payments made to avoid or reduce effects of a potential delay (Increased Cost of Working)
4. Or, a combination of both DSU and ICOW.
5. ICOW must for the sole purpose of avoiding or diminishing such a delay.
6. There can only be one claim.

Adjusting a DSU claim.

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What should the insured demonstrate?

1. The loss or damage should be covered under Section I (Property Damage)
2. The indemnifiable loss must cause an interference in the construction work.
3. That interference must result in a delay to the schedule date of commencement of the insured business
4. ICOW must save at least an amount equal to the expenditure made (economic test)

Adjusting a DSU claim.

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Time is money

1. Assessment of the claim is both in respect of time and money
2. The majority of the problems arise from the time assessment.
3. Once the number of net indemnifiable days is agreed, the value defined by the policy is applied.
4. Debt service and fixed costs are more certain
5. Loss of gross earnings/gross profit is the most subjective.

Adjusting a DSU claim.

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Usual problems during adjustment process

1. Establish the delay
2. Ambivalent wordings
3. Waiting period/financial deductible
4. Liquidated and ascertained damages
5. ICOW and interim payments
6. Establishing turnover

Adjusting a DSU claim.

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Observations

1. The contractor usually has the best options to mitigate a physical damage event, but little financial incentive to do so

2. Need to determine the unmitigated position if damage is repaired using the proceeds from Section I of the policy only

3. If the project has been monitored, this can be a speedy exercise. If no progress monitoring has been used, it can be expensive and time consuming

4. Once established, any incentive payment can be validated on the basis of time saved, assuming there is a firm average daily value

Should a project be monitored?

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What are the issues?

1. In the event of potential delay, Insurers will need to know the pre-loss position on progress.
2. Very time consuming if monitoring has not taken place.
3. Causes frustration as no guidance to ICOW/Extra Expense commitment
4. Contractual reporting data between Contractor and Owner is not normally sufficient to identify the pre-loss position
5. All parties to a Project should see the same progressed position.
6. This does require a high level of commitment from the Contractor, Owner and Insurers.

Post Loss, Critical Path

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What are the issues?

1. The new Critical Path will include both the time to repair physical damage and to complete the un-built portion of the Works
2. The construction programme will facilitate modelling if the time effects of increased resources
3. This can then be used to perform the economic test required by the policy
4. Both the contractor (who will execute it) and the Owner (who will apply the indemnity due) need to agree the plan

Waiting Period

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What are the issues?

1. What is Commencement of Commercial operation (defined in the Policy?)
2. Is this the same definition as the contract, does it tie to Certificate of Substantial Completion/Handover certification?
3. If not, how are contractual and insurance positions reconciled?
4. Contractual certification is often backdated
5. If an Insured mitigates an apparent delay 18 months from scheduled completion which would have exceeded the Waiting Period, can this be paid as ICOW?

Coverage Extension being requested

- Cover for Debt Service
- Liquidated Damages
- Performance guarantee for a 3-year operational warranty/test period
- Pandemics (Ebola, Yellow Fever, Malaria)

Testing and Commissioning

- Should insurers be represented on site during Testing and Commissioning and should the representative have the authority to stop the process?

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