

System Of Payment For The Exploitation Of Mineral Resources In The Area: Updated Fiscal Model And Considerations For The ISA Council

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IGF

INTERGOVERNMENTAL FORUM
on Mining, Minerals, Metals and
Sustainable Development

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Agenda

1. Overview of previous contributions from the IGF
2. Results from the updated fiscal model
3. Key considerations on the payment regime informed by the financial model
 - Base royalty
 - Environmental cost royalty
 - Equalisation measure
 - Financial incentives
4. Additional considerations on the profit share on transfers of rights



Overview of previous contributions from the IGF



INTERGOVERNMENTAL FORUM
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GOVERNANCE TO HELP ACHIEVE THE
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How do we help governments?





Overview of previous contributions from the IGF

- Comparison with land-based mining
- Quantitative and qualitative assessment of the initial 4 payment options, using an open-source economic model
- Design considerations for an equalization measure
- Profit share on transfers of rights and land-based mining practice
- Review mechanism and land-based mining practice

An aerial photograph of a large open-pit mine, showing multiple levels of terraced rock walls and a central dirt road. The image is overlaid with a semi-transparent blue filter. In the center of the mine, there is a small blue and yellow structure, possibly a control room or a small building. The overall scene is industrial and shows the scale of the mining operation.

Results from the updated fiscal model



Why an update to the model?

Important to use latest and most reliable figures as industry evolves

- A representative project located in the Clarion-Clipperton Zone (CCZ) of the northeast Pacific Ocean between Hawaii and Mexico
- Expected production in the next few years, subject to a commercial permit
- First pre-feasibility study of deep seabed mining, first probable reserves estimates
- Previous IGF economic model was shared in 2023, based on MIT model and economic data collected from contractors in previous years

TMC Releases Two Economic Studies with Combined NPV of \$23.6B and Declares World-First Nodule Reserves

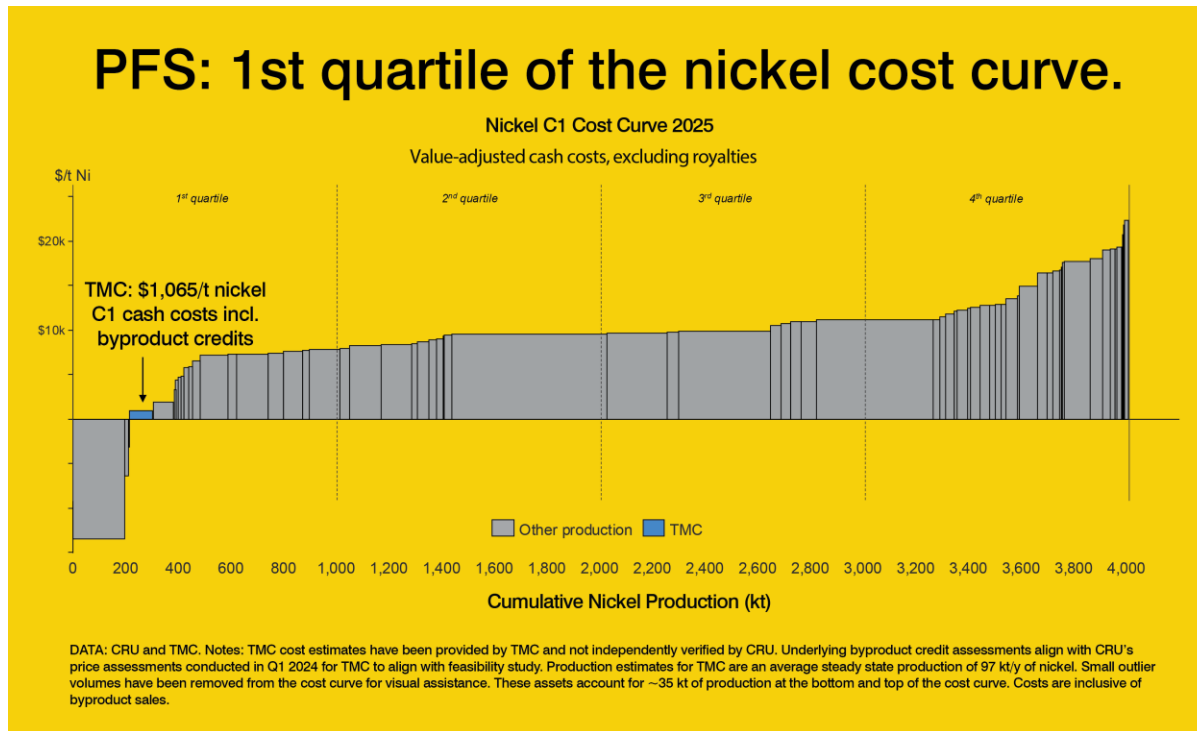
by The Metals Company | Aug 4, 2025

	NORI-D	NORI-TOML
Average Nickel Grade (%)	1.40	1.31
Average Cobalt Grade (%)	0.14	0.19
Average Copper Grade (%)	1.14	1.13
Average Manganese Grade (%)	31.15	29.35



Why an update to the model?

New study claims deep sea mining could prove extremely competitive against land-based mining



PFS TRS		
Total Recoverable Resource	NPV ^a <small>(post-tax)</small>	Life of Mine EBITDA
164Mt	\$5,508M	\$32,321M
Steady State Annual Production <small>(2031-2043)</small>	AISC Costs <small>(incl. Byproducts credits)</small>	Internal Rate of Return <small>(pre-tax)</small>
10.8Mtpa (wet)	\$2,569/t Ni	27%
Life of Mine (LOM)	C1 Nickel Cash Cost <small>(incl. Byproducts credits)</small>	Capital payback
18 years	\$1,065/t Ni	7 years



Why an update to the model?

New study illustrates new commercial approach to nodule collecting and processing

Pre-tax project data		Previous estimates 2023	NORI- D	NORI-TOML
Production volumes	Mt(dry)	95	118	491
Production life	Years	25	19	23
Sales revenue	USD million	51,164	58,574	231,456
CAPEX- production	USD million	2,066	545	6,123
CAPEX- refining	USD million	1,144	4,426	8,852
OPEX- production	USD million	11,474	21,118	52,673
OPEX- refining	USD million	5,895	18,860	73,502
Pre-tax cash flow	USD million	30,585	13,625	90,306



Key economic assumptions underpinning the revised IGF model

- Project data from the technical report summaries for the NORI Area D prefeasibility study and TOML/NORI Initial Assessment
- Reports assume US regulations and payment regime (21% federal income tax and application fees) – replaced in the model by presumed ISA payment regime, applied only to the collection stage of the business, not to the processing and refining stages.
- The polymetallic nodules contains 4 metals - Manganese, Nickel, Cobalt and Copper. The model assumes nodules are sold by the collector to an arm's length refiner.
- Metal prices are based on market analysis found in the technical reports. Theoretical nodule prices sold by the collector are calculated as netback prices from the sale of alloys or mattes.
- The model assumes equity financing only but can show results with different financing structures.

Note: these economic assumptions apply to these two specific projects, and other contractors may have different commercial approaches and economic valuation.



Key fiscal assumptions underpinning the revised IGF model

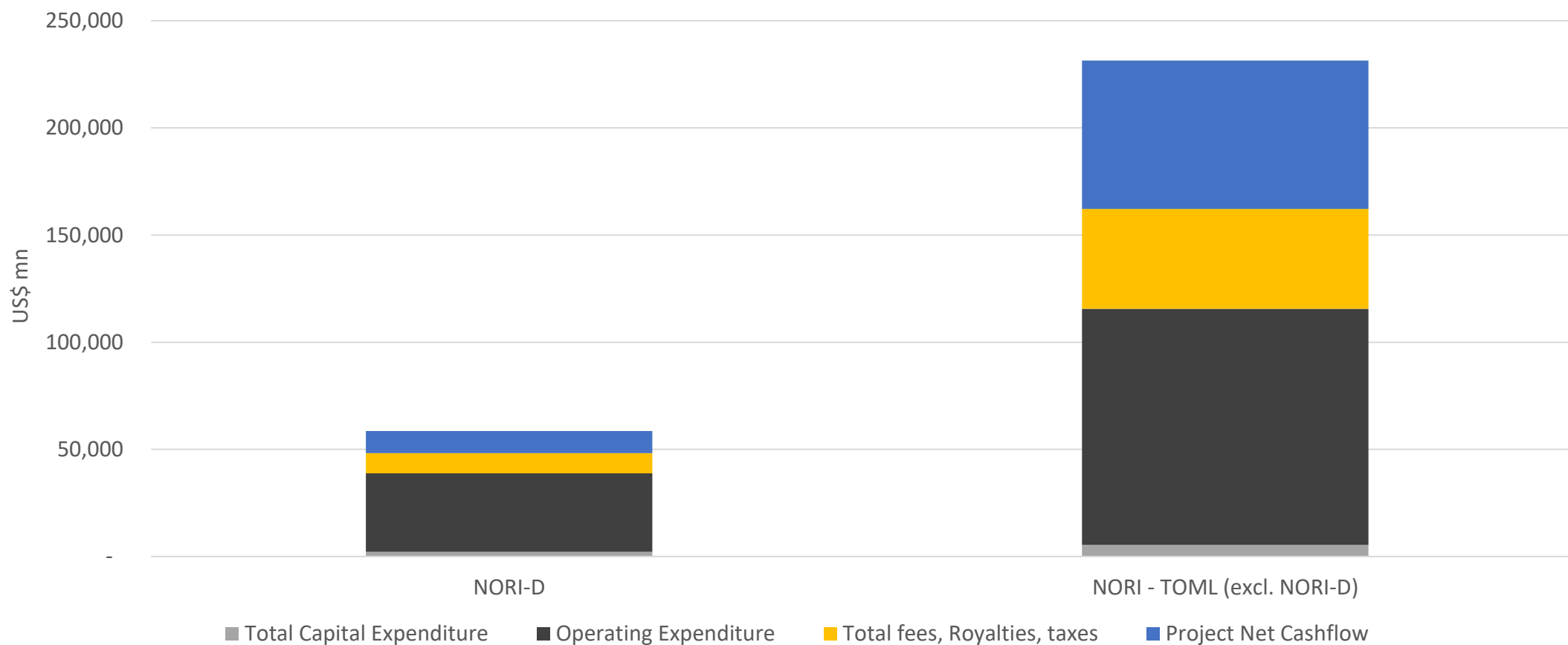
- Presumed payment regime (ISA):
 - Annual reporting fee: 1 million USD
 - Annual fixed fee: 0.5 million USD
 - Royalty 2.5% / 7.5% (5 years into production)
 - 25% additional profit share with a 1.1 adjustment factor as an equalization measure
- Fiscal regime (sponsoring state):
 - Corporate income tax: rate = 25% , base = standard deductions, including payments to the ISA, 10-year straight line depreciation of CAPEX
 - Nauru Continuity Benefits Payment: 1.20 USD/WMT (NORI-D), 0.20 USD/WMT (NORI-TOML)
 - Tonga Continuity Payment : 0.11 USD/WMT (NORI-TOML)

Note: the model allows users to change these assumptions and compare results under different payment terms



Main results from the model

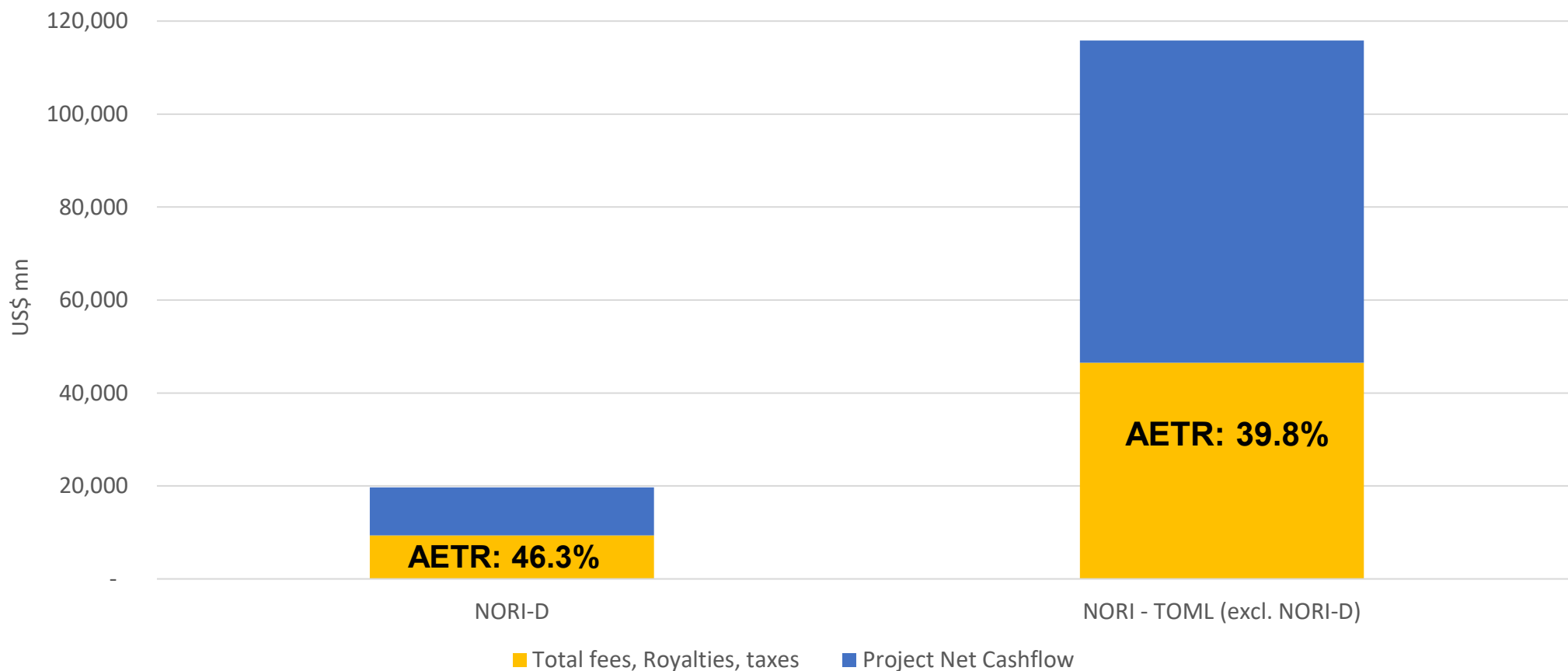
Lower margins from NORI - D than from NORI - TOML





Main results from the model

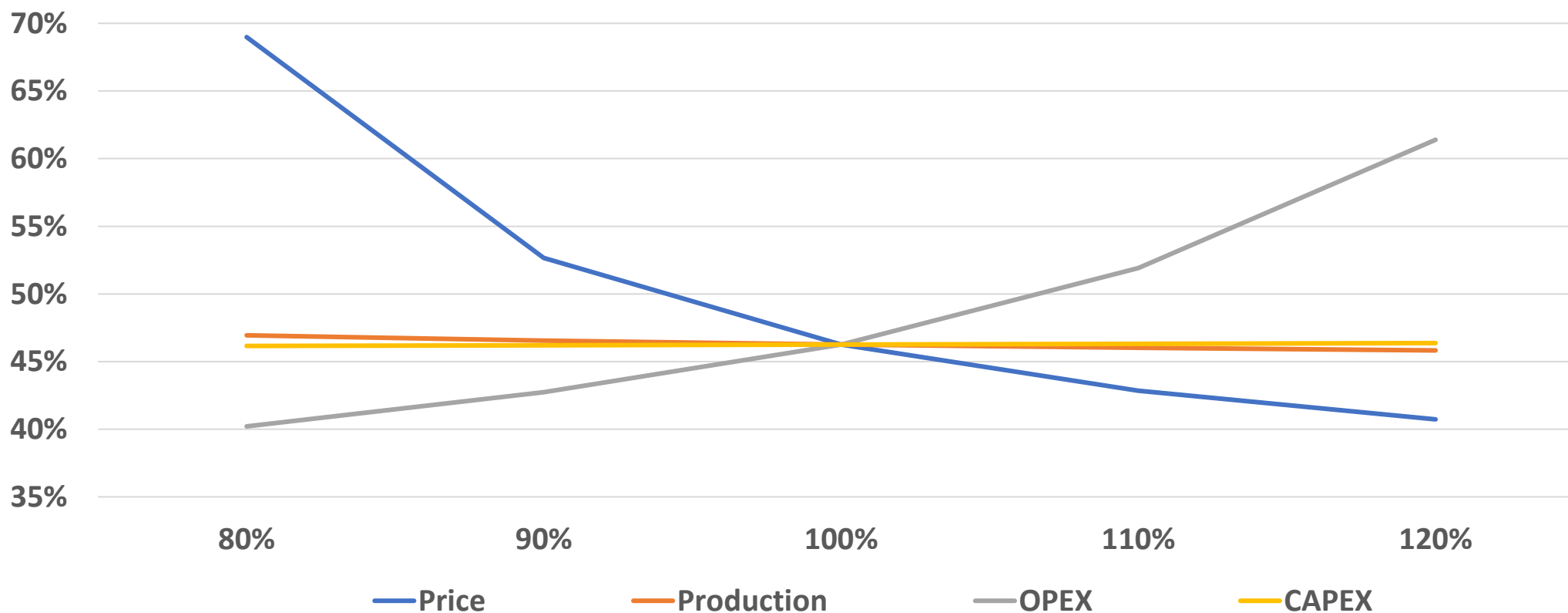
Higher average effective tax rate (AETR) for NORI - D than for NORI - TOML





Main results from the model

NORI- D: sensitivity of average effective tax rate to price, production, opex and capex assumptions

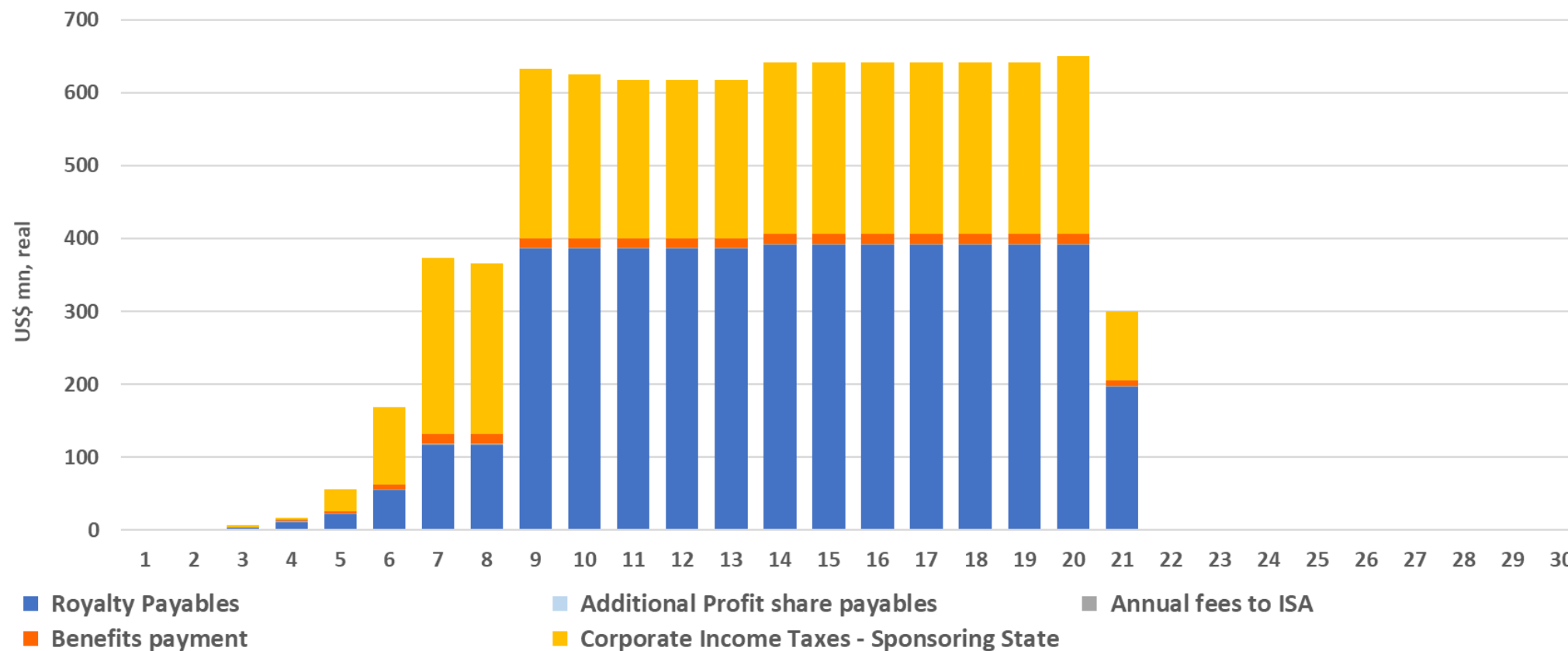


Depending on economic conditions, the average effective tax rate may fluctuate between 40-70%.



Main results from the model

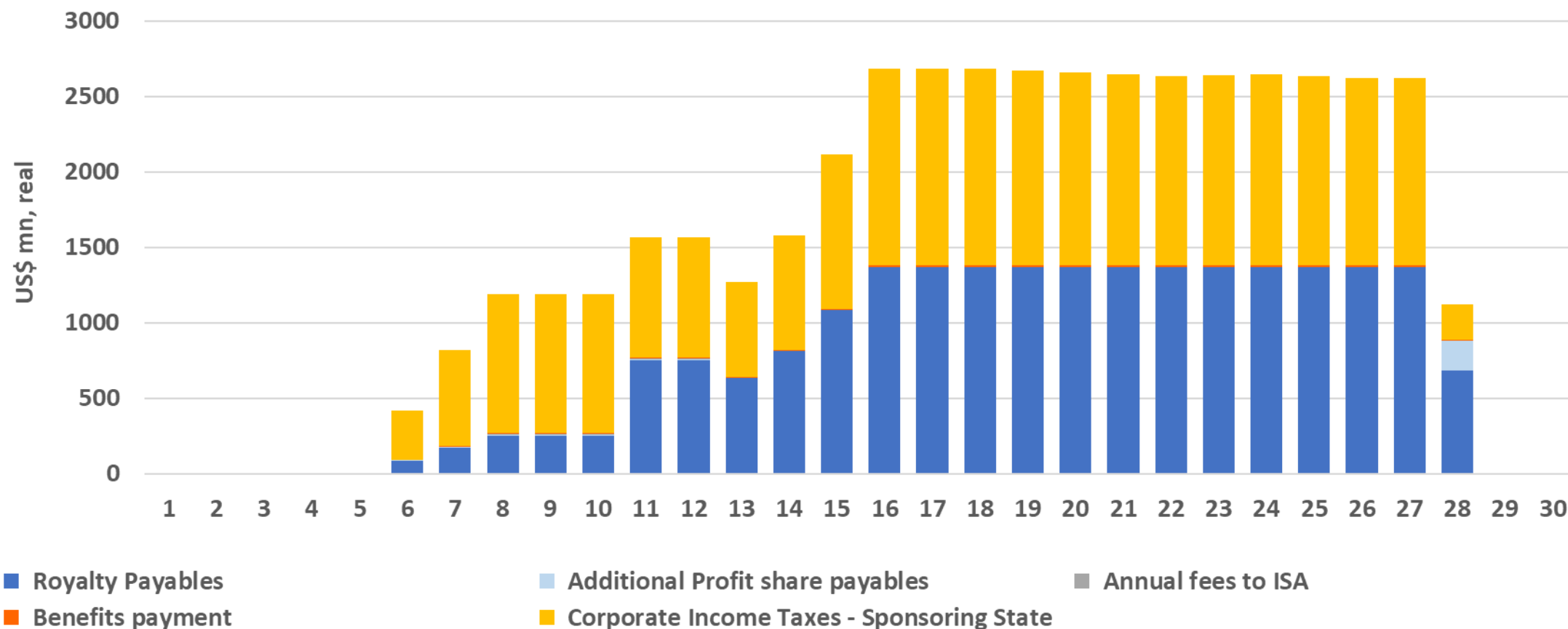
Estimated payments from NORI -D





Main results from the model

Estimated payments from NORI - TOML



An aerial photograph of a winding road through a dense forest. In the center of the image, there is a large, circular quarry or excavation site with a light-colored, sandy or rocky interior. The road curves around the quarry and continues through the forest. The entire image has a blue tint.

**Key considerations on the
payment regime informed by
the financial model**



Key considerations on the payment regime informed by the financial model

- Base royalty
- Environmental Externalities in Royalty System Design
- Equalisation measure: Additional Profit Share
- Financial Incentives
- Anti-avoidance provisions



Base royalty

- **Royalty rates: assumptions**
 - Stage 1- 2.5%
 - Stage 2- 7.5% (kicks in 5 years into production)
- **Royalty base**
- “ The royalty payable to the Authority for each royalty return period shall be (the product of the Applicable Royalty Rate multiplied by the **Aggregate Relevant Metal Value** for that royalty return period) calculated in accordance with the Standard and taking into account the Guidelines”
whereas
 - > “Relevant Metal means a metal contained in the mineral-bearing ore identified and determined in accordance with the applicable Standard”

Source: Suspense Document page 49



Base royalty

Discussion questions

- Choosing the Aggregate Relevant Metal Value as a base of the royalty is simple and transparent. The definition covers all metal removed from the deep seabed and does not require a market price for nodule, which does not yet exist.
- As in land-based mining, nodule processing will not recover 100% of the contained metal, however.
- In the NORI-D PFS, the company estimates a range of recovery rates by metal (next slide).
- Using these estimates, the total royalty payments as a share of nodule value would be:
 - 3.3 - 3.4 % during the first five years, 10 - 10.5 % afterwards.
 - Life of mine average: 8.9% for NORI – D / 9.6% for NORI – TOML
- Evolving refinery technologies may change recovery rates and payable terms in the future.
- If and when the industry starts at scale, a market price should develop for nodules, allowing the ISA to then review the rate and base of the royalty if the Council chooses to.



Base royalty

Expected recovery rates and payable terms in NORI – D PFS

Table 16.2 Metallurgical recoveries

Product	Recovery (%)
Alloy – nickel recovery – nodule to alloy	96.91
Alloy – cobalt recovery – nodule to alloy	93.06
Alloy – copper recovery – nodule to alloy	93.55
Matte – nickel recovery – nodule to matte	94.76
Matte – cobalt recovery – nodule to matte	77.54
Matte – copper recovery – nodule to matte	86.43
Sulphate – nickel recovery – nodule to sulfate	94.60
Sulphate – cobalt recovery – nodule to sulfate	77.20
Cathode – copper recovery – nodule to cathode	86.20
Manganese recovery – nodule to Mn Silicate	98.9

Source: TMC, CEA

Table 16.3 NiCoCu Alloy/Matte Payable terms percentage of LME benchmark prices

Payable Terms	LOM Average	2027-2031	2032-2036	2037-2045
Alloy - Payable Terms – Ni	65%	65%	65%	65%
Alloy - Payable Terms – Co	44%	42%	43%	45%
Alloy - Payable Terms – Cu	60%	60%	60%	60%
Matte - Payable Terms – Ni	80%	80%	80%	80%
Matte - Payable Terms – Co	60%	60%	60%	60%
Matte - Payable Terms – Cu	70%	70%	70%	70%

Source: CRU



Environmental Externalities in Royalty System Design

Environmental costs royalties

Environmental costs royalties shall “reflect the environmental externalities of the Exploitation activities permitted under the contract and throughout the value chain”.

Questions for consideration:

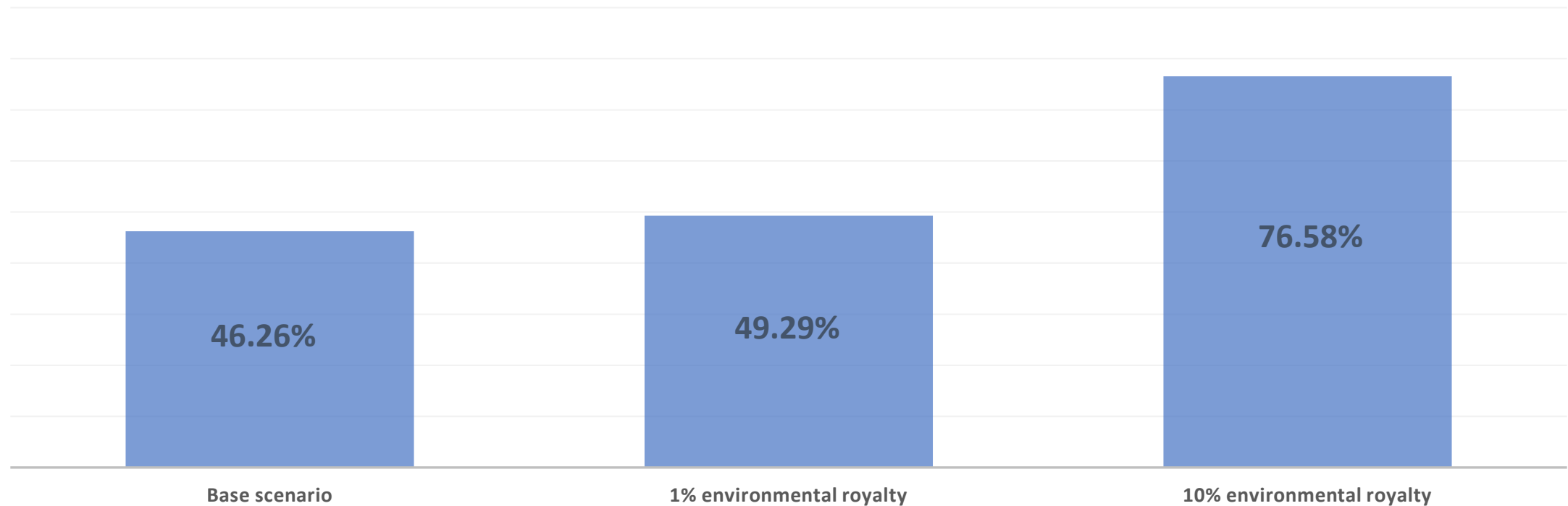
- Are there estimates of the environmental externalities of the Exploitation activities?
- When / how will the environmental costs royalties be defined?
- Will they apply equally to all contractors regardless of business models?
- Should environmental costs royalties be included in the average effective tax rate in the design of the payment system?
- Is it a possible / desirable outcome that the environmental externalities are so high that they make (some) projects uneconomic?



Environmental Externalities in Royalty System Design

Financial impact of increased royalties to account for environmental externalities

Average effective tax rate and additional environmental royalty – on NORI-D





Equalisation measure: Additional Profit Share

- The design of the equalisation measure should achieve the following:
 - a) A contractor that pays little or nothing to its sponsoring state pays more to the ISA; and
 - b) A contractor that makes significant payments to its sponsoring state pays little or nothing under the equalisation measure
 - c) A consistent minimum average effective tax rate applies to deep seabed mining regardless of the sponsoring state's corporate income tax policy



Additional Profit Share – general explanation

- Profit shares (or resource rent taxes) are not new. Examples include Angola, Australia, Cook Islands, Ghana, Guinea, Liberia, Malawi, Namibia, PNG, Sierra Leone, Timor Leste.
- Contractors would pay the ISA an additional profit share from which they could deduct covered payments paid to the sponsoring state in the previous year along with any covered payments paid to the sponsoring state in previous years and not yet credited against the profit share.
- Additional profit share design:
 - Rate: 25%
 - Base: Accumulated Profits = project cash flows
 - Adjustment factor (uplift on negative cash flows): 1.1



Additional Profit Share – general explanation

The additional profit share would be based on the contractor's **pre-tax cash flow**, which differs from the definition of income or profit under international accounting standards or various countries' tax rules. The most important elements are the following:

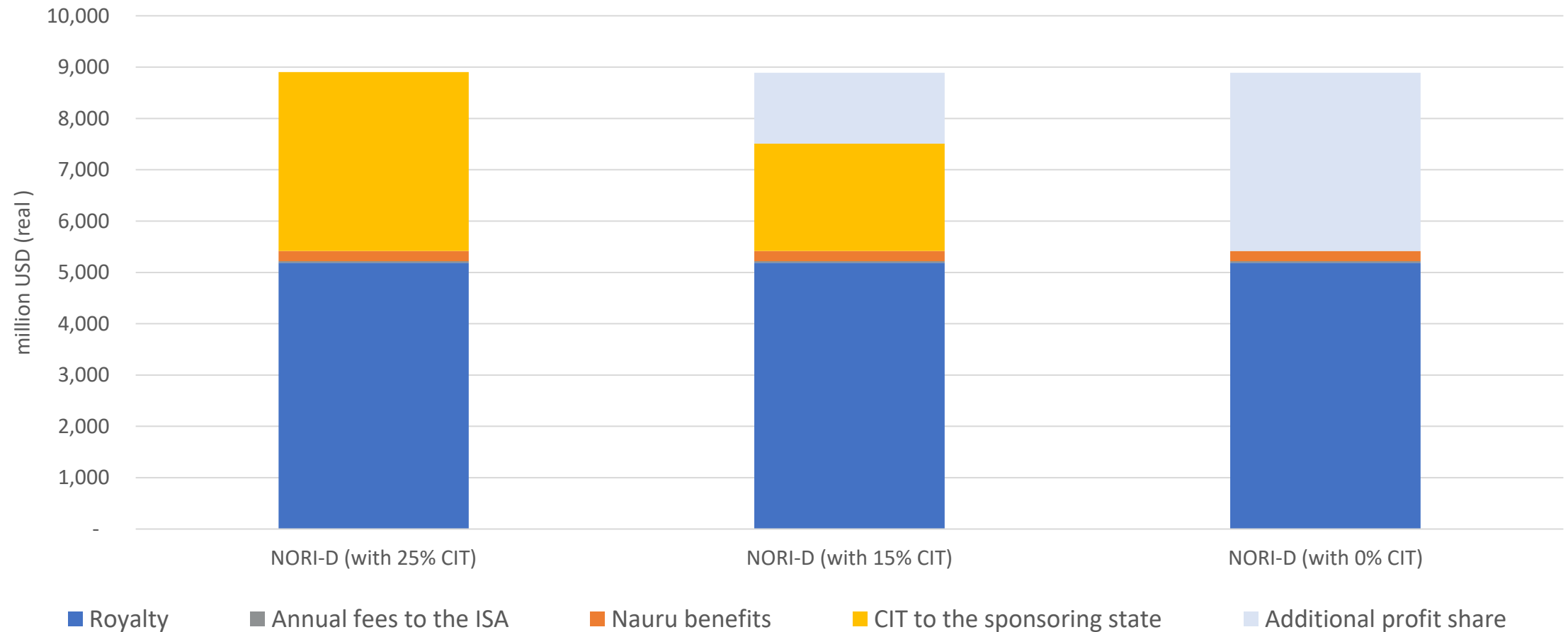
- Any cost incurred during exploration, development or production is expensed in full as negative cash flow when incurred. This includes capital expenditure; i.e., there is no depreciation. There is no capitalization, amortization provisions either.
- Sales and other types of revenues are included as positive cash flow only when they are realized.
- The cost of capital is approximated by applying an adjustment factor, i.e., an uplift on negative cashflows every year, as long as cash flows are negative. Therefore, such a profit share would be designed like a resource rent tax. This design justifies the fact that interest expense is not a deductible cost.

It is assumed that the additional profit share will only apply to contractors' extraction or collection business in the Area. Therefore, the extraction or collection business will be ring-fenced from other activities downstream, such as processing, when calculating pre-tax cashflows. Only CIT (and potentially other taxes) paid on extraction-related profits would be creditable against the profit share.



Equalisation measure: Additional Profit Share

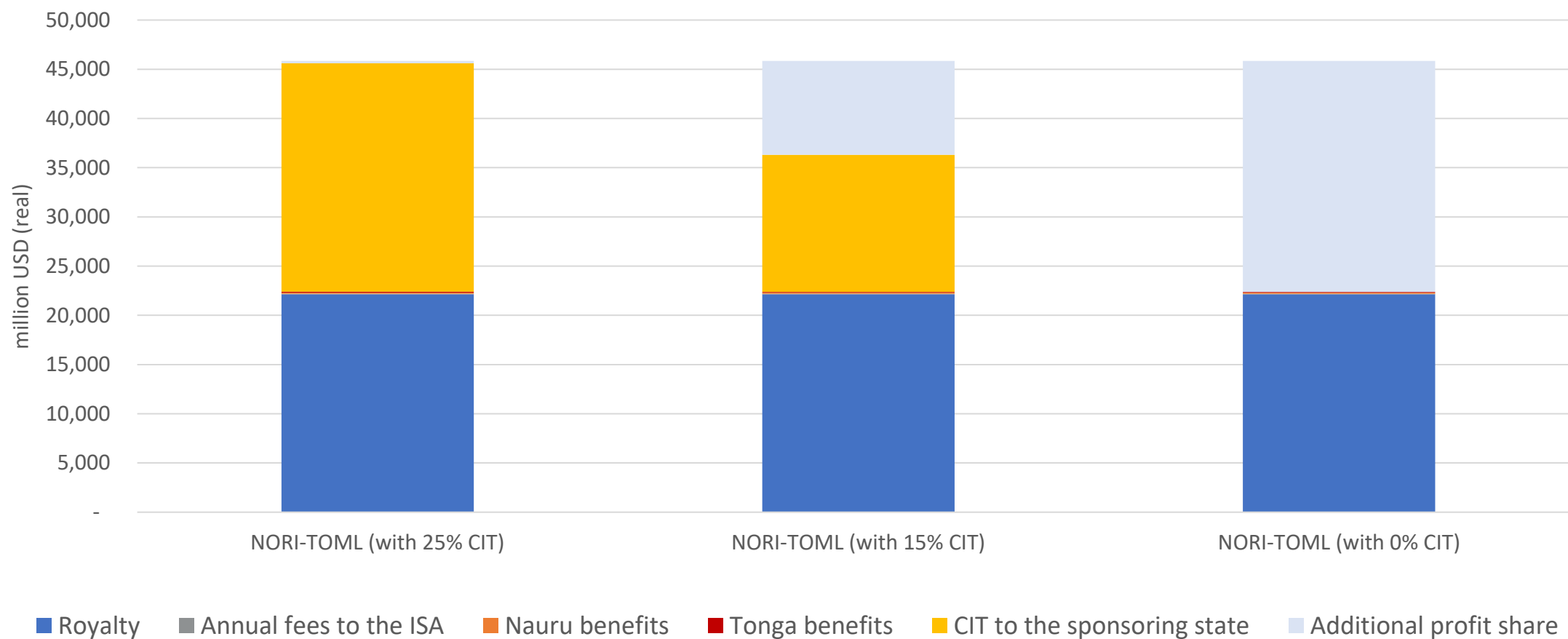
Equalisation measure with 25%, 15% and 0% corporate income tax rate: NORI-D





Equalisation measure: Additional Profit Share




Equalisation measure with 25%, 15% and 0% corporate income tax rate: NORI-TOML





Equalisation measure: Additional Profit Share

Discussion questions

- Under current assumptions in the model, the Additional Profit Share equalisation measure operates as intended:
 - a) A contractor that pays little or nothing to its sponsoring state pays more to the ISA; and 
 - b) A contractor that makes significant payments to its sponsoring state pays little or nothing under the equalisation measure 
 - c) A consistent minimum average effective tax rate applies to deep seabed mining regardless of the sponsoring state's corporate income tax policy 



Financial Incentives

Draft article 63

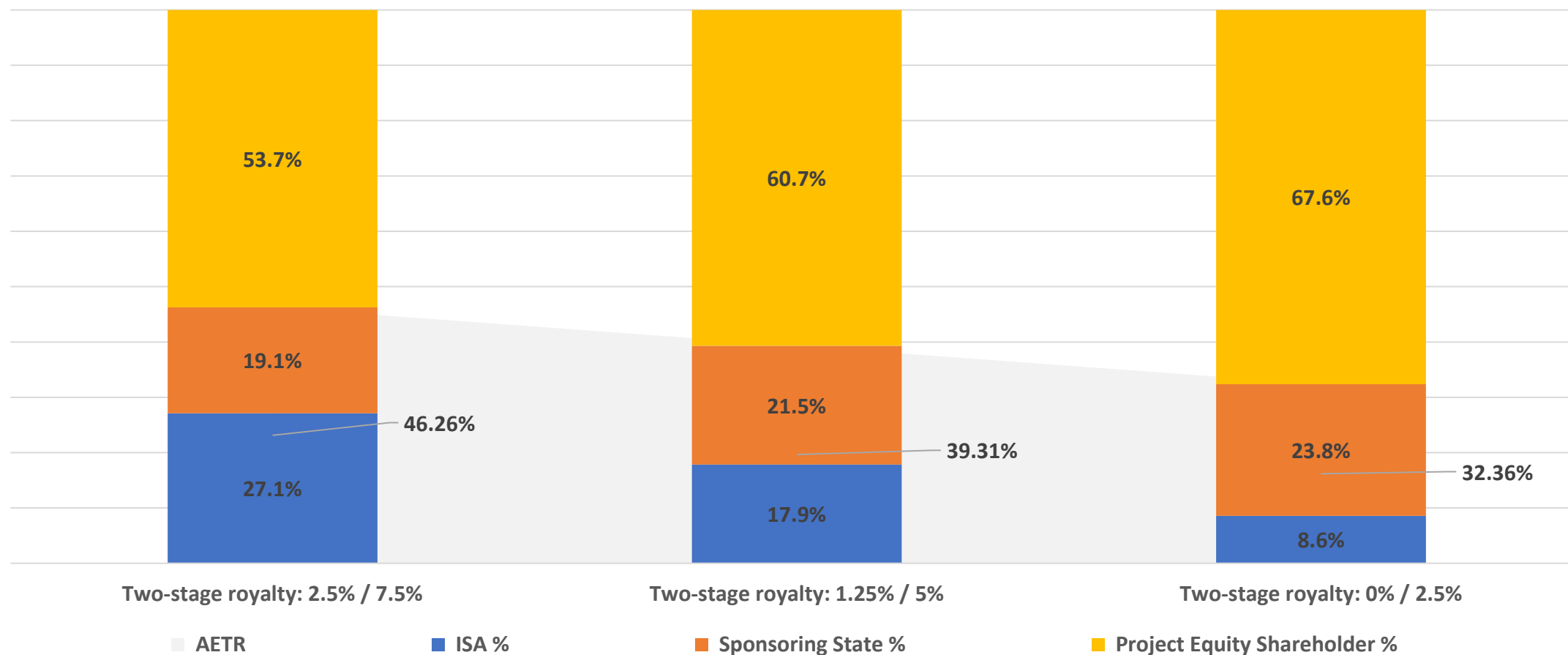
Questions for consideration:

- Would financial incentives be granted to some contractors only, or to all?
- Would financial incentives take the form of subsidies, or reductions in payment obligations?
- If the latter, would they be reductions to the annual fees, to the base royalty, to environmental costs royalties, or to the equalization measure?
- Implications of each:
 - Reductions to the annual fees to the ISA: minimal impact to Contractors' bottom-line
 - Reductions to the base royalty: lower AETR - competitive advantage with respect to other Contractors and/or to land-based miners.
 - Reductions to environmental costs royalties: undermines the objective of environmental costs royalties
 - Reductions to the (rate of the) equalization measure: would only benefit contractors that pay less than 25% CIT to their sponsoring state



Financial Incentives

Impact of a reduced base royalty on the average effective tax rate





Financial Incentives

Perspective from land-based mining

Why do land-based mining countries offer tax incentives:

- To continue extraction of tailings or lower-grade deposits towards the end of a mine's life.
- To encourage exploration, investment into remote areas or in projects with expensive infrastructure requirements.
- To help companies through the cyclical nature of the industry.
- To encourage domestic processing of minerals.
- To increase local content of labor or subcontractors or transfer technology to domestic companies.
- To encourage the industry to adopt higher standards in environmental management or energy use.

Does the ISA share any of these policy goals? If not, how are financial incentives justified?



Anti-avoidance provisions

As a profit-based mechanism, the equalization measure may be subject to avoidance. Some important anti-avoidance measures in land-based mining to replicate would be:

- Ring-fencing between contracts: *“The Additional Profit Share shall be calculated and paid separately for each Exploitation Contract.”*
- Ring-fencing from downstream activities: disallowance of *“any cost related to the importation or processing of polymetallic nodules or other resources outside of the Exploitation Contract area”*
- Limits on the deduction of financing costs: disallowance of *“any interest on loans or payment on any financial instrument that has similar characteristics to a loan”* – including overriding royalty?
- Subjecting intragroup transactions to transfer pricing rules: inclusion of the principle of arm’s length transactions. What would be the interpretative framework for this principle?
 - The global standards are the [OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations](#).
 - The guidelines can be used to determine what information should be disclosed in the Additional Profit Share Return regarding non arm’s length transactions (e.g., transfer pricing documentation).

Risks connected to subcontractors

Spending on subcontractors constitutes one of the largest value flows in the industry — often exceeding operator profit levels

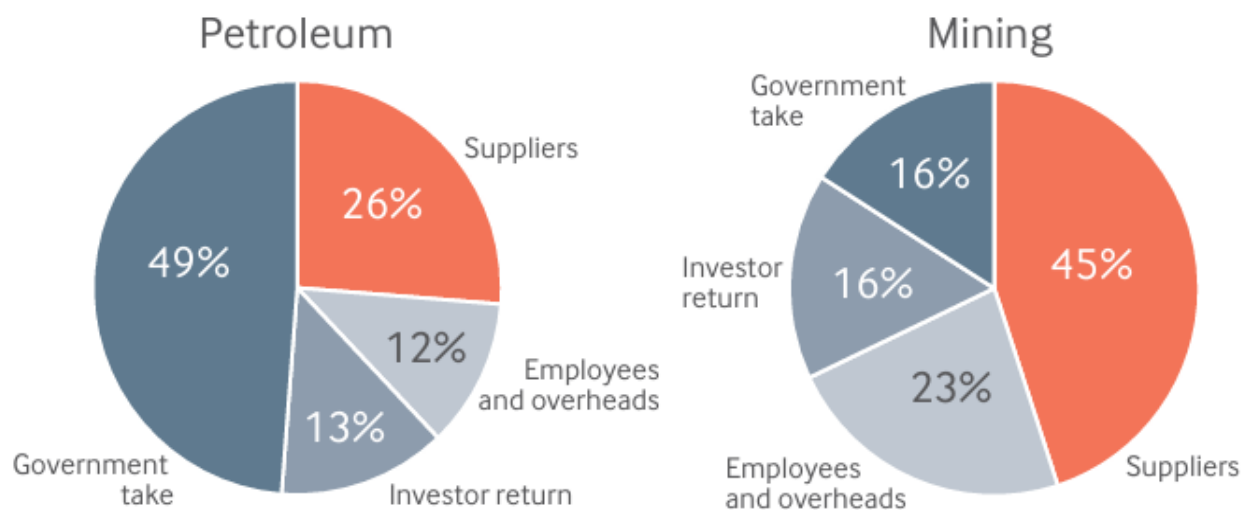
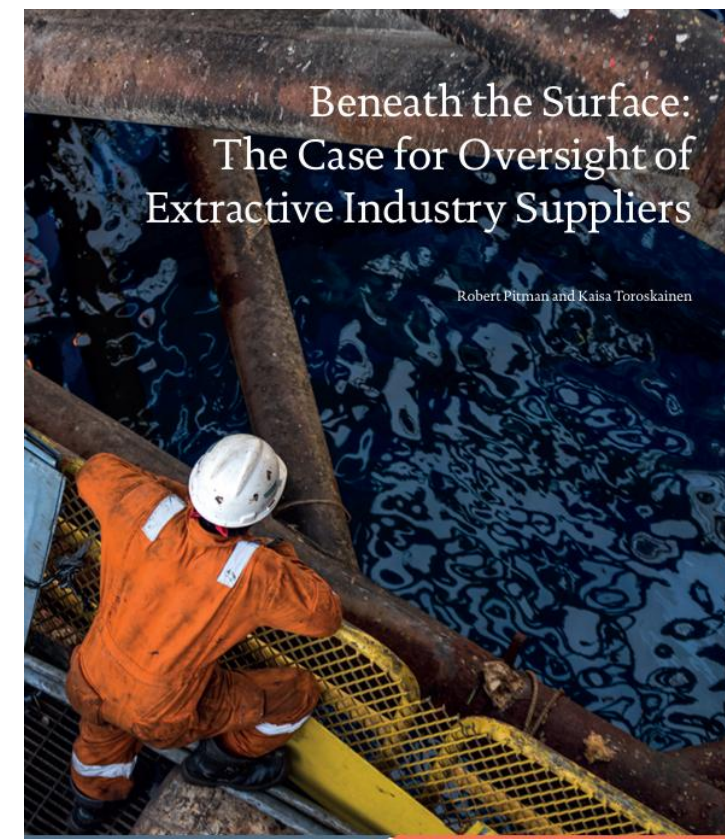


Figure 1. Distribution of gross revenues generated by extractive industries, cumulative 2000 to 2017¹⁰





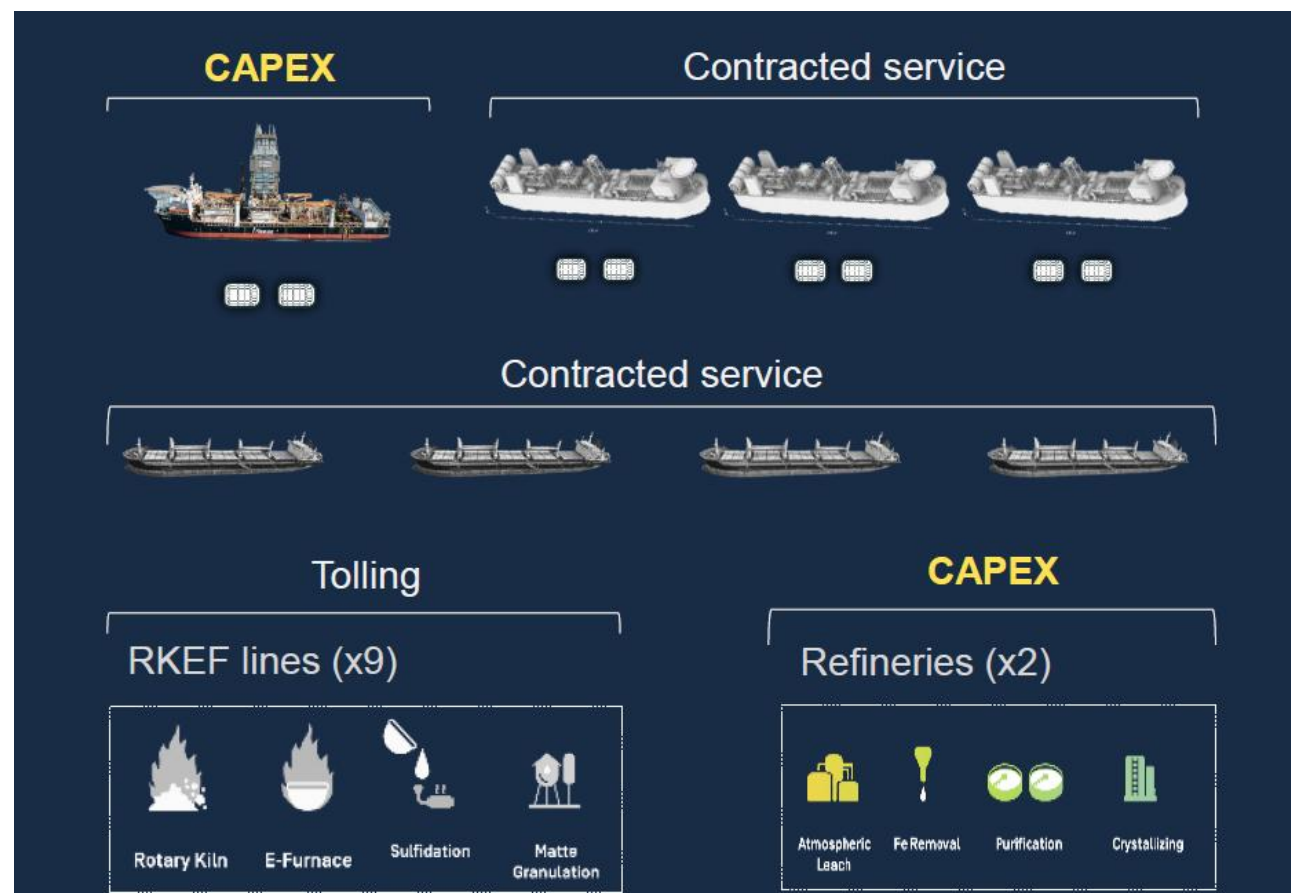
Risks connected to subcontractors

Any profit earned by subcontractors from operations in the Area would reduce the base of sponsoring states' corporate income tax, and the base of the equalization measure

TMC's "capital-light approach" means relying heavily on subcontractors. Will this be replicated by other contractors?

There could be risk of profit shifting between related parties.

Even without intragroup transactions, a large presence of subcontractors would reduce the tax base of ISA Contractors – and the potential impact of the equalization measure.



An aerial photograph of a construction site, showing a large pile of earth and several pieces of heavy machinery, including a yellow excavator and a green truck. The image is overlaid with a semi-transparent blue filter. Centered on the image is the text "Additional considerations on the profit share on transfers of rights" in a bold, white, sans-serif font.

**Additional considerations on
the profit share on transfers of
rights**



Profit share on transfers of rights

Common practice in land-based mining countries

The majority of countries tax capital gains (PwC, 2022).

- The survey considered 151 jurisdictions
- 133 of which have rules in their legal systems to tax capital gains.

Many countries also tax offshore indirect transfers of mining assets

- IGF has identified at least 28 that have a specific capital gains taxes for the indirect transfer of assets located in their territories. Many are resource-rich.



Offshore indirect transfer taxation in land-based mining: overview

Sample of resource-rich countries that tax offshore indirect transfers of mining assets

1. Argentina	15. Mexico
2. Australia	16. Mongolia
3. Cameroon	17. Mozambique
4. Canada	18. Namibia
5. Chile	19. Nepal
6. China	20. Papua New Guinea
7. Colombia	21. Peru
8. Ecuador	22. Senegal
9. France	23. South Africa
10. Ghana	24. Tanzania
11. Guinea	25. Uganda
12. India	26. UK
13. Kazakhstan	27. Uruguay
14. Kenya	28. Vietnam

Common practice in land-based mining countries

Designing a Legal Regime to Capture Capital Gains Tax on Indirect Transfers of Mineral and Petroleum Rights:

A Practical Guide

Perrine Toledano

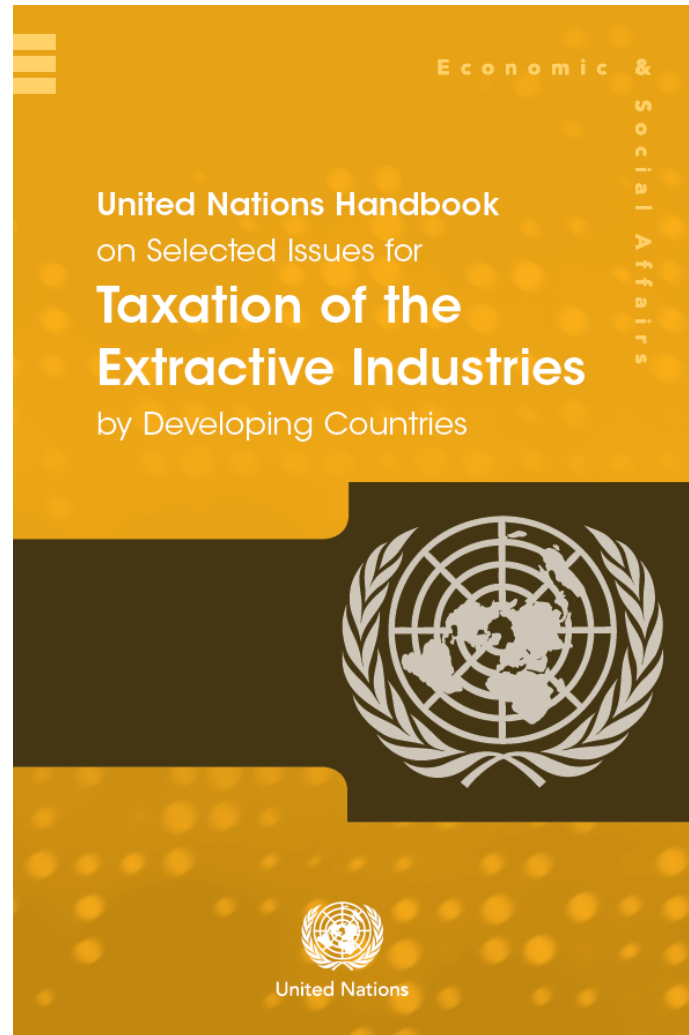
John Bush

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October 2017



The Platform for Collaboration on Tax

The Taxation of Offshore Indirect Transfers— A Toolkit

International Monetary Fund (IMF)
Organisation for Economic Co-operation and Development (OECD)
United Nations (UN)
World Bank Group (WBG)

This document has been prepared in the framework of the Platform for Collaboration on Tax (PCT) under the responsibility of the Secretariats and Staff of the four organisations. The work of the PCT Secretariat is generously supported by the Governments of Japan, Luxembourg, the Netherlands, Norway, Switzerland, and the United Kingdom. This report should not be regarded as the officially endorsed views of those organisations, their member countries, or the donors of the PCT Secretariat.

The toolkit has benefited from comments submitted during two periods of public review, August–October, 2017 and July–September, 2018. The PCT partners wish to express their gratitude for all submissions received.



Elements required to design a profit share on the transfer of rights

- Right to collect a profit share: legal basis to a profit share from the sale / transfer of rights
- Sourcing rule: what falls within scope
 - Exploration / exploitation rights in the Area
 - Sale of shares that derive X% of their value from exploration / exploitation rights in the Area
- De minimis threshold: the minimum interest % in the asset that has to be transferred to trigger a profit share
- Rate of profit share: what % of the gains on the transfer of rights is paid to the ISA
- Base of profit share: how the gains are determined
- Liability: which entity is liable to pay the profit share, in case the seller does not comply
- Enforcement mechanisms: how to ensure effective collection –withholding mechanism, documentation and transparency, exemptions for internal reorganizations

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THANK YOU

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