Disruptive enclaves and risky politics. The challenges of making mining work for sustainable development

Views from several H2020 projects

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Antwerp, 26 November 2019

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Can mining stimulate sustainable development?

It depends…

- What kind of mining?
  - What for?

- **Management of impact** of mining and minerals processing
  - Economic
  - Social
  - Environmental
  - Political and cultural

Overview

- Context
  - Demand for resources
  - Recycling
  - Mining: past, present and future
- Challenges of governance of mining
- Social License to Operate
- Final thoughts

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Context

Demand for resources

Mining vs recycling

Present and future of mining

- Mineral resources extraction has increased at a **faster rate than economic growth**.
- Extractive sector could **struggle to meet demand** over next 2-3 decades for several minerals for which substitutes not readily available.
- Risk of **price volatility** that could hamper efforts to deliver enduring benefits for resource-rich countries, coupled with **environmental and social risks**.

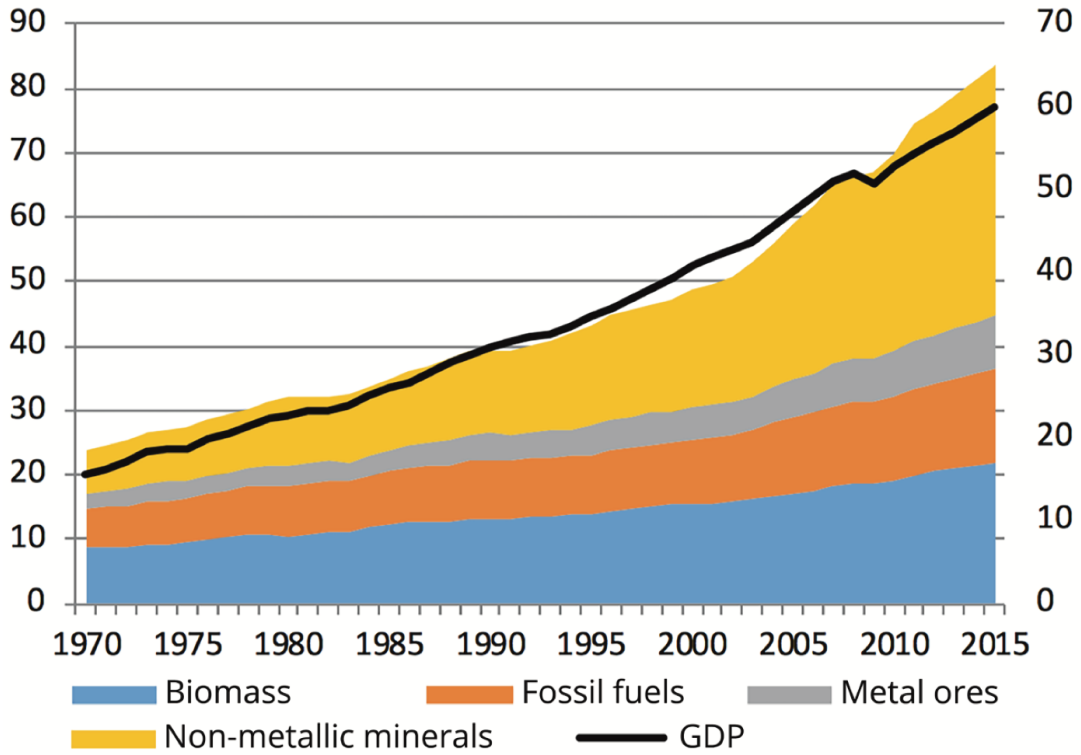


Figure 1: Global material extraction in billion tonnes (LEFT SCALE), global GDP (RIGHT SCALE) in trillion US dollars[1]

Source: IRP 2017 - Resource Efficiency

Context

Increasing need for materials

- **Consumerism, capitalism**
- **Transition** to a low-carbon economy

- **Low recycling efficiencies,** especially for Critical Raw Materials (CRM).
- Even 100% **recycling** cannot address the current* *need* for (a lot of) primary mining

http://www.ceeweb.org/wp-content/uploads/2012/03/RCC_policy_document_20131.pdf

Jones, P. T. (2018) Socrates-Metgrow+ Policy brief.

A parenthesis about recycling

- Recycling efficiency is increasing but still low
- Technological advances and barriers
- Process economics (recycling vs landfill)
- Material losses & exergy
- Design for recycling
- Product cycle & end of life
- Waste collection & transport
- Recycling vs reuse vs repair.

⇒ Is **circular economy** a myth?

For more information about circular economy, see: Ellen MacArthur Foundation

Mining

- **Bad reputation:** ‘dirty business’.
- Highly diverse sector
- Mining heritage
- (‘Highly publicized’) accidents (e.g. Brumadinho)

Created by Gan Khoon Lay
from Noun Project

>< The industry is desperately trying to convince the public they have improved. New discourse: link to renewable energy and societal benefits.

⇒Is the mining sector in denial?
Precautionary principle? (too) large scale impact?

Cobre las Cruces (Sevilla, Spain)

Has the ‘mining sector’ changed?

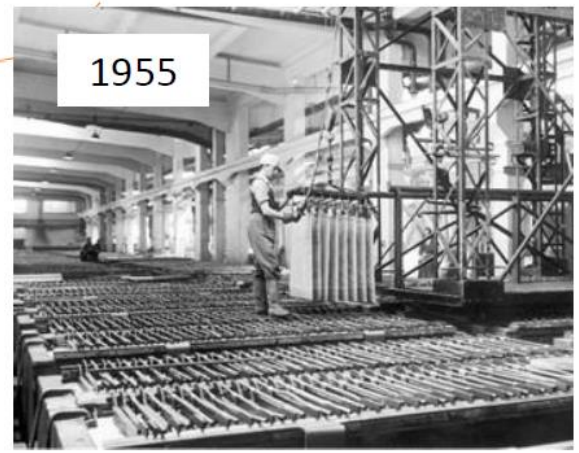
‘Mining’ is a highly diverse sector!!

Mining	Past	Future
Goal	Profit making (e.g. gold)	Resources for applications
Owner	Mining company itself	Shareholders; large groups aim to control the value chain
Operations	One company, A-Z	Various subcontractors Multiple stakeholders
Resources	Reachable, higher % in the ‘simple’ ores	Difficult access, low(er) grade and complex ores; more varied elements
Scale	Underground, local artisanal mining to open pit	Super open pits; mixed
Opex – capex	Labour intensive	Capital intensive
	# years from exploration to exploitation has increased; In EU, the process has generally become more bureaucratic	

Has the mining sector changed?

- Increased efficiencies, but slow and costly process? Innovation vs risk averse?

Copper tankhouse



- small cells (440)
- Starting sheets
- Cathode harvesting with current off
- Cast Pb-Sb anodes

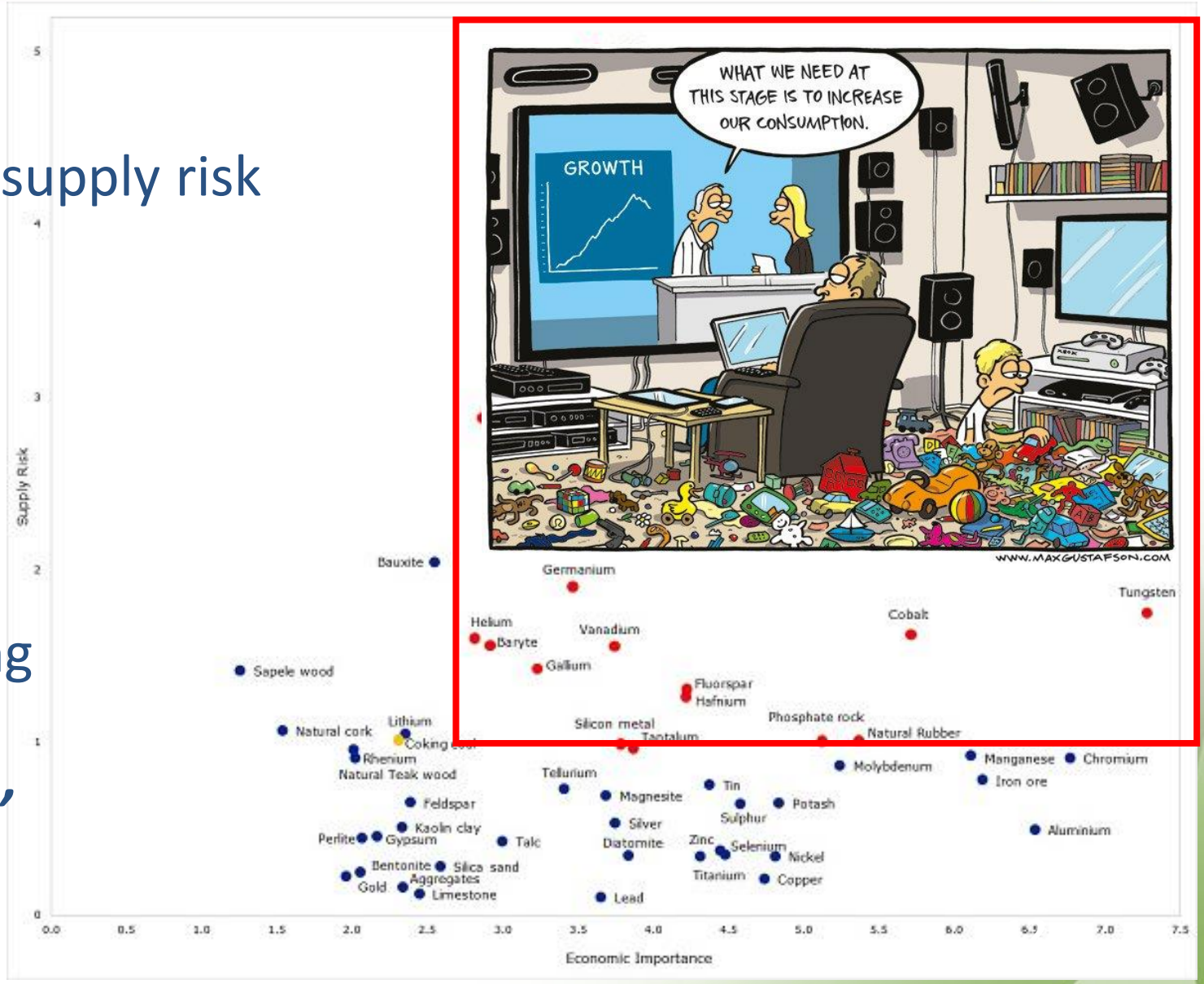
- High energy consumption
- Escalating costs
- Operational & HSEC challenges

NIKKELVERK
A GLENCORE COMPANY

European context

- **Critical Raw Materials** list
  - Economic importance x supply risk
- Import vs mining in EU?
- EC calls for strategies to **engage civil society** to **build trust** in the EU mining and recycling sector:

⇒‘***Social License to Operate***’



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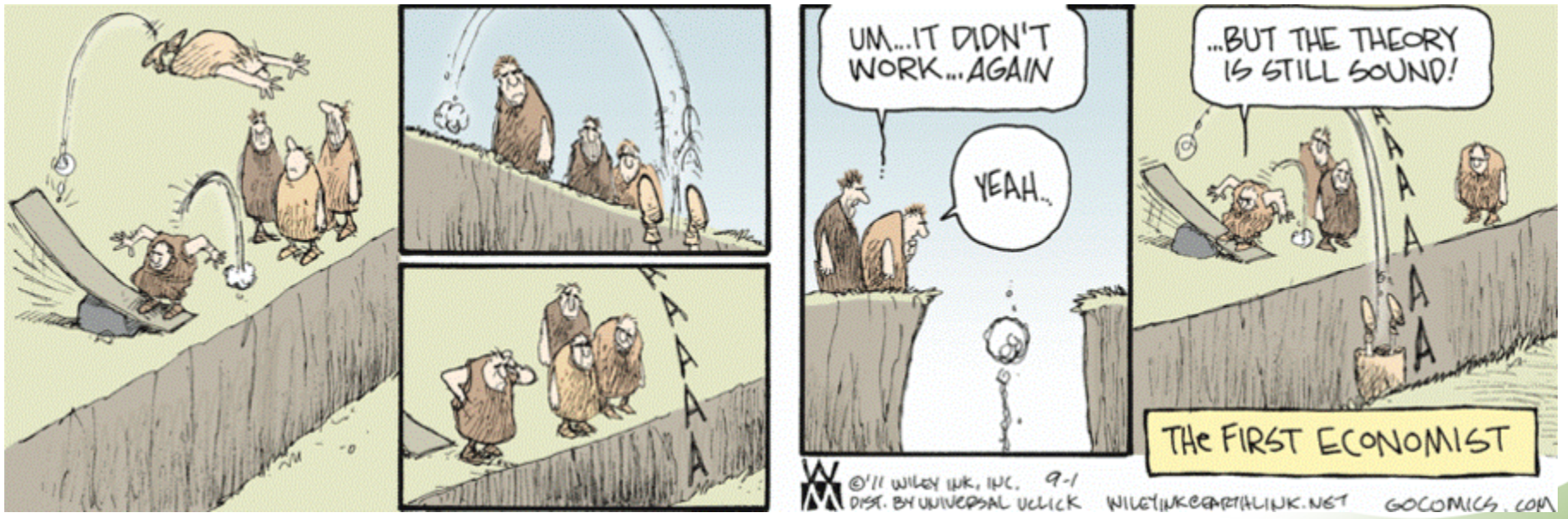
Governance challenges of mining



Governance challenges of mining

- Negative and **enduring impacts** of mining: environmental, social, economic, cultural and political.
- **Uneven distribution** and **finite nature** of mineral resources, feeding geo-political risks.
- **Enclaved** nature of the mining sector in many countries.
- **Volatility** of commodity prices, macro-economic effects.
- Difficulty of managing large and **volatile capital inflows**.
- **Information and power asymmetries** between governments and companies, technical complexities of large-scale projects.
- **Lack of accountability and transparency**.

The way forward?

Governance of mining today

- UNEP IRP: "*Growing recognition that a* well-managed *mining sector can* ***potentially*** *support wide range of development outcomes across the SDGs*" (e.g. Development Minerals Programme)
- Variety of **governance frameworks and instruments** at multiple scales that seek to reinforce the social, environmental and economic outcomes of mining: e.g. Africa Mining Vision, EITI, GRI, Model Mining Development Agreement, IRMA, Natural Resource Charter, ICMM, etc.

  >< represent only piecemeal efforts

  >< often fail to be implemented at the national level

- **'Social License to Operate'** (SLO) processes are more commonly used to secure consent and involvement of local community stakeholders.
  - EY considered SLO the **#1 business risk** in 2019-2020

Antonio Pedro (2019)

License to Operate as a ‘business risk’

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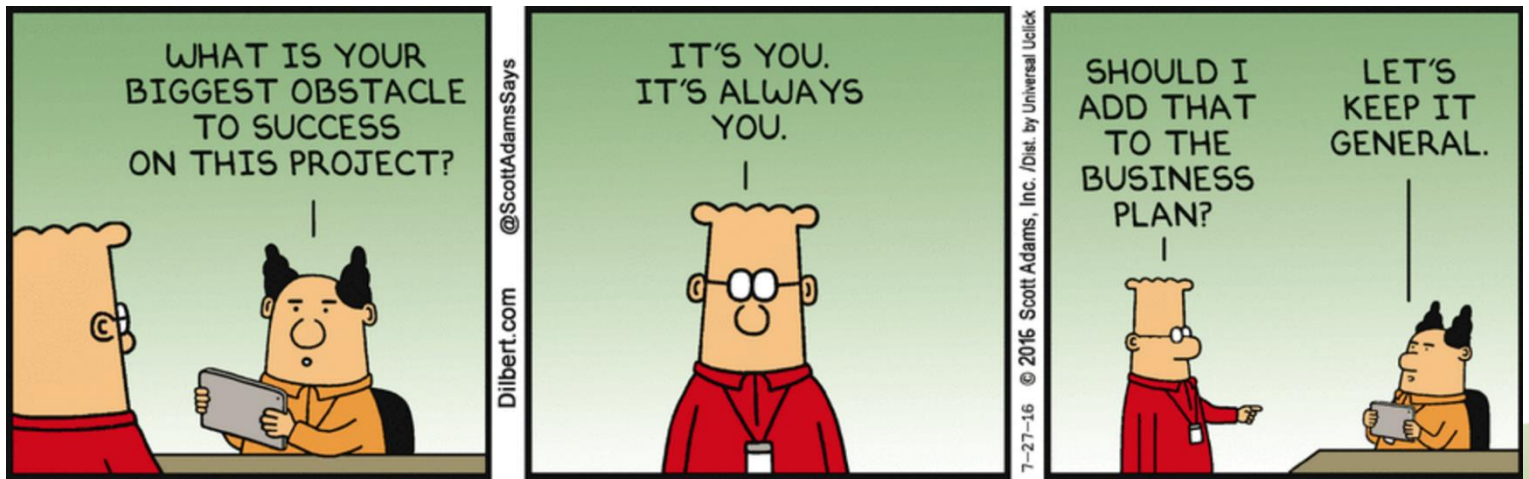
From CSR to Social License to Operate

Green washing or a true opportunity?



Social License to Operate

- '90s: bad reputation + increasing **cost of conflict**: poor environmental practices => social perception and reputation => financial performance.
- Jim Cooney: "Social License to Operate": **desire to control** the relationship with project stakeholders (e.g. reputation management, information gathering and provision, strategic planning tools).
- Range from voluntary governance schemes (CSR?) to legally binding.
- Perceived overlap with the impact assessment (EIA public consultation)

- 2000s onwards: SLO expands: energy, agriculture, forestry, paper industry, etc.

(Moffat et al., 2016)

Social License to Operate

- Definition: *"the ongoing acceptance and/or approval of an industrial activity by a set of relevant stakeholders"*

  - Acceptance? Approval? Permission?
  - Granted by who?
  - How/Who can revoke?

⇒Metaphor, 'soft law': the **level of 'acceptance'** that companies receive from local communities, broader society and public bodies.

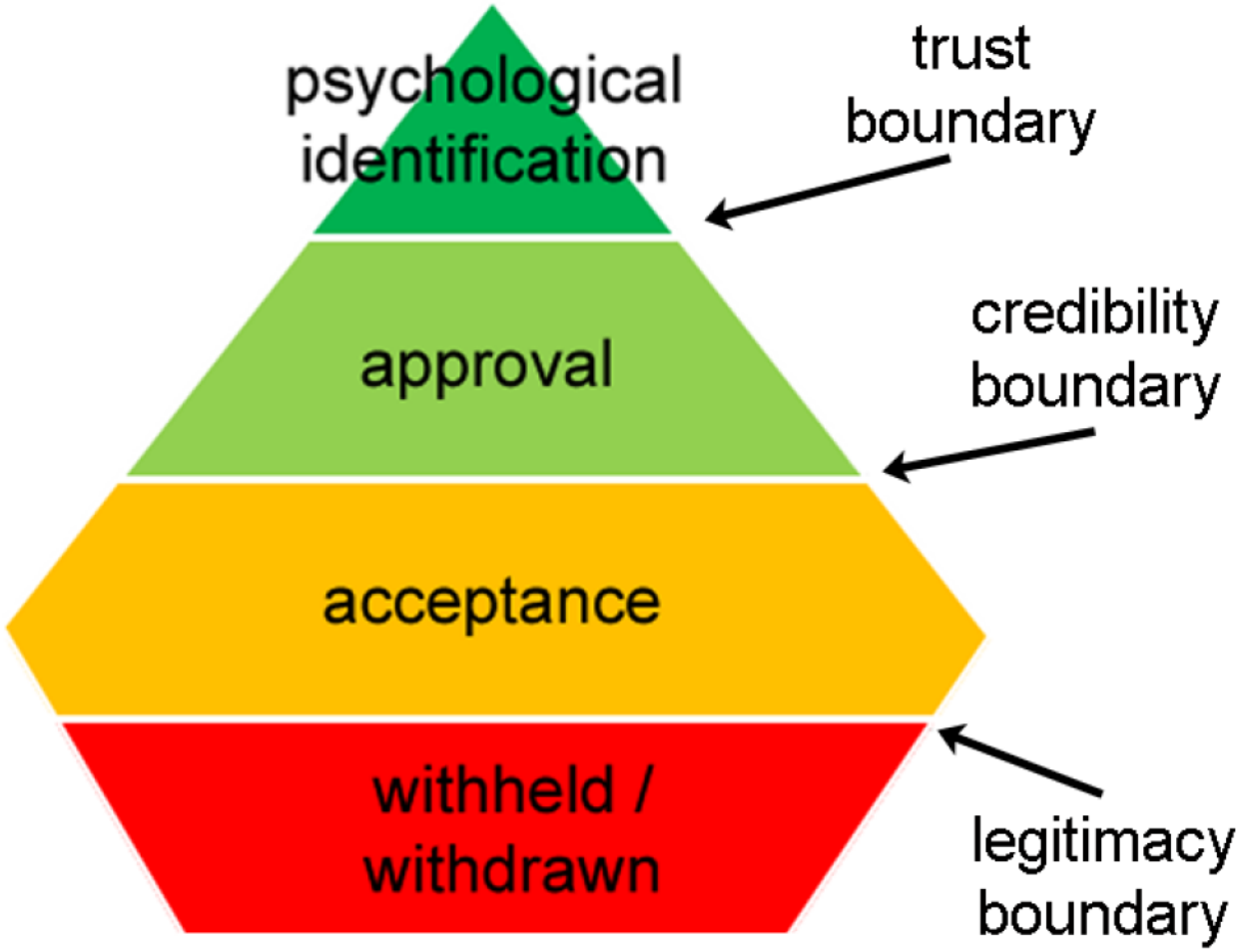
(Moffat et al., 2016)

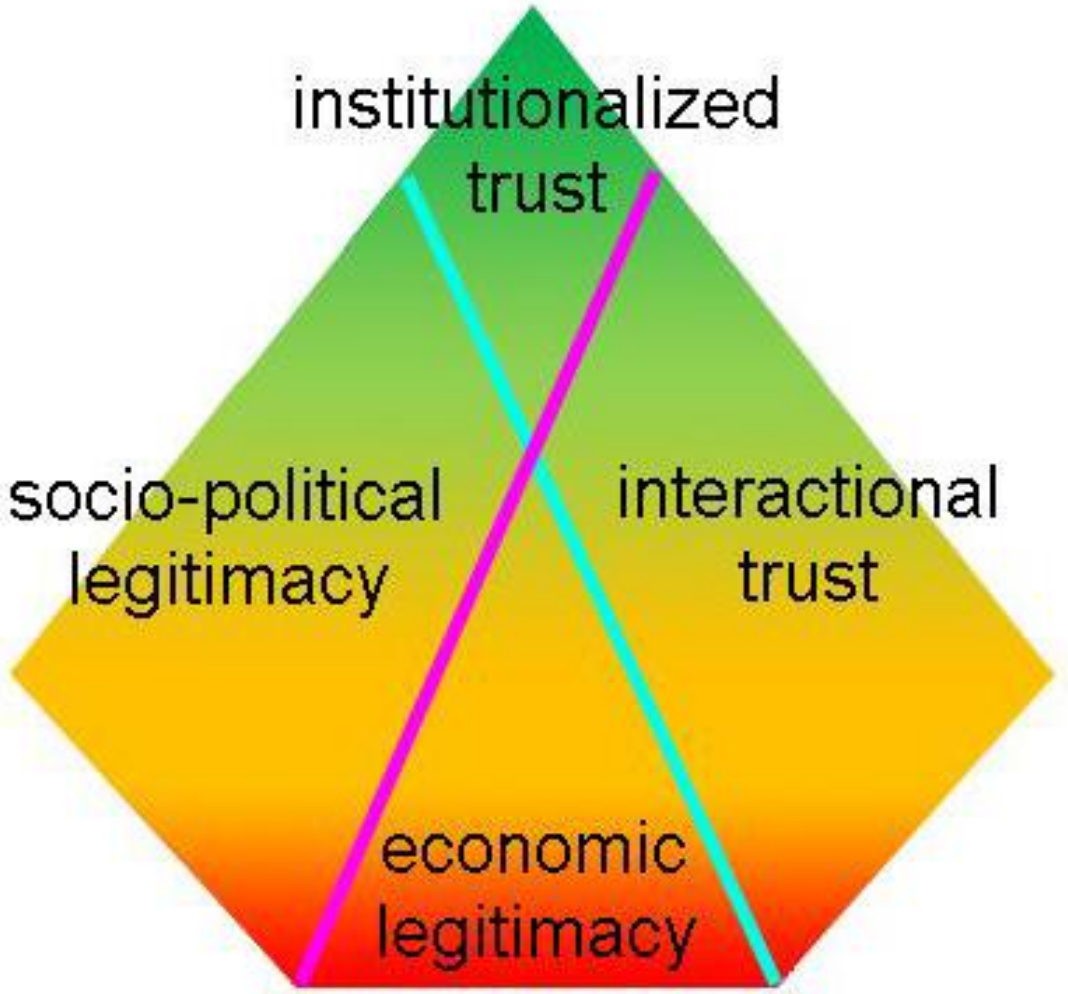
Social License to Operate

- **Inclusive** concept; depends on **relationships**: local communities and **participation** of civil society in the management and regulation of natural resource exploitation.
- Rooted in the **beliefs and perceptions** a local community and other stakeholders.
  - Trust, confidence, knowledge; demands and expectations; dependence on operations?
- SLO reviews performance of company + involvement of citizens in decision making
- **Dynamic** and changing reflection of the quality and strength of the **relationship** between an industry and a community of stakeholders.

(Moffat et al., 2016)

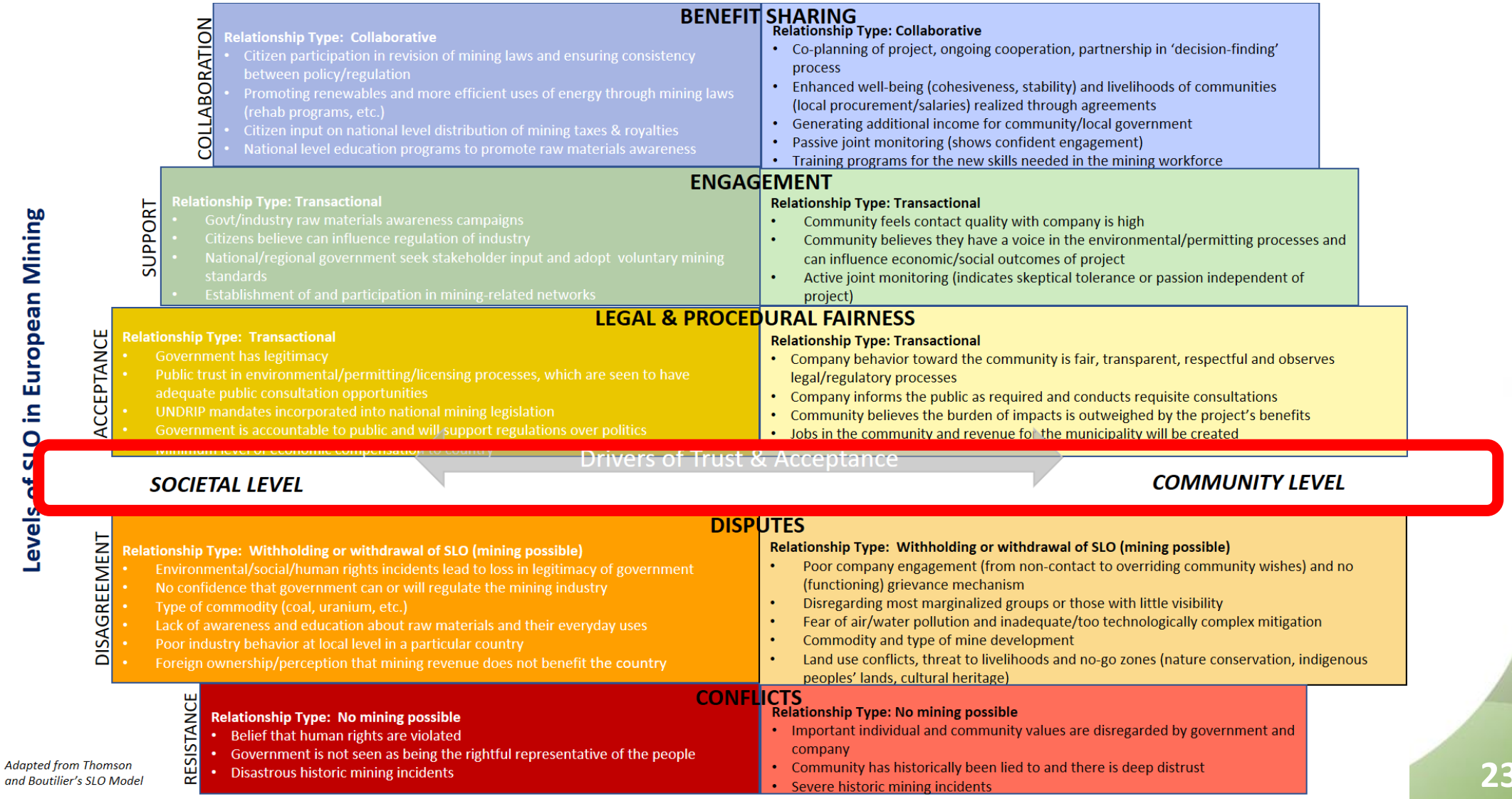
SLO Models





Boutilier, R. G., & Thomson, I. (2011).

SLO Models



Adapted from Thomson and Boutilier's SLO Model

Pamela Lesser & MIREU project (2019).

Review SLO literature

- Focus on ‘S’

  >< often ignores diversity within ‘local community’

  >< but S includes/implies economic, environmental, cultural, political impact

- Confusion about ‘L’: it is a relationship, not a ‘license’

- **Little consideration of ‘O’**

- (UNEP IRP: towards ‘*Sustainable Development* License to Operate’?)

Meesters, M. et al. (in preparation)

Critique on SLO

- Leida Rijnhout: *“empty-container concept, which is too voluntaristic and is prone to greenwashing activities by international mining co-operations.”*
- Meesters: *“SLO is too ambiguous; its translation 'in the field' remains problematic.”*

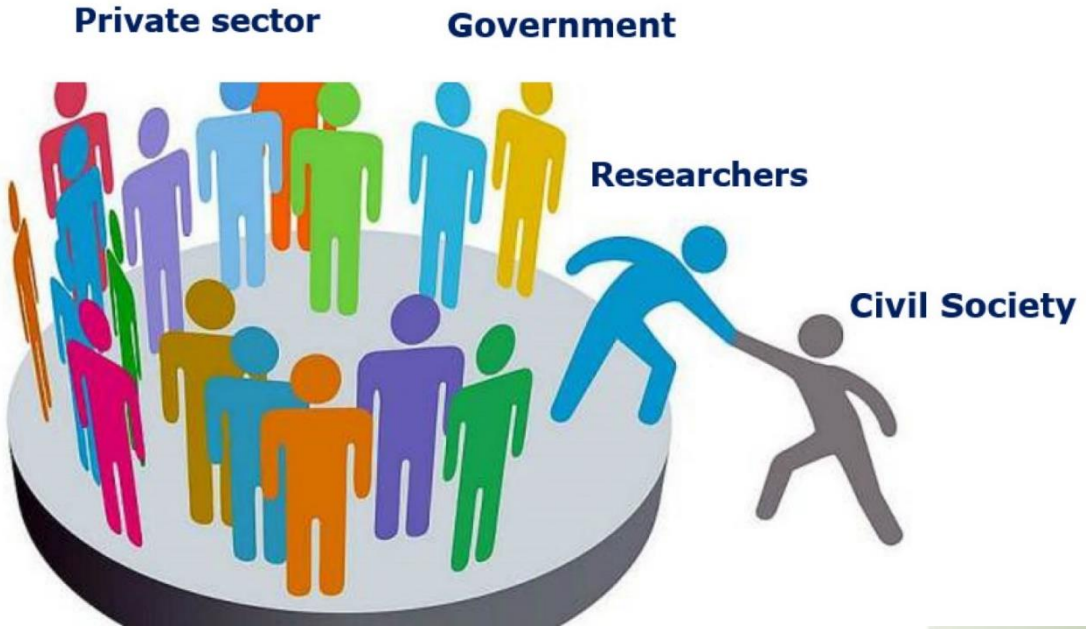
In **Global South**: SLO influenced by power relations and democratic structures (=> “the poor sell cheap”).

<> In **Western context**: strong(er) democratic structures; highly organized civil society.
The SLO concept might be more relevant in an EU mining context?

Jones, P. T. (2018)

SLO in practice

- ~Example: Community Development Agreements
- Extremely sensitive
- Confusing SLO vs awareness raising
- Product vs process



- Willingness for a long term dialogue? Who is at the table?
  CSO vs NGO vs industry? Common ground for dialogue?
- *“The industry needs the resources from the territory of a local community… more than the local community needs the industry.”*

Case study - SLO in Belgium

- Constructive interaction between company, researchers and local community
- Long term process: the trust of the local communities has steadily grown.

⇒ The ‘De Locals’ group co-designs and co-implements the project + bridge to community.

But dialogue is not enough!?

⇔ A small group of people continues to resist the project.

CSR vs SLO

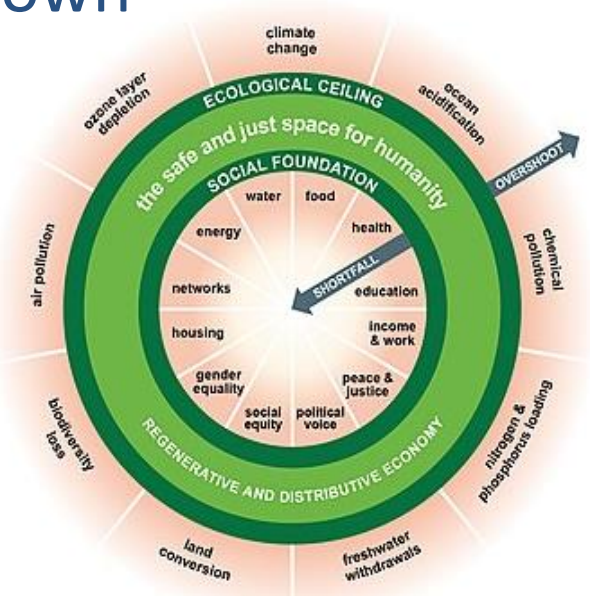
- Whose business? Which stakeholders/shareholders?

- Can SLO evolve from **risk management** towards **value creation**? Towards a pro-active stakeholder engagement?

- A quieter processes of negotiation, persuasion, manipulation and seduction?
  Or
  A true opening for mining companies to stimulate locally based, comprehensive **sustainable development**?

Final thoughts

- Sustainable development needs ~~mining~~ (*resources*)
  - Transition to low-carbon economy <> Climate breakdown
- Governance issues of primary mining
- Opportunities of Social License to Operate?
- The ***way*** mining is done is not questioned (enough)



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⇒Sustainable development needs…

- Less demand for materials
- More re-use, repair and recycling +truly circular economy
- System change, degrowth & stakeholder dialogue

References

- Boutilier, R. G., & Thomson, I. (2011). Modelling And Measuring The Social License To Operate: Fruits Of A Dialogue Between Theory And Practice. *Invited Paper Presented at Seminar Entitled, "The Social Licence to Operate" at the Centre for Social Responsibility in Mining, University of Queensland, Brisbane, Australia.*, 10.
- IRP (2019). Mineral Resource Governance in the 21st Century. Gearing Extractive Industries Towards Sustainable Development. Elias T. Ayuk, Antonio M. Pedro, Paul Ekins, Bruno Oberle, Julius Gatune, Ben Milligan. A Report of the International Resource Panel. United Nations Environment Programme, Nairobi, Kenya.
- Jones, P. T. (2018). Symposium on Social License to Operate for the Mining and Recycling of Critical Metals: Five Lessons Learned. Retrieved March 8, 2019, from http://kuleuven.sim2.be/wp-content/uploads/2018/03/SOCRATES_METGROW_PolicyBrief_SLO_MARCH2018.pdf
- Lesser et al., (in preparation). Modeling the Social License to Operate – experiences from the Mireu project.
- Meesters, M., van Leeuwen, J., Behagel, J., Turnhout, E. and Wostyn, P. (in preparation). The Social Licence to Operate as a tool for legitimacy.
- Moffat, K., Lacey, J., Zhang, A., & Leipold, S. (2016). The social licence to operate: a critical review. *Forestry*, *89*(5), 477–488. https://doi.org/10.1093/forestry/cpv044
- NEW-MINE (2017). ETN NEW-MINERS meet 'DE LOCALS' of Remo Enhanced Landfill Mining (ELFM) site. Video https://youtu.be/mptOoqJU9OQ
- Pedro, A. (2019). Gearing Extractive Industries Towards Sustainable Development – webinar on July 8.

Other sources

- Belgian organization tackling the mining issue: catapa.be/en/
- About Circular Economy: www.ellenmacarthurfoundation.org/circular-economy/what-is-the-circular-economy
- ACP-EU Development Minerals Programme: developmentminerals.org/
- UNEP International Resource Panel

- Savage, G. T., Bunn, M. D., Gray, B., Xiao, Q., Wang, S., Wilson, E. J., & Williams, E. S. (2011). Stakeholder Collaboration: Implications for Stakeholder Theory and Practice. Journal of Business Ethics, 96(S1), 21–26. doi:10.1007/s10551-011-0939-1