



IGF

INTERGOVERNMENTAL FORUM
on Mining, Minerals, Metals and
Sustainable Development

Session 6: Voluntary Sustainability Initiatives for the Mining Sector

Tuesday October 17th 2017



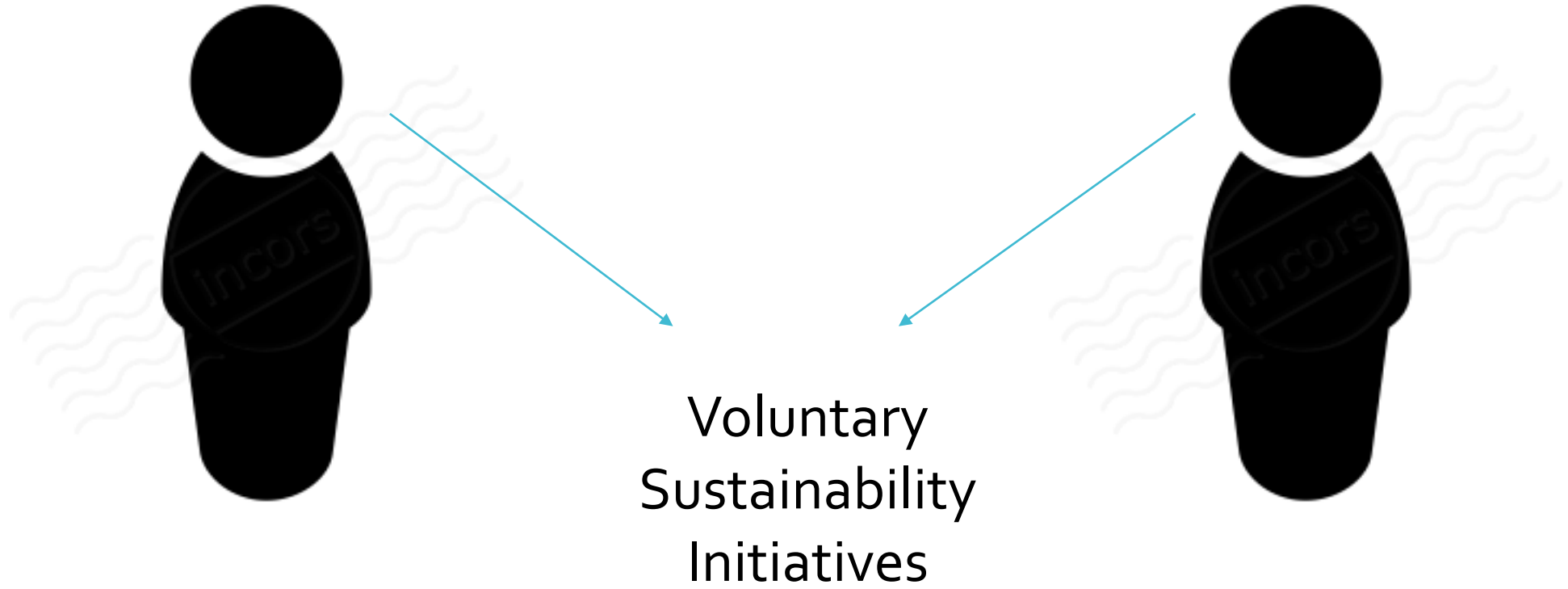
2018
SSI Review:
Standards, Mining
and the Minerals and
Metals Supply Chain

- Jason Potts
- Matthew Wenban-Smith
- Matthew Lynch
- Laura Turley

Voluntary
Sustainability
Initiatives



Public
Policy

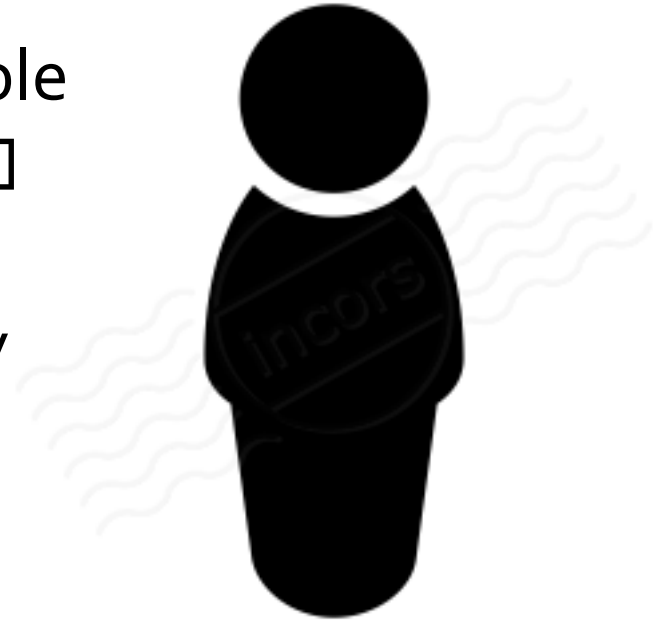




Tools for Sustainable
Development ✓□

Important to pay
attention to ✓□

Governance >
Government ✓□



Two Parallel Rule-Making Regimes

Governed by the
Market

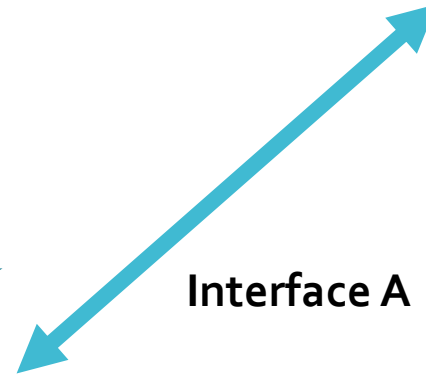
Governed by Public
Institutions



Interface B



**Voluntary Sustainability
Initiatives (VSIs)**



Interface A

Interface A

public policy → VSIs

VSIs as responses to the expansion or contraction of national regulatory policy.

Interface A

VSI → public policy

Target identification

Incorporation

*Broadening support for progressive policy
intervention*

Interface B

Balance of regulatory and market forces for sustainable development

E.g. Markets – allocation of resources and risk

E.g. Public policy – sets the framework for market operation, correcting imperfections and externalities, enforcement of rule of law

Conclusions

- *A mix of regulatory and market based instruments is desirable*
- *Tendency for number of standards to increase, in absence of coordination*



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CARE Analysis

- IISD CARE analysis
 - Coverage
 - Assurance
 - Responsiveness
 - Engagement
- Aims to identify and highlight differences between initiatives
- Goes beyond discussion of 'high' and 'low' standards
- A starting point for understanding how different initiatives embody sustainability principles in relation to governance and application, as well as narrow rules

Initiatives in the CARE analysis

- mine level standards;
- which aim to cover broad spectrum of 'sustainability' issues;
- across major commodities

Initiatives in the CARE analysis

Large-Scale Industrial	Stone & Aggregates	Artisanal & Small-Scale
Aluminium Stewardship Initiative (ASI)	Cornerstone Standards Council (CSC)	ARM Fairmined (FM)
Bettercoal (BC)	Fairstone (FS)	Fairtrade Gold and Silver (FT)
International Council on Mining and Metals (ICMM)	Natural Stone Council (NS)	
International Finance Corporation (IFC)	The Forest Trust (TFT)	
Initiative for Responsible Mining Assurance (IRMA)	Xertifix (XF)	
Responsible Jewelry Council (RJC)		
Responsible Mining Index (RMI)		
Mining Association of Canada: Towards Sustainable Mining (TSM)		

Modification of CARE for mine sector analysis

- Based on previously established CARE methodology
- **Coverage** Indicators revised to integrate BGR work, and to split 'content' from 'degree of obligation'
- Revisions to **ARE** Indicators
- Creation of consolidated **numerical indices** for all ARE aspects

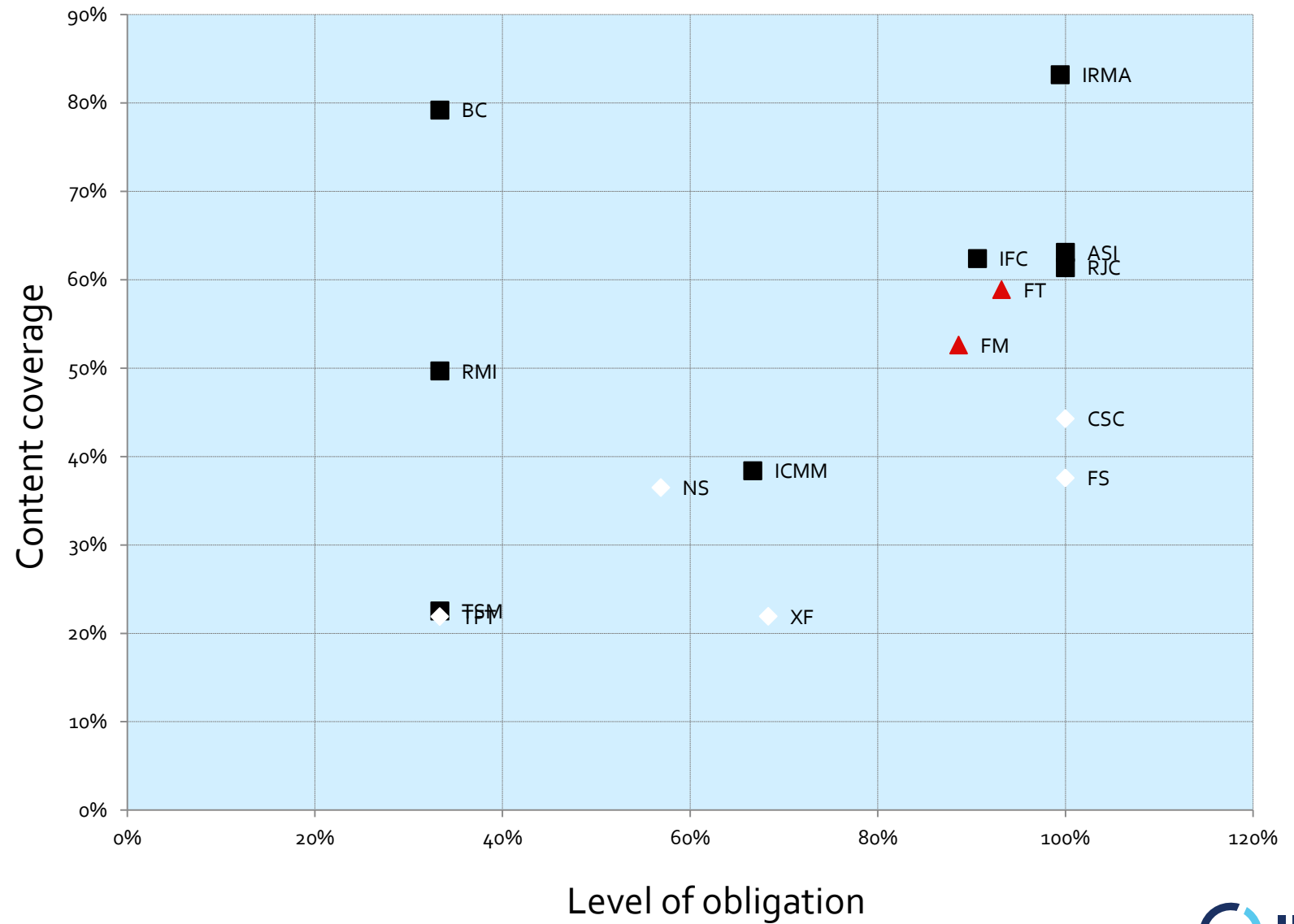
Before we go
on...

- Apples and oranges
- Moving targets

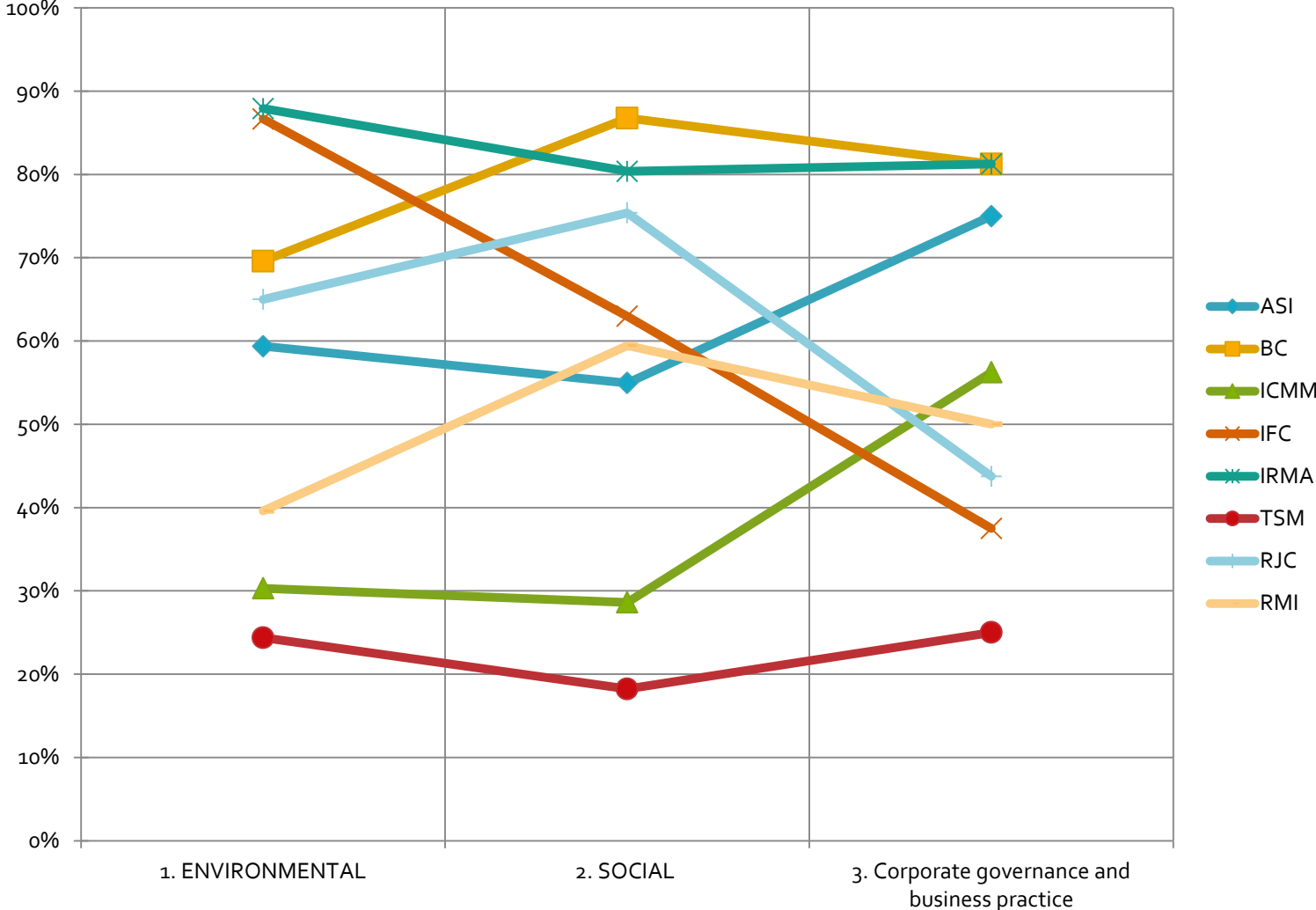
Health warning...

- These are provisional findings
- Finalised data not yet reviewed by the initiatives themselves
- Scoring highlights difference – higher scores are not necessarily 'better'
- Aggregated scores can hide critically important detail

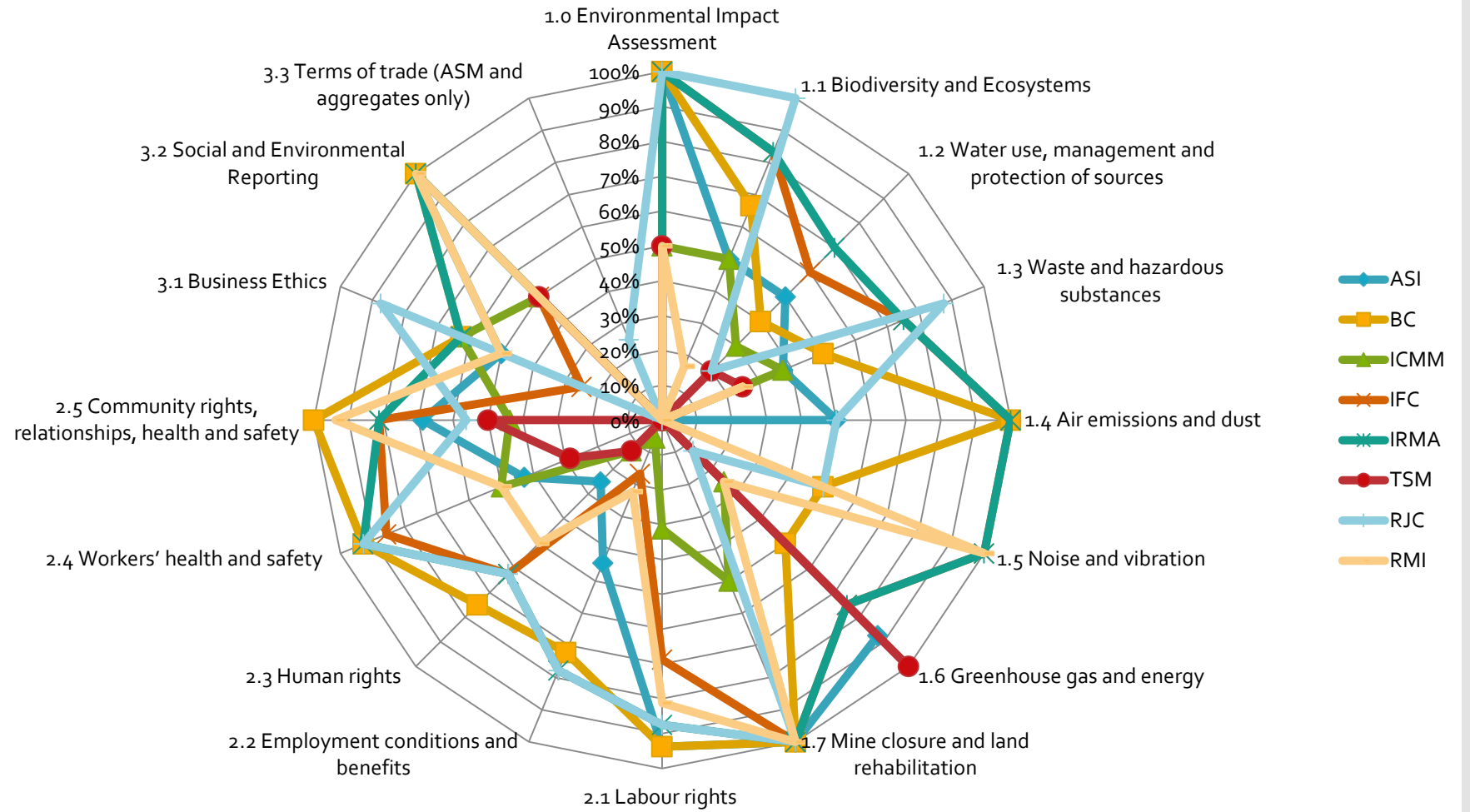
Coverage: content vs. level of obligation



Coverage: content



Coverage: content

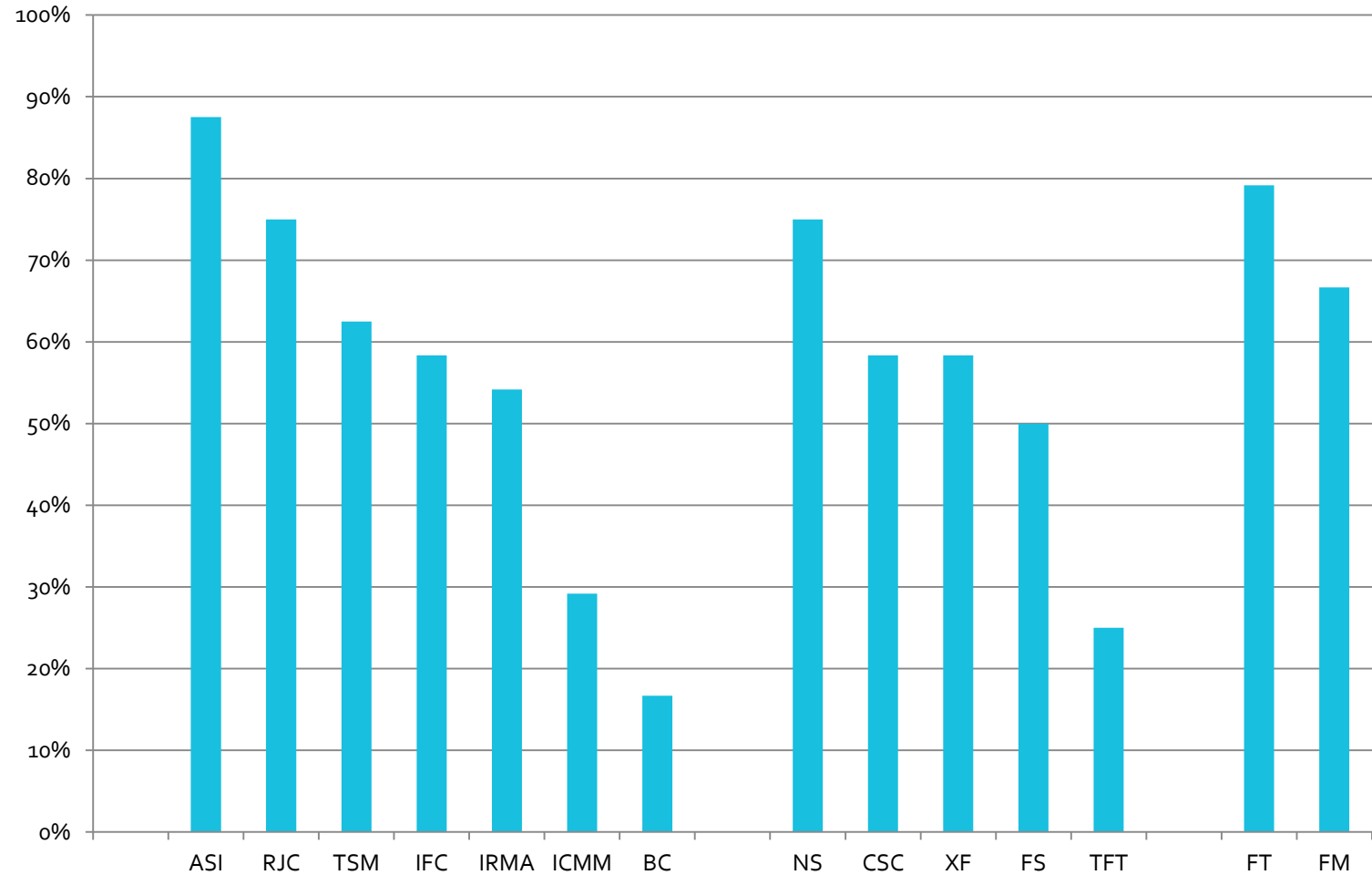


Assurance

- **Assurance: How does the initiative ensure that participants are applying criteria in the field?**
 - Descriptive elements (including traceability)
 - Assurance Index:
 - Audit model (third party emphasis)
 - Audit frequency
 - Auditor competency
 - Independent oversight

Assurance Index

Assurance Index

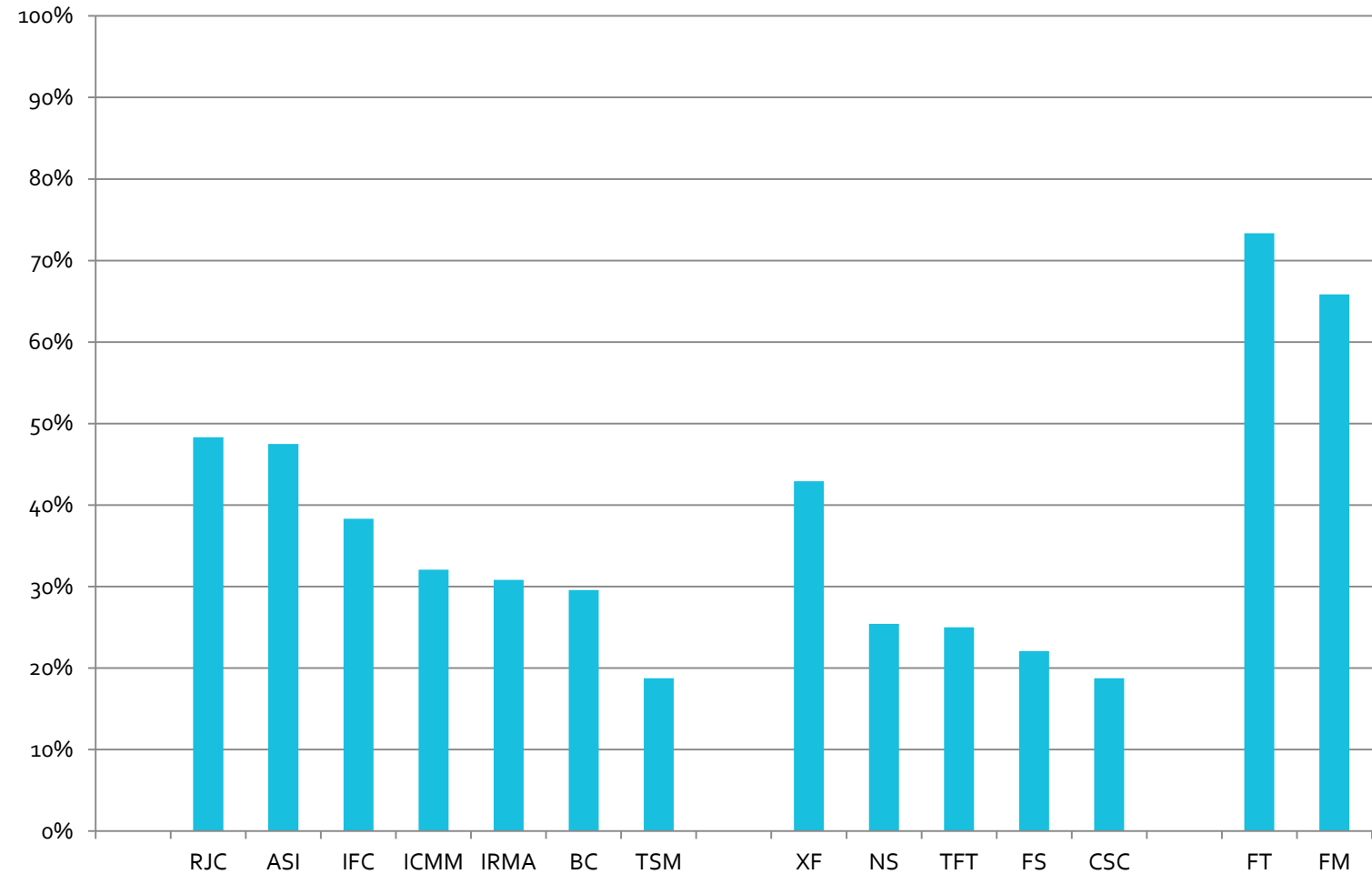


Responsiveness

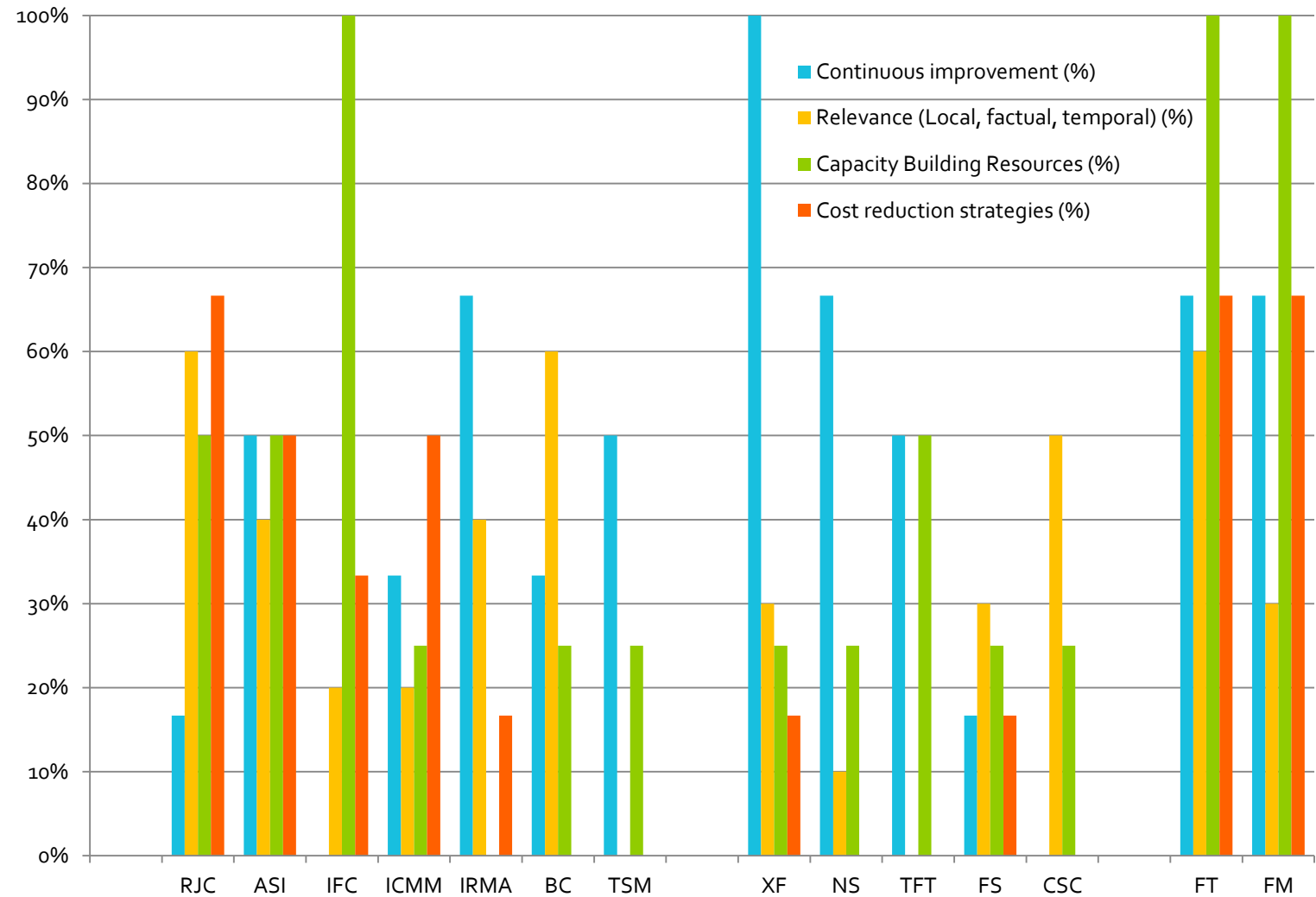
- **Responsiveness** : How does the initiative respond to and adapt to local reality and changes over time?
 - Continual improvement (model, incentives)
 - Adaptability (localness, impact assessment)
 - Contribution to capacity building
 - Cost reduction strategies

Responsiveness Index

RESPONSIVENESS INDEX



Responsiveness sub-indices



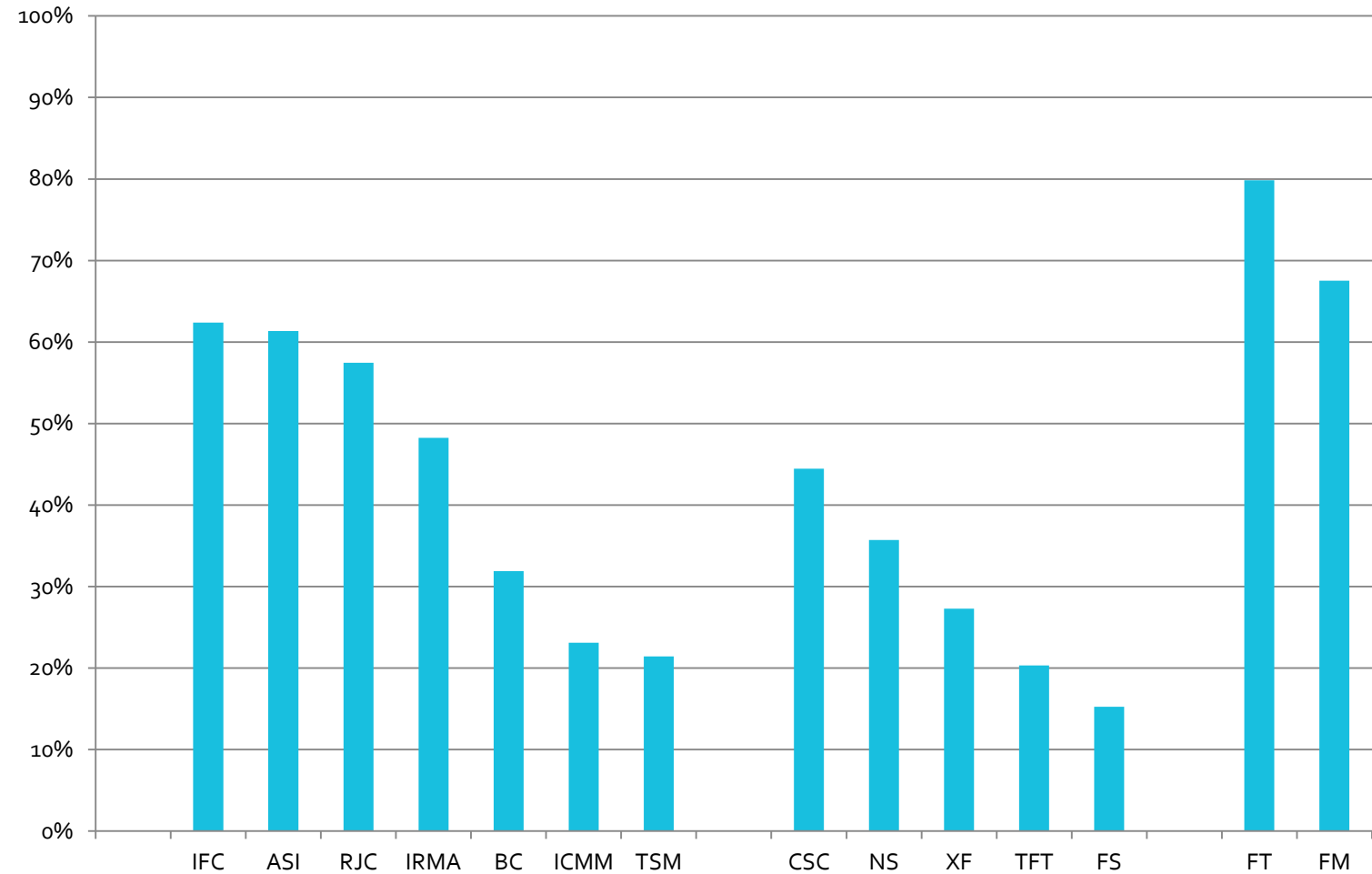
Engagement

- **Engagement**

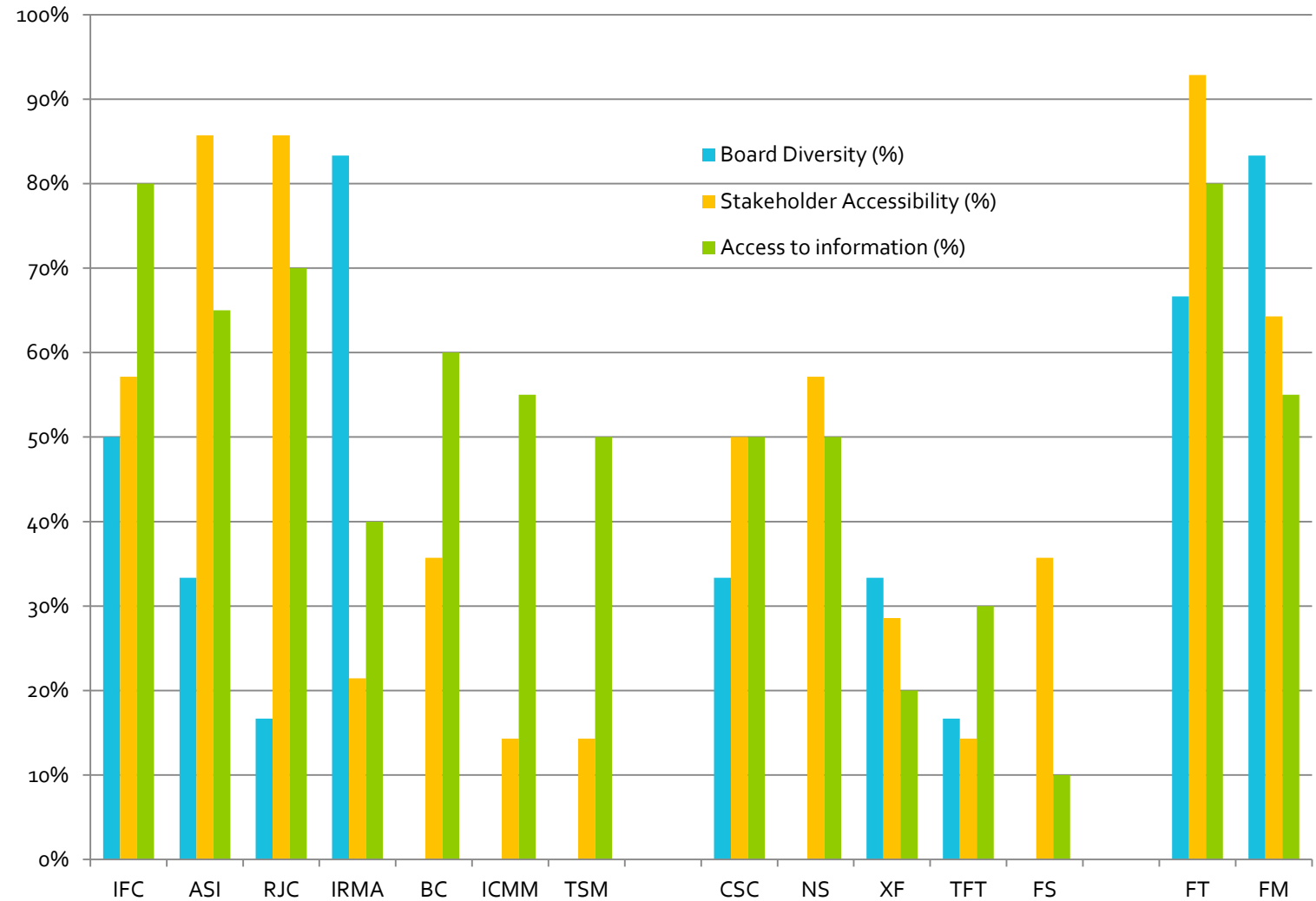
- Board diversity (developed/developing, gender, stakeholder interests)
- Stakeholder accessibility (membership, standards development, disputes)
- Access to information (initiative reports, financial, board & cttees, standards procedures, comments, etc)

Engagement Index

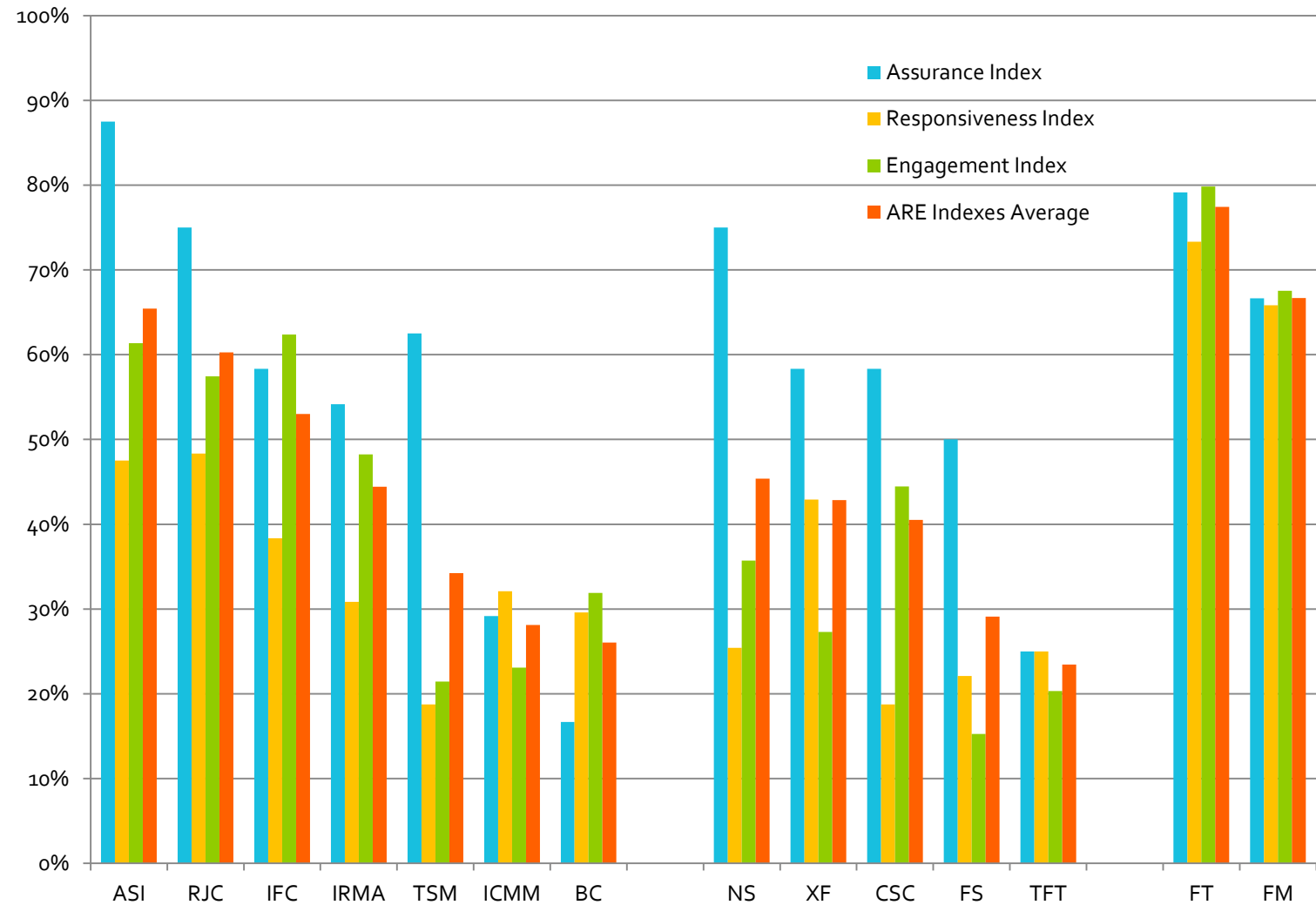
ENGAGEMENT INDEX



Engagement sub-indices



ARE Indexes: all



Conclusions

- The standards exist – how to maximise their impact?
- This is a rapidly evolving space
- Signs of increasing coordination between LSM initiatives
- No sign of coordination between quarrying/ aggregates initiatives



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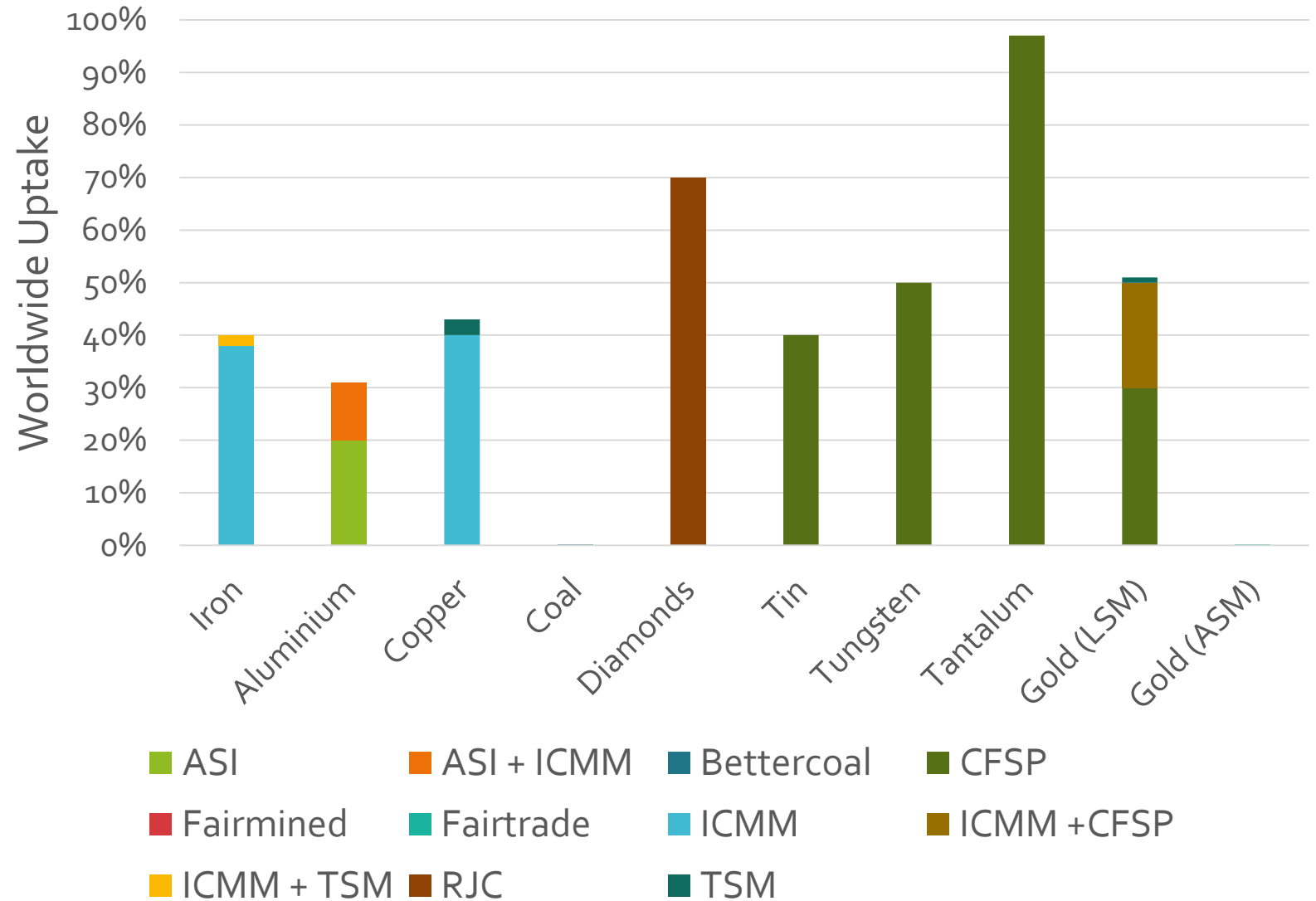
Market Study: methodology

- Structured interview with each initiative
- Desk based research on major mined materials
- Considered major mined materials by value, volume, energy use
- Considered conflict minerals as a special case of standards uptake in the market

Supply Chain Impacts of Mined Materials

Materials	Key Issues
All	Tailings management Community engagement
Iron and steel	GHG emissions (5% of global)
3Ts	Conflict funding
Coal	GHG emissions (~20% of global, minus coking coal) Mercury emissions (24% of global) Acid rock drainage
Aluminium	GHG emissions (1% of global)
Copper	Acid rock drainage Sulphuric acid management
Gold	Mercury emissions (47% of global, 37% from ASM) Conflict funding Cyanide management
Diamonds	Conflict funding

Current level of standards uptake – as % of global production



Major Drivers of Private Standard Uptake and Interest to date

- Risk/ Reputational management (e.g. tailings management, community engagement): often mediated through business association membership (ICMM, TSM)
- Legislation and public standards (e.g. regarding conflict funding, supply-chain due-diligence, mercury use)
 - 2010 Dodd Frank Act (3TG)
 - OECD Due Diligence Guidance (3TG)
 - CCCMC Chinese Due Diligence (3TG)
 - Kimberley Process (diamonds)
 - Minamata Convention on Mercury (gold)
- To date, legislation has been the principle *downstream driver* of demand (RJC a possible exception)
- Emissions management (e.g. CO₂-eq., mercury)

Looking Forward

1. Trends

- Industry associations (and others) increasingly use standards as strategic tools for risk/reputational management
- Emissions management (GHG, Hg) to drive uptake
- Downstream businesses increasingly driving mine level uptake (consumer electronics, green building, green infrastructure, automotive...)
- Emerging initiatives...
- ... but evidence of coordination (LSM, but not aggregates or ASM)

Looking Forward

2. Emerging Initiatives

- ASI
- IRMA – 10 years in development, backed by private sector steering committee members Anglo American, ArcelorMittal, Microsoft, and Tiffany & Co.
- Responsible Mining Index
- Responsible Steel
- Others...

Looking Forward

3. Blockchain Initiatives

- The blockchain concept: a decentralized, public, permanent digital ledger that validates transactions
- Initial use-case was for currency (Bitcoin)
- Growing interest in its application to the trading of digital assets (emissions / credit trading) and to the tracking of physical products in supply chains
- For example:
 - **Everledger:** one of several blockchain 'fabrics' to track diamonds, with 1.6 million+ diamonds registered by 2017
 - **Hyperledger Fabric:** program for carbon asset development in China (carbon credits)
- Evolution or Revolution?