# Standards Committee Minutes

25-29 September 2023 Liverpool, UK









> Standards Committee Meeting 25-29 September DRAFT Minutes

Edited presentation slides

GHG Method Deep Dive slides

Slides 3-16

Slides 17-151

Slides 152-217

# **DECISION - Previous Meeting (21 June) Minutes**



• Propose the Committee accept minutes for publication on ASI website

> For decision: accepted

# DISCUSSION & VIEWS - Committee Update (people)



- The Committee supported a pragmatic approach to these Standards Committee representatives to continue in current term (to April 2024):
  - Kendyl Salcito to continue as Nomogaia rep, with a request to make explicit on specific issues whether expressing an Alcoa position or a Nomogaia or personal view
  - Hugo Rainey to continue as independent
- Recognition that there is a need to access expertise (in both the short and long term), but a need to retain balance on the Committee between Civil Society and Industry representation – gaps and (insufficiently) independent seats may erode that balance;
- The multi-stakeholder nature of ASI decision making has a regulatory imperative, among others, as legislatures increasingly rely on multi-stakeholder initiative products (such as ASI certification);
- Secretariat and Committee members to explore independent experts, with a global distribution; potential for fresh eyes, taking a macro view, not necessarily with aluminium expertise – IUCN scientists and practitioners; health, safety and wellbeing expertise (in particular psychological health and safety/psychosocial risks expertise)

DISCUSSION, elementAl 2.0 - For an individual ASI Certification: How would you like to be able to access Certificate and conformance information on the ASI website?



- Filter:
  - By certificate validity
  - By (Standard) version
- Ability to "build your own supply chain"
- (Supplier status) Alerts in particular CoC validity and flagging beyond tier 1 suppliers
- Search by company name, not only Entity name (use of DUNS Numbers -<u>www.investopedia.com/terms/d/dunsnumber.asp</u>)
- For Entity use: ability to conduct multiple self-assessments for a single certification (e.g. multiple assets within one Entity)

DISCUSSION, elementAl 2.0 - For the bigger picture: What kind of aggregated data and analyses would you like to be able to access about conformance against ASI Standards?



- Narrative lessons learned
- GIS overlays regional geographical layering and filtering
- CAHRA coincidence (even with a disclaimer)

## **DECISIONS - Assurance Manual Updates**



#### Managing reprisal risks and their impacts on audit quality

The Standard Committee approved the proposal to establish clear guidance on when auditors can stop, pause, suspend, or leave an audit.

#### > Secretariat Actions:

- Update wording regarding Auditor's decision to leave an Audit based on their "professional judgement"
- Infographic of the 'tools'/mechanism the Secretariat and Auditor can use regarding follow action after an Auditor has choose to stop the audit.

The Standard Committee approved the proposed two-tier approach for interview guidance and managing reprisal risks:

- i. General Guidance: consolidate existing interview guidance, expand on basic interview techniques, and best practices.
- ii. Specific interview guidance and techniques for identifying and interviewing specific vulnerable and at-risk individuals and groups.

All this information will be included within the Assurance Manual

Secretariat Action: Add youth, disability and gender diverse groups and individuals to the guidance.

#### Estimate Audit Time Requirements: Further guidance on interviews

Standard Committee approved the proposed two-tier approach of guidance as articulated above

Secretariat Action: Liaise with ASI Auditors Laura Dombi & Dave Knight regarding Audit Times

# Managing conflict of interest: Conducting Compliance assessments in conjunction with Witness Assessment Audits

The Standard Committee approved the implementation of 'Conformance Assessments':

- The Secretariat will not implement this in 2023 but will explore formalising the assessment in 2024 within the Witness Assessments Framework
- The Assurance team will work out the logistical details.
- We can observe other schemes' conformance assessments for insights before implementation such as attending as an observer.
- > Secretariat Actions:
  - Look at other financial conformance processes such as the IFC and ARB.
  - Contact Assurance Service International to observe their Conformance Assessments

### DISCUSSION – Ask the ASI Auditor (I)



- Laura Dombi (DNV) and Dave Knight (OnePlanet)
- Contractual relationship between Entity and ASI Auditor
- Preparation for Audit and undertaking Audit
- Audits don't replace a company's own stakeholder engagement and grievance mechanisms
- Multi-site Audits: corporate then site project management; implementation of policies
- Qualities of Lead Auditor:
  - Communication skills & leadership
  - Broad understanding of subject matter
  - Ability to engage with a range of stakeholders
  - Empathy and awareness of psychosocial risks (related to Audit process in particular)
     workers but also communities
- Awareness of outcomes as well as management systems (ISO auditors tend to focus on latter

#### DISCUSSION – Ask the ASI Auditor (II)



- Auditor community has a way to go to develop capacity and expertise on human rights, communityled decision making, FPIC, grievance mechanisms, double materiality:
  - Role for ASI training
- Upskilling and talent retention in Auditor pool is an issue
- Areas for ASI improvement, additional work:
  - Public announcement of Audits e.g. Responsible Steel do this
  - More guidance on stakeholder interviews e.g. how to drill down further if initial interviews flag things, increase sampling (e.g. AA1000 Guidance)
  - Strengthen materiality assessment in ASI standards risk assessment and due diligence are requirements so this is already in place for many criteria goal is for entities to be doing this work before the auditor comes
  - Clarity on due diligence end points e..g recruitment and contractor management, areas of influence etc
  - Current CoC standard: some customers seek information that is beyond mass balance e.g. specific information such as the source of origin and/or sustainability data (at the moment, voluntary or not possible due to mass balance model). Potential to address in 2027 revision regulation is pushing quickly, though traceability expectations may not always be able to be met some business models are based on mixing and may not be able to adjust.

#### **DISCUSSION – Circularity Framework**



- Balance required between achievement and ambition;
- How to drive (macro) change through Entity action;
- Need to develop the business case to have location buy-in;
- Potential to add circularity Claims, but with care to avoid falling foul of antigreenwashing legislation;
- Full value chain approach different roles for actors along the chain;
- Dependence on demand drives investment decisions;
- Traceability direction of travel;
- Role of (potentially reluctant) traders;
- Addition of other elements (biodiversity, climate change etc) to Circularity Framework;
- WHAT NEXT? Working Group workplan, training and communication to audiences beyond industrial members

#### **DISCUSSION - GHG Pathways Method**



- First certification post Pathways Guidance publication would require articulation of Pathway and Plan, but for Entities with base years more than 3 years prior to the Audit, demonstration of performance would also be required
- Ability to set Pathway scopes at group level (integrating non-ASI Entity assets): flexibility for Entities see following slides
- Develop integrated procurement (scope 3 cat.1) slopes for Entities with multiple integrated processes see following slides
- Require Guidance for Auditors on triggers of non-conformance (major and minor) and linkage with other criteria (5.1 on disclosure, 5.4 on performance against {Pathways)
  - Entities should embrace non-conformances and seek to address these;
  - Systemic lack of Entity Pathway and Plan would constitute major;
  - Performance against the Pathway addressed more by Criterion 5.4 (except for those Entities with base year
     >3 years pre-Audit)
- Require a 2016-2018 slope for Entities with earlier base years Secretariat to develop.

# Pathways Scopes (ASI Entities, non-ASI entities, Groups)





# Integrated procurement (scope 3 cat.1 slopes)





## **DECISIONS - GHG Pathways Method**



- 1. The Standards Committee recommends to the ASI Board (15 Nov 2023) endorsement of the proposed GHG Pathways method:
  - Primary output/casthouse, semis & fab procurement/casthouse & semis process
  - Choice of base year
  - Group applicability
- 2. Exclude stand-alone mines and refineries from requirement in first published iteration.
- 3. Publish endorsed method and tool and audit/implementation guidance as stand-alone document in January 2024.
- 4. Incorporate into Guidance v3.1.1 (with SC oversight) in April 2024.
- 5. ASI Secretariat to work on:
  - a. Integrated process slopes (Oct 23)
  - b. Training, communication & rollout (from Q4 2023)
  - c. Bx and Al2O3 sectoral slopes (2024, post publication)
  - d. Land use emissions (2024, post publication)
- 6. Any updates to sector slopes, method or guidance (based on changing science and/or assurance/implementation experience requires (as usual) Standards Committee (and thence Board) decision

#### **DISCUSSION – 2024–2027 Priorities**



- CoC evolution:
  - Value of effort: in early days ASI was learning from its members, large effort to build CoC and then to Audit against; companies need to see the value
  - While CoC does not replace Members' regulatory obligations, it should have a value for such for some companies the Performance Standard has a greater value in this regard
  - From some value chain participants a desire for increased traceability potentially linked to regulatory shifts
  - From all a a desire for increasing supply chain transparency
- Performance Standard new criteria/issues:
  - Sound/vibration: Already covered to some extent in Biodiversity Impact Assessment, so why be specific? Light pollution could also be included if so
  - Tailings: review existing third-party guidance before incorporation or adoption of specific approaches don't just use Guidance as an accumulation of all publications: strategic approach
  - Induced and cumulative impacts: include in scope (biodiversity impact assessment to include direct, indirect and cumulative)
  - Ecosystem services expansion beyond biodiversity alone
  - Clarity on materiality within all criteria
  - Psychological health & safety
- Broad themes
  - Minimum (conformance) requirements for certification: balance between embracing non-conformances and improving and the credibility of ASI
  - Articulating lessons learned
  - Measuring and communicating performance, e.g. GHGs



- Aim for diversity, global spread and range of broad expertise in standards committee;
- In particular social expertise
- Broaden civil society to include independent and academic representatives (allowed per Governance Handbook) to access expertise but take care that the multi-stakeholder nature is retained;
- Explore ways to engage a wider set of stakeholders through interpretation/translation services – IPAF as a model;

Name	Organisation	Member Class
Nicholas Barla	Odisha Indigenous Peoples Forum	IPAF
Louis Elberto Biswane	Organisation of Kaliña and Lokono In Marowijne	Civil Society
Patrick Brading	Hydro	Industry
Andy Doran	Novelis Inc.	Industry
Francesca Fairbairn * (26 & 27/9 only)	The Institute for Human Rights and Business (IHRB)	Civil Society
Gesa Jauck	TRIMET Aluminium SE	Industry
Abu Karimu	Settle Ghana	Civil Society
Rowan Egan *	Ardagh Metal Packaging	Industry
Olivier Néel	Constellium	Industry
Agata Nowak *	Emirates Global Aluminium	Industry
Judith Pietschmann *	RONAL AG	Industry
Marcel Pfitzer	Mercedes-Benz Group AG	Industry
José Rubio	Fauna & Flora International	Civil Society
Kendyl Salcito (26/9 only)	Nomogaia	Civil Society
Panos Tserolas *	ELVAL	Industry
Marina Wangurra	Nawa Nawa Consultants	IPAF
Piet Wit	Daridibó	Civil Society
* Alternate		

	<b>as</b>	Aluminium Stewardship Initiative
aura Dombi (26/9 only)	DNV	Observer
Dave Knight (26/9 only)	OnePlanet	Observer
ASI Secretariat		
iona Solomon	Chief Executive Officer	
/lark Annandale	Director of Research & IP	AF Advisor
Chris Bayliss	Director of Standards	
Gabriel Carmona Aparicio	Circularity Research Mar	nager
Cameron Jones	Director of Assurance	
(laudia Michalska	Supply Chain Analyst	
/icky Tran	Assurance & Claims Mar	nager
Marieke van der Mijn	Director of Partnerships	
Andrew Wood	Director of Sustainable Ir	nvestment & Legal

# **Meeting Objectives**



- 1. Build/develop collective and individual **relationships** among Committee and with ASI Secretariat;
- 2. Familiarise/refresh Committee members on ASI's **Assurance and Oversight processes**; and hear from ASI Accredited Auditor(s), with experience of Performance Standard and Chain of Custody Standard certifications and facilitate an exchange of ideas and knowledge;
- 3. Discuss and, where appropriate, finalise updates to **Assurance Manual** for forthcoming revisions;
- 4. Recommend a DRAFT Entity Level **1.5 Degree Aligned GHG Pathways Method** for Endorsement by ASI Board and incorporation into PS v3.1.1 Guidance;
- 5. Agree content and timing for a minor **Performance Standard Guidance update**;
- 6. Start to scope priorities for **2024-2027 Standards Revision.**



	Time		Item	Lead	Pre-read #	Objective(s)		
25th	1300	1400	LUNCH					
	1400	1415	Welcome, safety briefing, schedule for week, previous meeting minutes & agenda	СВ	2_	(1, 2)		
	1415	1500	ASI Strategy, Board, Committee and team update	FS		(2)		
	1500	1530	BREAK	BREAK				
	1530 1630 Ar		An introduction to the work of IPAF and 'Beyond Certification'	MA		(2)		
	1630	1730	elementAL 2.0 updates – and opportunities to evolve ASI Audit reports	FS		(2)		
	1830		DINNER at <u>Radisson Blu Collage Restaurant</u>					
26th	0830	1030	Assurance - Behind the Scenes	CJ		(2)		
	1030	1100	BREAK					
	1100	1230	Assurance Manual Updates (I) - agree content and/or next steps.	VT	3_	(2)		
			Managing conflict of interest with 'conformance assessments'		4_	(3)		
	1230	1330	LUNCH					
	1330	30 1500	Assurance Manual Updates (II) - agree content and/or next steps	VT	3			
			Managing reprisals and reprisal risks		5_	(3)		
			Interview Guidance for Auditors		5_			
	1500	1530	BREAK					
	1530	1545	Roundtable for the Responsible Recycling of Metals	DK		(6)		
	1545	1715	"Ask the ASI Auditor", with Laura Dombi (DNV) & Dave Knight (One Planet Ltd.)	СВ		(2)		
	1900		DINNER at <u>El Gato Negro Tapas</u>					

#### 27<sup>th</sup> September – Plant Tour: Novelis Recycling Latchford Locks Works



	Time Item			Lead	Pre-read #	Objective(s)			
27th	Group 1			Group 2					
	0830	1300	Tour of Novelis Recycling Latchford Works	0900	1230	GHG Pat	GHG Pathways Method deep dive		
	1300	1400	LUNCH	1230	1330	LUNCH			
	1400	1730	GHG Pathways Method deep dive	1330	1800	Tour of <i>Nove</i>	Tour of Novelis Recycling Latchford Works		
	1900		DINNER: priva	te dining I	Radissor	Blu			



	Time		Item	Lead	Pre-read #	Objective(s)			
	0830	0930	ASI's Circularity Framework		6_	(6)			
	0930	1030	GHG Method for PS 5.3 – recommendation for ASI endorsement	СВ	7_;8_	(4)			
	1030	1100	BREAK						
	1100	1230	GHG Method for PS 5.3 – recommendation for ASI endorsement (continued)	СВ	7_;8_	(4)			
	1230	1330	LUNCH						
	1330	1430	<ul> <li>Partnerships (including Benchmarking &amp; Recognition) Updates:</li> <li>Mining Standards Convergence (ICMM, MAC-TSM, CopperMark, WGC, IRMA)</li> <li>EU Regulations (CSDDD, CSRD)</li> <li>Review emerging initiatives and regulation for future ASI revision (TCFD/TNFD)</li> </ul>	MvdM		(6)			
3th	1430	1500	PS Guidance Updates: agree content and next steps	СВ	9_;10_	(5)			
5	1500	1530	BREAK						
	1530	1630	<ul> <li>Start to scope priorities for 2024-2027 Standards Revision:</li> <li>Restructuring of Principles</li> <li>Outcomes-based criteria in PS</li> <li>New criteria (e.g. tailings and sound/vibrations)</li> <li>Changes to supply chain activities/applicability</li> <li>Chain of Custody Standard evolution</li> <li>Claims and Claims Guide</li> </ul>	СВ		(6)			
	1630	1700	Encouraging civil society engagement with Standards Committee			(1)			
	1700	1730	Actions and meeting feedback CLOSE	СВ					
	1900		DINNER at The Cavern Restaurant						
29th	0900	1200	Informal discussions: ASI Secretariat and IPAF members available for requested topics.						

# Before we begin...



#### Acknowledgement of Indigenous People

ASI acknowledges Indigenous Peoples and their connections to their traditional lands where we and our Members operate.

We aim to respect the cultural heritage, customs and beliefs of all Indigenous People and we pay our respects to Elders past and present.

#### Anti Trust Compliance

Compliance with ASI Antitrust Policy (February 2021) is a condition of continued participation in ASI activities. Participants should have due regard to this Policy today and in all other ASI activities. Feel free to raise concerns or questions with the Secretariat. <u>https://aluminium-stewardship.org/wp-content/uploads/dlm\_uploads/2017/10/ASI-Antitrust-Compliance-Policy-02-2021-.pdf</u>

#### Ways of Working

- We are a multi-stakeholder organisation.
- Dialogue is at the heart of everything we do.
- We welcome all participants and enable the full participation of all attendees
- We value diversity of backgrounds, views and opinions, which lends itself to healthy debate and improved outcomes.
- We express our views and listen to the views of others in a respectful and professional way

# Previous Meeting (21 June) Minutes



• Propose the Committee accept minutes for publication on ASI website

> For decision:

Visit the ASI Website:

www.aluminium-stewardship.org

Chris Bayliss Director of Standards <u>chris@aluminium-stewardship.org</u>

**as Aluminium** Stewardship Initiative



# PRESENTED SLIDES (EDITED)







# IPs engagement with ASI as rights-holders

- Governance and engagement:
  - Indigenous Peoples Advisory Forum (IPAF)
  - Standards Committee representatives from IPAF (4 out of 24)
  - Members in their own right (Gulkula Mining, KLIM, Settle Ghana)
- Specialist knowledge recognition, development and support:
  - IPAF contributions to FPIC training for auditors and members
  - Registered Specialists training 2 Guineans in audit team for Guinea audits
  - Funding for Indigenous-led research projects Norway (Sami), India (Adivasi) and collaborations in Australia (Cape York)

#### • Community-level capacity building:

- Indigenous-led workshops in bauxite regions Australia, Guinea, Ghana
- Indigenous-led participatory and cumulative impact assessment on indigenous cultural landscapes and traditional ecosystem services (IPCIA)
- Complaints processes:
- Access to remedy and the dialogue process

# IPAF

# Indigenous Peoples Advisory Forum

IPAF is designed to be a communications and engagement platform between representatives of Indigenous Peoples and ASI.

- IPAF members participate in and provide input, advice and recommendations for – key areas of ASI's work with and for Indigenous Peoples.
- IPAF supports participation in the Standards Committee and Working Groups, engagement with the ASI Board, engagement with the ASI Complaints Mechanism, and – most importantly – engagement with each other.










































**Bauxite Mining** 



Posters to support FPIC processes

Indigenous workshops – Australia

2021 to 2024 Project

Aluminium

Stewardship Initiative

#### 'Remedy' – Sami peoples and wind power Norway

#### **ASI Complaints Process**

- ASI complaints process supporting constructive dialogue, leading to collaborative IPAF project.
- Wind farm on traditional lands impacting reindeer migration routes, under legal challenge in Norway.
- Climate-only focus of wind power developer, did not fully consider human rights and nature impacts.
- Supplying to ASI Certified smelter to support decarbonisation.
- How do the ASI Standards and complaints processes apply?
- How to empower people to find solutions?
- ASI team supported constructive dialogue between Sami and ASI member led to arrangement of on-country exchange, to enable remedy discussions.
- ASI supported collaborative IPAF project between Norway and India, an extension of Indigenous-led Participatory and Cumulative Impact Assessment methodology that considers all cumulative impacts in a defined geographic area, including historic or legacy impacts.

Indigenous-led participatory and cumulative impact assessment on indigenous cultural landscapes and traditional ecosystem services (IPCIA) GUIDANCE DOCUMENT



Anders Blom, January 2023

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## ASI IPAF India IPCIA project





In 2022-2023, ASI funded an IPCIA pilot project in India with Indigenous peoples in 2 contrasting locations:

- 1. The Bagru bauxite mine in Jharkhand State. An old operating bauxite mine with Indigenous peoples having a good understanding of legacy and contemporary impacts.
- 2. The Niyamgiri Hills of Odisha State. A significant bauxite resource close to refining and smelting entities subject to 20 year old court ruling essentially requiring an FPIC process. Culturally and environmentally significant region with little understanding of modern developments.
- The India IPCIA project report is now being finalised September
  2023

#### Australia IPCIA Project Proposal Area





## ASI Assurance Framework

## "behind the scenes"

September 2023

Standards Committee, Liverpool UK

Presenter:

Cameron Jones, Director of Assurance

**as** Aluminium Stewardship Initiative





# ASI Assurance Framework







#### The assurance process - 'step by step'

#### Pre-audit

#### For 'upstream' facilities:

- Audit plan review
- Pre-audit risk assessment

#### PLUS

For 'high-risk' facilities:

- Audit scope review
- Audit team/resources
   review
- Discussions with audit team and Member
- Witness assessment preparation (as required)
   Aluminium Stewardship bitistica

#### Audit

2

- Support with elementAL enquiries
- Available for questions from auditor if required
- Undertake Witness assessment (where scheduled)

## 3

#### Post-audit

Oversight (review) of audit report

#### <u>Review of:</u>

- Audit team
- Audit scope
- Potential conflicts
- Evidence cited
- Audit findings
- Adequacy of Public Headline Statements
- Corrective Actions
   (as required)
- Maturity ratings, hyperlinks, next audit scheduling etc.



#### Certification

- Preparation of draft Certificate and Report
- Addition of context page (as required)
- Close out oversight in elementAL
- Internal peer review
- Final Member review
- Formal release (via email)



#### Postcertification

- (Media release)
- (ASI website updated)
- Respond to stakeholder enquiries (as received)
- Identify and action material post-audit issues (auditor performance, revisions to Reports, complaints etc.)
- Cert changes for acquisitions, etc



- Review of 'audit pipeline'
- Questions from Members & Auditors
- Assist with audit planning
- Auditor and audit firm accreditation
- Consider improvements to existing processes
- Considerations into ASI Learning Platform
- Assurance Manual update

#### Step 1

# **Before an audit**



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## Before an audit - what is reviewed

- > Audit plans submitted to Assurance team for review
  - Mandatory for all 'upstream'\* Entities for initial certification audits against PS
  - o Optional, but recommended for all other audits
- Pre-audit risk assessments for 'upstream'\* Entities
  - o Governance
  - o Social
  - o Environmental
  - Reputational / media coverage
- Discussions with Audit team on resourcing and expertise (for high-risk Entities)
  - Number of auditors and audit/person days
  - Technical experts to support team
  - Area of Influence, key issues, potential non-conformities





### **Review of Audit plan**

AUVEN



✓ Certification scope

Aluminium Stewardship

BUREAU					
	Audit Pla	an			
Client Name:	United Company RUSAL (UC RUSAL)				
	Headquarters: 1, Vasilysy Kozhinov str. Moscow, 121096, Russian Federation				
	Timan Bauxite: 26B Lenin Ave., Ukhta, Komi Republic, 169300, Russian Federation				
Address of Sites:	Kamensk Uralskiy alumina refining plant: Zavodskava str., 10, Kamensk-Uralsky, Sverdlovsk region, 623406, Russian Federation				
	Savanogorsk Aluminium smelting and casthouse plant: Industrial Site territory, Savanogorsk city, Republic of Khakassia, 655603, Russian Federation				
	Novokuznetsk Aluminium smelting and casthouse plant: Ferroalloy passage 7, Novokuznetsk, Kuzbass, Kemerovo region, 654034, Russian Federation				
	Volgograd Aluminium smelting and casthouse plant: 21, Shkiryatov Street, Volgograd city, Volgograd region, 400006, Russian Federation				
Contract #:	Daniil Ukhanov, +7 (495) 720-5170, ext. 6191				
Type of Audit:	Surveillance Audit				
Standards:	ASI Performance V.3, ASI CoC V.2				
Start Date of Audit:	August 8, 2023 End Date of Audit: Septem		September 15, 2023		
Please mark if the audit is blended or full remote	Full remote audit Blended audit Comments: All audits are conducted in a visiting mode at RUSAL sites		RUSAL sites		
Audit Objective / Criteria:	To verify that the Entity has systems in place that conform to the Performance an <u>COC</u> Standards     To verify Self-Assessment information, including the Certification Scope     To determine the Entity's Overall Maturity				
Scope of Certification:	Supply chain activities: • Bauxite Mining • Aurimina Refining • Auriminium Smetting • Auriminium Re-metting/Refining • Casthouses				
Audit Team Leader:	Igor Postovit		Initial:	PIA	
Team Member Name:			Initial:		
Technical Experts			1		

Duracu Varitas Cartification

BU

	Bureau Veritas Certification			
RITAS		Audit Plan		
		Audit Plan		
Date: Augu	ıst 8, 2023,	day 1 Site: Headquarters, Moscow		
Start Time	End time	ASI Standards principles and criteria	Process / Participants	
09.30	10.00	Opening meeting With Top management to explain the scope of the audit, audit methodology and reporting and to confirm the audit plan	Audit attendee, concerned persons	
10.00	10.30	Top management interview           Politics and objectives of the Management system           Roles and Responsibilities (senior Management Representative, ASI coordinator)           Self-Assessment (Maturity rating)           Parallel certification           • Risk-based assurance approach           Documenting Scope of certification and other documentation	Department of Ecology, Labor Protection and Industrial Safety	
10.30	11.30	1.1 Legal Compliance 1.2 Anti-Corruption 2.2 Leadership 3.3 Payments to governments 3.4 Stakeholder complaints, grievances and requests for information 9.8 Conflict-Affected and High-Risk Areas	Global compliance officer	
11.30	13.00	2.5 Environmental and Social Impact Assessments 6.6 Bauxite Residue 9.3 Indigenous Peoples 9.5 Cultural and sacred heritage	Alumina Engineering Department	
13.00	13.30	Lunch		
13.30	15.30	1.1 Legal Compliance     2.1 Environmental, Social, and Governance Policy     9.1 Human Rights Due Diligence     9.6 Displacement.     10.1 Freedom of Association and Right to Collective     Bargaining     10.2 Child Labout     10.3 Forced Labout     10.4 Nor-Discrimination     10.4 Word-Discrimination     10.6 Working Time     10.9 Informing Workers of Rights	Department of Compensation, Privileges and Organizational Development	
15.30	16.30	1.3 Code of Conduct     2.1 Environmental, Social, and Governance Policy     10.5 Communication and engagement	Department of Corporate University RUSAL	
16.30	17.00	Reserved time and preparation to the Closing meeting	Concerned persons	
17.00	17.30	Day closing Meeting • Summary of the day results • Information about Follow-Up actions (if applicable)	Concerned persons	

#### Pre-audit risk assessment

	1.5	Are any BFPPs within the Entity's Certification Scope located in areas of water stress?	Assess the location of the Entity(ies) versus the WRI Water Risk Atlas <u>https://www.wri.org/opplications/aqueduct/water-risk-atlas</u> . Can also consider reviewing the World Scarcity Atlas at: <u>https://waterscarcityatlas.org/</u>	According to the WRI Water Risk Atlas, the facility is located in an area (Oman North Coast basin) of extremely high water risk. The Water Risk Atlas alludes to the main contributing factors being groundwater travel decline, coastal eutrophication and overall water extraction. It is understood however, that Sohar utilises water from a nearby desalination plant for its process water.	🗹 ОК
<ul> <li>✓ Corruption</li> <li>✓ CAHRA setting</li> </ul>	1.6	Are any BFPPs within the Entity's Certification Scope located in areas where effective <b>waste</b> treatment, transport and/or disposal is unlikely to be available.	Assess the location of the Entity(ies) and consider the level of accessibility to appropriate waste treatment and disposal infrastructure. Also consider the distance of the Entity from major cities and industrial hubs. This may be hard to evaluate, however consider the supply chain activities and potential waste streams. Also consider the waste related regulatory framework and the likely level of regulatory enforcement.	Based on a review of on-line literature, maps and business directories, it appears that the Entity would have available access to industrial waste treatment and disposal facilities across the NW coastal areas of Oman. It is understood that SPL is sent to the Oman Cement Company for treatment/use. Auditor to confirm.	🗹 ОК
<ul> <li>✓ Reputational issues</li> <li>✓ Political risk</li> <li>✓ Water</li> </ul>	1.7	Are any BFPPs within the Entity's Certification Scope located in a setting where <b>IUCN vulnerable or endangered 'red list' species</b> are likely to be present?	Review the IUCN Red List of Threatened Species, and use the search function (by region). https://www.iucnredlist.org/. Also consider reviewing <u>www.ibat-alliance.org</u>	A review of the IUCN Red List indicated just one species of concern present in the general Sohar region - the Oman Cownose Ray, which is listed as Endangered and with decreasing numbers. However its habitat remains widespread including the coastal regions of India, SE Asia, the entire Persian Gulf and Red Sea.	🗹 ОК
<ul> <li>✓ Water</li> <li>✓ Waste</li> <li>✓ Distinguis</li> </ul>	1.8	Are any BFPPs within the Entity's Certification Scope located adjacent to a <b>Protected Area</b> or area of biodiversity significance?	Review the Integrated Biodiversity Assessment Tool (IBAT) at: <u>www.ibat-</u> <u>alliance.org</u>	A review of the IBAT data map shows that the Entity is adjacent to two Important Bird Areas (Khawr Shinas and Khawr Liwa & Al Batinah Coast) including the Power Station. Of particular concern are the tidal inlets and mangrove habitats.	✔ ОК
<ul> <li>✓ Biodiversity</li> <li>✓ Nearby Protected</li> </ul>	1.9	Does the Entity have a power mix that includes a significant proportion of fossil fuels? This is particularly important for Entities that include aluminium smelting as a Supply Chain Activity (SCA).	Review the CRU Emissions Analysis Tool ( <u>https://emissionsanalysistool.crugroup.com/</u> via <u>https://cruonline.crugroup.com/</u> (Login with ASI Account required)	The CRU Emissions Analysis tool lists the average CO2 intensity of primary metal produced at Sohar as 7.06 t CO2e/t. This is close to the 8t/t threshold (Scope 1 and 2 emission types) under the PSv2.	✔ ОК
Areas ✓ GHG emissions profile ✓ Indigenous Peoples ✓ Cultural setting	1.10	Are any BFPPs within the Entity's Certification Scope located in an area where there are, or likely to be <b>Indigenous Peoples</b> present?	Review the ASI IPAF Report which identifies where Indigenous Peoples are located. Also consider the review the Indigenous World Report at: https://www.iwgia.org/en/resources/indigenous-world html, which lists those countries and regions within relevant countries where Indigenous Peoples are confirmed. This Report also provides updated information for each country as to current risks and legislative changes relating to land tenure/access, livelihoods eduatata and discrimination etc.	Not applicable - the IWIGA Indigenous World 2022 does not list Indigenous Peoples for Oman.	ОК
(gender, discrimination) ✓ Human rights and modern slavery	1.11	Are any BFPPs within the Entity's Certification Scope considered to be within a region with high <b>gender inequality</b> ?	Consider reviewing the information contained at. https://www.aenderindex.org/sountry-profiles/	There is no law in Oman that addresses violence against women and no specific regulations around sexual harassment. Oman is known for significant underreporting of sexual harassment. Whils there is legislation in place to ensure non-discrimination in the workplace, it does not address selection, recruitment, hiring, promotion, training and termination. Maternity leave is mandated (at 50 days). The Omani Government has been acknowledged as improving female participation in the workplace and is specifically targeting literacy and skill training. Overall representation in the private sector is still low.	ОК
	1			In the World Bank's Women, Business and the Law index for 2021, which ranks women's economic opportunities, Oman ranked lower than the regional average, scoring 35.5 out of 100.	

## Step 2

# During an audit



2

••••

## During an audit – support provided

- Support with **elementAL enquiries** (Carolyn and Tianyi)
- Answer **questions from auditor(s)** during the audit if required (rare, but can happen)

## Witness Assessment (as arranged)

- Understanding of scope, criteria and risks
- Auditing techniques
- Demeanour and professionalism
- Attitude towards stakeholders
- Planning and co-operation
- Flexibility and adaptability
- Questioning and follow-up
- Methods, tools and approaches
- Consideration of health & safety
- Understanding **cultural** sensitivities
- Application of non-conformities





#### Witness Assessment



#### Witness Assessment









**asi** Aluminium Stewardship Initiative

## Step 3

# After an audit



3

•

## **Oversight - focus areas**

•



#### ANTI-CORRUPTION

- Government payment records
- Corruption • training of staff
- Legitimacy of • business dealings and financial sources
- Bribery/corruption history and any legal proceedings
- 'Whistleblower' mechanisms
- Money launderina prevention



#### **RESPONSIBLE SOURCING**

#### Responsible sourcing Human Rights policy policy

- Its OWN supply chain assessments
- Responsible procurement targets
- Human Rights training of staff
  - Modern Slaverv Statement and prevention
    - Forced labour, debt bondage, involuntary overtime etc.

**HUMAN RIGHTS** 

- Engagement with local communities
- and Indigenous Peoples
- Labour rights, including antidiscrimination and Freedom of Association





#### CAHRAS

## •

- sourced from
- supplier contributing to conflict
- Assess risks of supplier contributing to Human Rights abuses





#### **ENVIRONMENT**

#### **INDIGENOUS**

- Prior • environmental fines and prosecutions
- Waste • management and minimisation
  - programmes
- Any impacts to • biodiversity and ecosystem services
- Use/ • management of any controlled/ scheduled substances?

- Policies to respect rights and interests
- Any IP? what process to identify
- Engagement with IP and informed of ASI process
- FPIC for New Projects/Major Changes and mining and rehab operation

- Raw GHG emissions data. verified by a third party
- Public disclosure of GHG emissions
- Emissions ٠ reduction initiatives and targets
- GHG reduction . pathway(s)
- Integration of ٠ **GHG** reduction plans into management

system

- Are any materials
  - conflictaffected regions?
  - Assess risks of

## The 'Oversight' process

- Critical aspect of the assurance framework
- Secretariat engage directly with audit team

#### \*\*\*Review of the audit\*\*

- ✓ Audit team
- ✓ Audit scope
- ✓ Correct Supply Chain Activities
- ✓ Potential conflicts
- $\checkmark$  Evidence cited / reviewed by audit team
- ✓ Audit findings (appropriate rating)
- ✓ Level of detail provided
- ✓ Consistency
- ✓ Adequacy of Public Headline Statements (clarity, language, consistency etc.)
- ✓ Corrective Actions (as required for Major NCs)
- $\checkmark\,$  Maturity ratings, hyperlinks, next audit scheduling etc.







## The 'Oversight' process

	<b>OA 4d Conformance - ASI Query</b> This field displays only if you have checked 'No' above. Use it to enter a query on th the Auditor in their Dashboard. When they have responded, an 'Auditor Response' fi field to close out the item if the response is satisfactory.	is issue to be made available to ield will appear below, along with a ASI questions
<ul> <li>✓ Audit Team Leader</li> <li>✓ Team Competence</li> <li>✓ Team Conflicts</li> <li>✓ Audit Scope</li> <li>✓ Exclusions, limitations</li> </ul>	Just some general questions Re. 8.1 - was the river considered in the biodiversity risk assessment (re aquatic spe Re. 8.3 - with respect to alien species, given the large bulk ships arriving/departing through international waters, is the Entity considering the management of ballast we particular to the introduction of noxious species (e.g Crown of Thorns Seastar etc.) Re. 11.2 - During your walk around of the refinery area, in your professional opinio	ecies and habitats)? the port which had traveled ater in its risk assessment? in n, was there sufficient
<ul> <li>✓ Objective evidence</li> <li>✓ Non-conformances</li> <li>✓ Not applicable criteria</li> <li>✓ Corrective actions</li> </ul>	<b>OA 4d Conformance</b> - <b>Auditor Response</b> This field appears when the auditor has submitted a response to the ASLOuery above Secretariat so is read-only.	e. It is not editable by the Audit team responses
<ul> <li>✓ Certification period</li> <li>✓ Audit outcome and declaration</li> <li>✓ Public Headline</li> </ul>	Re. 8.1: Yes, the river was considered inj the risk assessment. You also can fiond this is Report (Chapter 9). Re. 8.3: the management of ballast water mis part of the risk assessment. It is control Ports GmbH & Co. KG). It's out of the responsibility of AOS. Re. 11.2: was checked during the walk around everything you mentioned was checked	nformation in the sustainability lled by the habor (Niedersachsen d.
Statements ✓ Hyperlinks	OA 4d Conformance - Closed	Closed out
	If you are satisfied with the Auditor Response above, then you can close the item by a further query and/or clarify your query in the 'ASI Query' box above. Include a data subsequent query, for tracking purposes (e.g. "28Jan2020: ").	selecting 'Yes'. If not, you can add e for the second and any

### Step 4

# Certification



...... . . . . . . . . . . . . . . . . . . .

#### **Preparation of Certificate and Report**







#### Aluminium Bahrain B.S.C. (Alba)





verified at www.aluminium-stewardship.org

Validity of this Certificate is subject to continued conformance with the applicable ASI Standard and can be

primary aluminium from alumina calcinations of petroleum coke water desalination, anode manufacturing smelting casting and captive power generation Alba Calciner and Alba Smelter

Production and marketing of

2.3b Environmental and Social Management Systems - Social	Conformance	The Entity has a documented Social Management System in the form of a social manual in line with international standard SAB000.
2.4a-e Responsible Sourcing	Minor Non- Conformance	Given the scale of the Entity's operations and the industry sector it is involved in, responsible sourcing has been referenced in both the available Responsible Sourcing Policy as well as the organisation's Environmental and Social Management Systems. The intent and commitment to sourcing responsibly is apparent.
		The Entity has established the system by which the Due Diligence for Suppliers is managed in terms of environmental and social performance criteria. The system can show the percentage of supplie participation as well as the compliance of each participant supplier.
		isowerk, the process has not yet provided unticent evidence to demonstrate tas reflectmenss in revending supplier compliance with the besponsible Sourcing Policy or in reaching appropriate conclusions regrounding the objergment of the policy, especially for the uptiterom suppliers. Additionally, the process currently locks register schedule of assessment and an effective mechanism for controlling non-contormance.
2.5a-g Environmental and Social Impact Assessments	Conformance	Where oppropriate the firstly has above a commitment to conducting interest impact Assessments in order to establish on understanding of respective bosetime conditions, prospective impacts as result of its activities and associated mitigation effects required. Moreover, the firstly has shown evidence that these impact assessments are periodically invivoued and updated. Been't exomples include the invironmenta and Social impact Assessments (Sal) for the bigen to luming neight on Oree Station is expansion.
2.6a-h Human Rights Impact Assessment	Conformance	The Entity has implemented a Social Management Policy for employees and contractor workers that addresses human resources diversity and human rights management issues. Refer to the following
		https://www.albasmelter.com/uploads/x4ltjwll_gfs.pdfhttps://www.alb asmelter.com/uploads/Sustainability_Report_2021.pdf
		Additionally, the Entity has adopted the Equator Principle 4 that mandates the development of a dedicated Human Rights Impact Assessment for New Projects:
		https://www.albasmelter.com/uploads/ESIA_Report_of_PS5_Block_4. Expansion_Project.pdf
		A due diligence audit was undertaken by the Independent Environment and Social Consultant for the New Project.
2.7a-f Emergency Response Plan	Conformance	A well-designed and site specific Emergency Response Plan has been established by the Ently. The Plan has been developed in collaboration with Workers, Contractors and other relevant Stakeholders, importantly, the Ently has also put a review process in

COMMENT

integrity of these plans and procedures are evidenced by Alba's ISO Alba's Business Continuity Management (BCM) Policy is publicly accessible at

45001. ISO 14001, and other relevant certifications.



## The Certification process – final steps

#### > Certificate and public (summary) report released

o Emailed to Member and auditor

#### Provision of other related information

- o Logos / links
- o Survey
- Any specific requirements (follow up audits, provisional status)

#### Preparation of media release

- Introduction to Thad for preparation of media release
- Upload onto ASI website
  - Work with Riley to upload certificate



#### Step 5

# **Post certification**



## **Post certification**

- > Media release issued (via Thad)
- > ASI website updated
- Respond to stakeholder enquiries (as received)
- Identify and action material **post-audit issues** (if any). These may include:
  - > auditor performance
  - revisions to Reports
  - Complaints
  - Identify leading practice and poor practice with respect to audit reporting and audit effort
- > Certification changes for **acquisitions/divestments** etc

Not the end: → Surveillance Audit / Scope Changes / Re-Certification Audit
Auminium
Stewardship

# Ongoing initiatives and support



## Ongoing initiatives and support

- Review of 'audit pipeline' identifying upcoming higher-risk Entities and potential witness assessment opportunities
- > Receipt and response to **questions from stakeholders**
- Provide support to audit teams regarding future **audit planning**, in particular multi-site audit scopes and initial 'upstream' audits
- > Review and approve **Auditor and Audit Firm Accreditation** applications
- Registered Specialist applications
- Work with Learning team in identifying and implementing improvements to auditor training program
- Provide input into Auditor Community of Practice (issues, concerns, areas for improvement)
- Consider and implement improvements to existing processes (templates, guidance, elementAL etc.)
- > Assurance Manual update


### Assurance Manual update...

- What is the Assurance Manual?
  - Principles, procedures and objectives for the model that supports certification
    - > Process for achieving & maintaining cert
    - Members how to conduct SA
    - Auditors auditing & assess conformance
    - > ASI oversight process
- > Why update?
  - > Part of our approach of review
  - > Issues raised by stakeholders incl. the SC
  - Changing global context, e.g. in-country risks and reprisal risks
  - SEAL proposed changes in light of NGO/CSO critiquing standards & certification schemes

#### The proposal

> General



- Remove redundant info, Restructure for ease of use, Align terminology, Plain English, Reference elementAL v2
- > Status all in for 2023 update
- > CoC
  - Pass or fail approach, Buy-back if error, Verify data not just audit system, Mandatory surveillance audit
  - > Status- will be for the CoC Standard V3
- Assurance and Audit Quality/Integrity
  - Reprisal risks, Auditor rotation, Audit team composition, Provisional certification for minor NC
  - Status most for future updates, reprisal risk for 2023 & more guidance for interviews in discussion with HRWG
- Audit Planning
  - Member vs auditor risk identification, Clarity for NC thresholds, Guide on interview times and reporting times, More info for worker interviews, Compliance assessments
  - > Status Most approved to be in update

### Other initiatives – focus areas for 2024

- > Working more closely with **IPAF** with respect to audit input (before and after)
- Potential mentoring program with Registered Specialists and/or auditors e.g. "buddy" system (desktop and in-person)
- Greater engagement with **individual auditors** on their experience and sharing this with other auditors

e.g. Two auditors attending in-person Standards Committee in September

- > 'Beta testing' with selected auditors on elementAL 2.0
- > Public disclosure of upcoming audits (when audits are initiated)
- Input into ongoing Standards revision process (2027) focus on 'auditability'
- > Increased auditor engagement through **in-person events** (in China, EU?)



# **General Q&A**



Visit the ASI Website:

<u>www.aluminium-stewardship.org</u>





## ASI Circularity Framework and Working Group

Gabriel Carmona Aparicio

28 September 2023



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### **Evaluating today's climate policy**





OurWorldinData.org – Research and data to make progress against the world's largest problems. Source: Climate Watch, the World Resources Institute (2020). Licensed under CC-BY by the author Hannah Ritchie (2020).

### Evaluating today's climate policy (2)





UK emissions-free electricity: supply and demand (TWh/yr)



See: Allwood et al (2019)

### Not only about climate change









• Yet, 1.6 billion people lack adequate housing or 200 million hours walking are required to get water or go to school.

#### Focus is often on consumption but that is only half the story

Source: Krausmann et al (2017) and Carmona et al (2021)

б  Asphalt

Concrete

Iron/steel Sand and gravel

Others

Bricks





### The magic washing machine









### **Stocks, Flows and Services**





Stock-flow-service nexus (Haberl et al 2017, Carmona et al 2021) Resource service cascade (Kalt et al 2019, Whiting et al 2021) Daly's ends-means spectrum (O'Neill et al 2018, Tanikawa et al 2021) Resource transformation chain (Cullen and Allwood 2010)

### Today's linear economy





New products = new raw materials

Persistent Elevated Levels of Waste Generation

Implementing Recycling Measures at "end-of-pipe"

### The idea of circularity





Circularity embodies the ethos of extending the lifecycle of materials to their utmost potential, thereby minimising waste generation.

Analogous to the perpetual nature of a circle, we should aspire to foster a system where resources are used in a continuous and sustainable cycle.

### Why is circularity important?





Circularity embodies the strategic management of resources, curbing wastage and safeguarding the environment.

Consider this as an exercise in thoughtful and intelligent resource stewardship.

### **Circularity Iceberg**



Design for Re-X **Product life extension Resource efficiency Circular supply chain Product-as-a-Service** Traceability & Transparency **Retain product ownership** 

Recycling

# ASI Circularity Framework

https://aluminiumsteward ship.box.com/v/circularity frameworkaug23





Casthouses

Aluminium

Semi-fabrication

1. Life cycle stage

Aluminium

Smelting



### Lifecycle stages: Circularity and Aluminium





Aluminium is a special material for circularity. Here's why:

1. Infinite recoverability

2. Energy and carbon saver

3. Less red mud and tailings

4. More recycling means less bauxite needs to be mined

### Driving change role



### Adopter Enhancing the internal environmental sustainability performance.



#### Enabler

Empowering customers and suppliers' transition towards a CE.

#### Influencer

Promoting collaboration among stakeholders to foster circularity.

### **CE strategies**



Umbrella CE strategy strategy		rategy	Associated terms	
Sustainable	1	Refuse	Avoid single use or disposable products	
by Design	2	Rethink	Cradle-to-cradle, Sharing initiative, membership business	
	3	Redistribute	Convenient/safe public services, provisioning systems, decent living standards, collaborative consumption	
Resource efficiency	4	Reduce	Lightweighting, Less material use, downsizing, miniaturisation, multifunctionality, right-sizing	
	5	Reuse	Modularity, easy disassembly.	
	6	Repair	Remanufacture, Refurbish	
	7	Repurpose	Upcycling	
EoL	8	Regenerate	Rehabilitation, carbon capture gardens	
recovery	9	Recycling	Downcycling, cascading	
	10	Reclaim	Urban mining	

### **Circularity Business Models**



- New revenue models: Paying for use instead of ownership. Producer remains the product's owner. Material leasing models
- Supply chain collaboration: New alliances between companies in new and established production chains. Circular value chains / networks.
- Traceability: Using technology to transparently track and manage product lifecycles, promoting responsible sourcing and informed decision-making

Source: Atasu et al (2021). Retain product ownership (RPO), Product life extension (PLE), Design for recycling (DFR)

→ Hard	Low embedded value Strategy: DFR + infrastructure/partnerships Example: Biodegradable packaging (BioPak)	Low embedded value Strategy: DFR + RPO Example: Servicing and retreading commercial tires (Michelin)				
sess	High embedded value Strategy: PLE + RPO Example: Industrial equipment (Caterpillar and Xerox)	<b>High embedded value</b> Strategy: PLE <i>Example: Wind turbines</i>				
Acc	Low embedded value Strategy: Incremental DFR Example: Commodity raw materials (Real Alloy and Norsk Hydro)	Low embedded value Strategy: DFR + partnerships Examples: Carpets (Interface); mattresses (DSM-Niaga); footwear (Nike and Adidas)				
Easy <	High embedded value Strategy: PLE + DFR Example: Branded reusable and recyclable clothing (Patagonia)	High embedded value Strategy: DFR Example: Consumer electronics (Apple)				
Easy < Process						







### Future developments







Standardization in the field of circular economy to develop frameworks, guidance, supporting tools and requirements for the implementation of activities of all involved organizations, to maximize the contribution to Sustainable Development.



C	ISO 59 010 Circular Economy – Guidance on business models and value networks	ISO 59 020 Circular Economy – Measuring and assessing circularity	ISO 59 040 Circular Economy – Product Circularity Data Sheet	ISO 59 014 Secondary materials – Principles, sustainability and traceability requirements	)
	ISO TR 59 031 – Circular Economy – Performance based approaches				

**ISO TR 59 032 –** Circular Economy – Review of business model implementation

### **Working Group**



- Meeting 1 (19th July 2023) & Meeting 2 (23<sup>rd</sup> August 2023). Meetings every 6-8 weeks.
- Scope: Balance between macro to entity-level initiatives for broader influence.
- Work Segmentation: Prioritizing key areas as per the Terms of Reference (ToR). Creating focused sub-groups for in-depth analysis and strategy development.
- **Collaborative Strategy:** Fostering collaboration for tangible changes in the aluminium value chain.

### CWG working programme



Month	Title	Objective	Activities
1	Introduction and	Understand and discuss the CWG ToR and	Review the proposed ASI circularity framework and
	Circularity Framework	expectations.	identify how it aligns with the CWG ToR.
	Presentation		
2	Review of ToR and	Deepen understanding of the ToR and identify	Review the ToR in-depth. Conduct a materiality
	Prioritisation	priorities	assessment of key issues to help prioritise.
3	Development and	Outline key circularity requirements and	Consolidate all the contributions, ensuring consistency
	compilation of the	measurements within the aluminium sector	and accuracy.
	circularity requirements		Resolve any discrepancies or conflicts in the data with
	matrix		inputs from the respective contributors
4	Strengthening and	Deep-dive into the CWG ToR's first aspect:	Identify potential challenges and solutions in
	refinement of PS Princ 4.	Strengthening and refinement of PS Principle 4	implementing these changes.
			Analise how Principle 4 addresses priorities identified in
			previous meeting.
5-8	Formation and work of	Create dedicated groups for specific topics:	Form subgroups to tackle specific topics.
	CWG Subgroups	<ul> <li>Waste reduction (overburdens, bauxite</li> </ul>	Develop offline approaches to support work and discuss
		residue) and accounting (tailings)	metrics and measurement methods
		Packaging –cans	
		<ul> <li>Packaging – others</li> </ul>	
		Transport - Automotive	
9-10	Addressing Resource	Discuss and develop strategies for increasing	Start discussion on outcome-based criteria towards
	Efficiency in PS	resource efficiency	resource efficiency, including threshold values per
			process/supply chain activity.
11-12	Review and	Review progress made, consolidate findings,	Consolidate findings and observations made during the
	Consolidation	and develop recommendations. Planning for	past months into a comprehensive report with
		Future Actions	recommendations to inform the SC.

### **Final thoughts**





- Are there any critical elements missing from our current ASI Circularity Framework?"
- Do you believe the current framework adequately addresses the challenges we highlighted, particularly in relation to the linear economy and resource management?
- From an operational standpoint, are there any challenges you foresee in implementing the proposed strategies within the ASI Circularity Framework?
- How can we make these more actionable within the Aluminium industry?



# Questions and Ideas?





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### **Downscaling Planetary Boundaries: Metals**

3 textiles

4 wood 5 metals

7 plastic 🔲 8 glass





See: Desing et al (2023)

### **Downscaling Planetary Boundaries: Aluminium**





See: Desing et al (2023)

## GHG Method for PS 5.3 – recommendation for ASI endorsement





### **Today's Standards Committee plan**

- 1. A method for 1.5 degree Entity level GHG Pathway articulation
  - a. Primary output-based slope(s)
  - b. Casthouse, semis and fabrication procurement slope (s)
  - c. Casthouse & semis process slopes
- 2. Applicability choices
  - a. Intra-Entity portfolios
  - b. Inter-Entity portfolios (group or corporate level slopes)
- 3. First iteration applicability
  - a. Should the primary slopes ONLY apply to Entities containing Aluminium Smelters (ie exclude stand alone bx and Al<sub>2</sub>O<sub>3</sub>)
- 4. Auditor Guidance for Pathway articulation
  - a. Base year choice
  - b. Baseline verification (linkage to 5.1 and other external criteria)
- 5. Auditor Guidance for Pathway articulation (first cert)/Plan resilience
- 6. Auditor Guidance for Plan performance
  - a. Excursions from the slope
  - b. Delayed action
  - c. Force majeure
  - d. etc



#### DECISION ON RECOMMENDATION

DECISION ON RECOMMENDATION

DECISION ON RECOMMENDATION

DECISION ON RECOMMENDATION DISCUSSION DISCUSSION

#### **Process**



- ASI Standards Committee meet w/c 25<sup>th</sup> September
- Will consider draft method for recommendation to ASI Board (15 Nov 2023), under PSv3 criterion 5.3
- Standards Committee is ASI decision making body re changes to Standards and Guidance and may also direct amendments to method
- Endorsement by ASI Board would see inclusion of language/tools in Performance Standard Guidance initially
- Q1 2024 rollout, including training (see following)
- Third party initiatives and products due for delivery in Q4 2023 could see minor (sector slope) amendments to align
  - RMI Horizon Zero Product level Emission Reporting Guidance (Dec '23) & Procurement (2024)
  - Center for Climate Aligned Finance aluminium framework (Dec '23); see <a href="https://home.treasury.gov/news/press-releases/jy1744">https://home.treasury.gov/news/press-releases/jy1744</a>
  - No revised SBTi Sectoral Decarbonization Approach or Sector Guidance for aluminium coming any time soon, though ASI is in liaison with SBTi Aluminium team (along with IAI and RMI)

### Timeline for discussion (assuming endorsement)



- ASI publish method and supporting documentation as a stand-alone document Jan 2024, noting incorporation into Guidance forthcoming in next update round, signalling that it applies to Audits post Guidance update
- Training and communication begins immediately on publication
- April/May 2024 Guidance update publication (3.1.1)
- 2024:
  - Further discussion/decision by Standards Committee on additional Auditor Guidance (performance during re-certification)
  - Stand-alone Bauxite and Alumina cradle to gate slopes
  - Project: LULUCF emissions and potential incorporation into sectoral slopes

### ASI Performance Standard v3.0 (2022) Criterion 5.3



The Entity shall:

- a. Establish a GHG Emissions Reduction Plan and ensure a GHG Emissions Reduction Pathway consistent with a 1.5°C warming scenario, using an ASI endorsed methodology when available.
- b. Ensure that the GHG Emissions Reduction Pathway includes an Intermediate Target covering a period no greater than five years, which:
  - i. Addresses all Direct and Indirect GHG emissions.
  - ii. Is developed using a Science-Based Approach endorsed by ASI, if available.
  - iii. Is publicly disclosed.
- c. Review the GHG Emissions Reduction Plan annually.
- d. Review the GHG Emissions Pathway on any changes to the Business that alter baselines or targets.
- e. Publicly disclose:
  - i. The latest version of the GHG Emissions Reduction Pathway
  - ii. The latest version of the GHG Emissions Reduction Plan.
  - iii. Progress against the GHG Emissions Reduction Plan on an annual basis.

### Sectoral average intensities (t CO<sub>2</sub>e/t AI)




# Primary (electrolytic) aluminium & precursors



- Fixed boundary, mine to smelter casthouse (electrolytic metal only)
- Cradle to gate emissions (direct and upstream indirect)
  - Good Practice Guidance for Calculation of Primary Aluminium and Precursor Product Carbon Footprints
     v2.0 (2021): <u>https://international-aluminium.org/wp-content/uploads/2021/08/CF-Good-Guidance-v2\_final-2021.pdf</u>
- Slope measured at casthouse **OUTPUT** (precursors non-integrated alumina refiners and bauxite miners will need to in-gather data from customers until SDAs for bauxite and alumina are developed, in 2024)
- Choice of slope:
  - All emissions in a single Pathway
  - Electricity and non-electricity emissions split Pathways (as per Center for Climate Aligned Finance DRAFT)
- Singular portfolio (Entity) slope or individual smelter casthouse slopes

# Primary cradle to gate intensity



### **Electricity-related**

#### Non-electricity-related





# Primary cradle-to-gate intensity (single slope)





# Non-electrolytic supply chain activities



- Dual slopes: casthouse & semi-fabrication
  - Metal procurement emissions intensity (scope 3 cat. 1)
  - Process emissions intensity (scopes 1 & 2)
- Single slope: fabrication
  - Metal procurement emissions intensity (scope 3 cat. 1)
- Procurement slope measured at supply chain activity <u>INPUT</u>
- Process slope measured at OUTPUT
- Slopes apply at Entity level, with procurement encompassing all metal entering the certification scope (even if from within same corporate system).

## Simplified data entry

Casthouse: 2 base year data points Semi-fab: 2 base year data points Fab: 1 base year data point





# Process slopes (casting & semi-fabrication)







Non-smelter casthouse:

Average mass-weighted emissions intensity of input aluminium (cold metal + liquid metal + scrap (with yield factor applied) entering the Entity certification scope (i.e. purchased or transferred from outside the Entity) in the baseline year.

Smelter casthouse:

• Average mass-weighted emissions intensity of input aluminium (cold metal + liquid metal + scrap (with yield factor applied) entering the casthouse process in the baseline year.

Allocation method choice:

- The allocation of an emissions burden to input scrap (i.e. embodied carbon) is a decision for the Entity the sectoral slope does not change accordingly (although the Entity slope will).
- However, Entities should align with the IAI's Guidelines on Transparency Aluminium Scrap, when calculating and communicating the emissions intensity of scrap containing products: <u>https://international-aluminium.org/wp-content/uploads/2022/09/IAI-Guidelines-</u> <u>Transparency-Final\_Sept-2022.pdf</u>.

# CASTING: casthouse inputs emissions intensity







## SEMI-FABRICATION:

- Average mass-weighted emissions intensity of cast aluminium entering the Entity certification scope (i.e. purchased or transferred from outside the Entity) in the baseline year.
- Not including metal from integrated casthouse processes (which is captured in the prior process stage (casthouse)

## FABRICATION:

- Average mass-weighted emissions intensity of semi-fabricated and fabricated aluminium entering the Entity certification scope (i.e. purchased or transferred from outside the Entity) in the baseline year.
- Not including metal from integrated semis processes (which is captured in the prior process stage (semi-fabrication)

# SEMIS: Casthouse products procurement emissions intensity



Aluminium

# FAB: Semis procurement emissions intensity





## **2. APPLICABILITY**



See whiteboard for details

## **3. FIRST ITERATION APPLICABILITY**



If we are looking to develop bauxite and alumina slopes in 2024 and in the interim stand along facilities would need to ingather downstream scope 3 data to develop their Pathways, might we not exclude such Entities from the requirement until we have such slopes?

How many current certificates apply to such situations?

- Dadco (Refining) 08/2026
- Gulkula (Mining) 06/2024
- MRN (Mining) 01/2025

- Hydro B&A (doesn't really count as mid and downstream assets are certified under a different Entity so would need to demonstrate Pathways there anyway)

Recommendation: do not apply current Pathway method at non-integrated mines/refineries – wait until such slopes are available

## 4. Base Year



- Entities that are developing GHG Pathways for the first time are encouraged to use the most recent year for which data is available as the base year.
- If an Entity has more detailed data for a previous year this is acceptable for validation purposes, as long as most recent year data is also disclosed.
- If the chosen base year is more than 3 years prior to the initial ASI Performance Standard Certification/Re-Certification Audit that is assessing conformance with Criterion 5.3 (e.g. to align with a corporate baseline), the most recent year data should indicate already achieved performance in line with the Entity Pathway in order for the Entity to be in conformance.
- The base year should be fixed for the duration of the Pathway.
- Intermediate Targets must cover a minimum of 5 years and a maximum of 10 years from the chosen base year.
- Intermediate Targets must cover a period no greater than five years from the chosen base year

## **Demonstrating Conformance**



- In addition to articulation of a GHG Pathway that aligns with (is at or below) the generated Entity slope, conformance in subsequent Audits would require demonstration of performance that follows (is at or below) the GHG Pathway, averaged (by production mass) over the certification period.
- For example:
  - Smelter casthouse
  - 2024 initial Audit

2023 base year (8.6 t  $CO_2e/t$  Al)

Pathway	slope I	Intermediate T	argets: 2024: 8.4	2025: 8.2	2026: 7.8

- 2027 re-certification Audit

Production	2024: x	2025: y	2026: z

Demonstrate an average production weighted emissions performance (a), 2023-2026 of:

- a = (8.4(x)+8.2(y)+7.8(z)) / (x+y+z)
- If x = y = z, then  $a = 8.1 \text{ tCO}_2 \text{e/t Al}$

# Some implications/issues



- Increase in non-conformances likely, even among existing certified Entities some may not ever be able to achieve
  - May be (but not necessarily) regionally specific
- The sectoral slope with shift if action is delayed; this will steepen Entity slopes how to cope with this (potentially) fast change and shifting targets.
- New facilities from what base do they plot their slope?
- GHG Plans and relationship with GHG Pathways auditor "stress tests"
- If primary doesn't decarbonise at scale, downstream cannot meet the Pathway requirements (at scale)
   first movers that can lock in low carbon supply (primary and/or recycled material) will be advantaged;
- Some Entities that were v3 Audited between April 2022 and the method endorsement/publication will not have GHG Pathways that follow an ASI endorsed method and may not have Intermediate Targets that meet the standard.

## **1. METHOD DECISION**



- 1. Recommend to the ASI Board to endorse the GHG Pathways method:
  - output/procurement/process
  - choice of base year
  - group applicability
- 2. Exclude stand-alone mines and refineries from requirement in first iteration.
- 3. Publish endorsed method and tool and audit/implementation guidance as stand alone document in January 2024.
- 4. Incorporate into Guidance v3.1.1 (with SC oversight) in April 2024.
- 5. ASI secretariat to work on:
  - a. Integrated process slopes (Oct 23)
  - b. Bx and Al2O3 sectoral slopes (2024)
  - c. Land use emissions (2024)
  - d. Training, communication & rollout (from Q4 2023)
- 6. Any updates to sector slopes, method or guidance (based on changing science and/or assurance/implementation experience requires (as usual) Standards Committee (and thence Board) decision

# Partnerships Priorities Update

ASI Standards Committee meeting, Liverpool

28 September 2023







# Agenda

ASI Partnerships priorities

ISEAL Update

Downstream Engagement

Benchmarking and alignment

Next steps

## **ASI Partnerships**



## ASI Partnerships Priorities – the 'Who':

- > Climate Change
- Downstream sectors: Automotive, Building & Construction, Other (Aerospace, Renewable Energy, Packaging)
- Due Diligence Regulation
- Financial & Investment Sector
- > ISEAL Alliance

## **Resourcing:**

- Wen Zhang started on 19 September as Assurance & Benchmarking Manager
- Brings strong analytical experience from WEF, Alcoa and CM Group
- Will work on TCFD / TNFD alignment project, EU / national regulations and other benchmarking projects

## ASI & ISEAL in a nutshell

- Successful evaluation against 3 ISEAL Codes with very few NCs overall
  - ✓ **Standard-Setting Code** in 2019 and 2023
  - ✓ Assurance Code in 2020
  - ✓ Impacts Code in 2021
- New: Annual membership requirements and reporting
- Marieke member of the ISEAL Technical Committee and Steering Group for Integrated Code, Andrew applying for Financial Committee
- ASI team participates in number of ISEAL Communities of Practice and working groups
- ASI and RJC are the only Code Compliant members of ISEAL in the mining and metals space; CopperMark, IRMA, ResponsibleSteel, Swiss Better Gold are Community Members (but working towards Code Compliant membership) – others applying (MAC-TSM)





# ASI engagement with ISEAL in 2023



#### **Completed:**

- Successfully completed independent evaluation against Standard-Setting Code Part II (no NCs)
- Submitted feedback on ISEAL Integrated Code during public consultation periods
- Reached out to other ISEAL Code Compliant members to understand how they approach reprisal risks in auditing
- Presented on ISEAL webinar on 'Operational or site-level grievance mechanisms: standard requirements and auditing challenges'
- Submitted EOIs for ISEAL Innovations Fund, latest one focussing on human rights training for auditors (with Pillar Two)

## **Planned:**

- Vicky and Klaudia participated in ISEAL
   Members Week in Amsterdam last week
- Update ASI's Annual Membership Improvement Plan
- > Andrew to join the ISEAL Finance Committee
- If successful, implement ISEAL Innovations Fund project with Pillar Two

## **Draft ISEAL Integrated Code - overview**





ISEAL Code of Good Practice

Chapter 0:	Policies, Procedures, and responsibilities
	for scheme components
Chapter 1:	Strategy for impact
Chapter 2:	Scheme integrity, governance, and
Ob anoto v 2	
Chapter 3:	Scheme performance and continual
	improvement (monitoring, evaluation,
	and <b>learning;</b> or MEL)
Chapter 4:	Data and information management
Chapter 5:	Stakeholder engagement
Chapter 6:	Standards development and maintenance
Chapter 7:	Assurance
Chapter 8:	Claims

## **Timelines**





## What does this mean for ASI?



- Code covers new issues (claims, due diligence, governance) but is less thorough and prescriptive than existing Codes of Good Practice
- As a Code Compliant member:

ISEAL Code Compliant member	<ul> <li>Submission Submission Submission Submission Submission Features Good F</li> <li>Transitic demonstrative demonstration requires met</li> <li>Dialoggie evaluation compliation of the submission of the submissio</li></ul>	ssion to ISE ment again ements of t Practice (th ion plan su estrating ho ements of t ue and agre tion model ance itment from iant Memb tions to ma ne Code	AL of a self st new he ISEAL C e Code) bmitted to w the new he Code w eement on to maintai n the ISEAI er on the c intain com	f- ode of o ISEAL / rill be the in L Code course of apliance	Mid- for d comj requ	Mid-2025 deadline for demonstration of compliance with new requirements			Annual surveillance assessment	Annual surveillance assessment	Annual surveillance assessment	Annual surveillance assessment	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	full	scope of the ISEAL	Code of Good Pract	ice	
	2024			2025				2026	2027	2028	2029		

• **Evaluation techniques:** ISEAL exploring staff and key stakeholder interviews, sampling approaches and reviewing documentation

## **Downstream Engagement - Automotive**



- Collaborating with Drive Sustainability, GBA and RSCI, IRMA and with OEMs bilaterally
- Aim is to:
  - Encourage these organisations to recognise ASI Certification so that ASI Certified Entities can use their PS Certification to meet requirements of these initiatives and thus reduce duplication of efforts.
  - Inform initiatives of ASI's system (standards, assurance and impacts) and our Beyond Certification work and outcomes.

## Challenges:

- Level of recognition between initiatives is low
- Consumer facing so have been target of civil society campaigns
- Interest in initiatives that cover all metals, many (therefore) joined IRMA
- Increasingly want to do their own audits / site visits particularly in high-risk areas (as part of due diligence requirements and processes)



ASI is recognised by several Green Building Schemes:

- BREEAM completed
- US Green Building Council LEED completed (but a pilot credit)
- Green Building Council Australia (GBCA) completed
- German Green Building Council (DGNB) on hold (no response from DGNB)
- Belgium Construction Certification Association (BCCA) ongoing

## **Challenges:**

- Fragmentation of supply chain initiatives, often on national basis
- Response rates in these initiatives can be low
- However as the focus grows on embodied carbon (and other issues) in material sourcing for the built environment, it is hoped that interest in ASI and its specialist knowledge will increase

## LME - OECD Alignment Assessment

- ASI achieved **Conditional Alignment** in 2022
- To become **Fully Aligned**, 3 audit shadows need to be conducted at ASI members:
  - One completed
  - Two being planned, but challenging since not much insight in audit pipeline
- ASI on OECD Multi-Stakeholder Steering Group (MSG) since April 2023

## Mining Standards Convergence:

- Copper Mark, ICMM, MAC and World Gold Council are consolidating their existing standards and systems into one single global standard to 'counter' IRMA
- Copper Mark will be Secretariat and their assurance model likely to be used
- Monitor progress and log Mining Standards Convergence requirements for upcoming ASI Standards Revision
- IRMA is keen for ASI to become ally as being the only two 'truly multi-stakeholder initiatives'
  - > Engagement goal: IRMA Buyers Group to stop sending letters to ASI Members

# **Benchmarking & Recognition - Challenges**



- Resource and time-intensive
- **Under-resourced** in many organisations
- Intent is there but at the same time competition between schemes (who have their own agendas and constituencies)
- Increased scrutiny on assurance:
  - Benchmarking assessments becoming more rigorous and include shadow audits (not just 'standards on paper')
  - Standards strengthening their own oversight programs (including witness assessments etc)
- May **benefit only some companies** (still need to do the work required from other scheme)

## Possible consequences:

- Less benchmarking between schemes but more alignment assessments of schemes overall (by regulators etc)
- Roles for OECD (and ISEAL) in setting credibility criteria of schemes
- Alignment may decide which schemes are fit for purpose/can exist and which ones not
- More schemes may merge (Mining Standards Convergence) or proliferation of schemes?

# Sustainability reporting: IFRS and ISSB



- The Trustees of the IFRS Foundation announced the formation of the International Sustainability Standards Board (ISSB) on 3 November 2021 at COP 26 in Glasgow
- ISSB standards set **global baseline of sustainability disclosures** focused on the needs of investors and financial markets
- IFRS S1 and IFRS S2 Standards launched on 26 June 2023
  - IFRS SI: General Requirements for Disclosure of Sustainability-related Financial Information
  - IFRS S2: Climate-related Disclosures (incorporates TCFD recommendations)
- IFRS Foundation taken over the monitoring of the progress on companies' climate-related disclosures from the TCFD. IFRS also working on new areas (human capital, human rights, biodiversity and nature, integrated reporting)
- In addition, interoperability going on between ISSB and EU Commission (for CSRD and ESRS), CDP (will align platform with S2) and GRI
- There won't be one standard, however there will be strong focus on **harmonization** between reporting standards

# Sustainability reporting: TCFD and TNDF frameworks



#### TCFD:

Companies should disclose the relevant information within the framework of the four recommended core subjects for a TCFD-aligned report





#### **TNFD**:

The TNFD aims to build a risk management and disclosure framework that can be used by organisations of all sizes in all jurisdictions to identify, assess, manage and disclose nature-related dependencies, impacts, risks and opportunities.

# **Emerging reporting architecture**





#### Where TNFD Fits in the Emerging Reporting Architecture

## **Regulatory Developments**



## ASI focus is on:

- EU Corporate Sustainability Due Diligence Directive (CSDDD)
- EU Corporate Sustainability Reporting Directive (CSRD) and European Sustainability Reporting Standards (ESRS)
- EU Green Claims Directive

## ASI is monitoring:

- EU Batteries Regulation
- EU Critical Raw Materials Act
- EU Deforestation Regulation
- EU Forced Labour Regulation
- Legislation and initiatives in China
- Input/advice/questions from Association members

## Regulatory Developments - What, when, who



#### **EU CSDDD**

- Sets obligations for companies related to actual and potential human rights and environmental adverse impacts, with respect to own operations, the operations of their subsidiaries, and the chain of activities of the company
- Corporate due diligence duty and duties for Directors
- Group 1: +/- 9,400 companies with 500+ employees and net EUR 150 million+ turnover worldwide.
- Group 2: +/- 3,400 companies in high-impact sectors with 250+ employees and net EUR 40+ million turnover worldwide, and operating in defined high impact sectors > extraction of minerals.

#### EU CSRD / ESRS

- Will legally oblige more than 55,000 global companies to conduct verifiable, comparable and meaningful sustainability reporting based on the newly developed EU Sustainability Reporting Standards (ESRS)
- Updates and replaces the existing Non-Financial Reporting Directive (NFRD)
- EU CSDDD outsources reporting requirements to EU CSRD

#### **EU Green Claims Directive**

- Provides consumers with accurate and accessible general information on the environmental impact of products and services
- Reduces the proliferation of labelling schemes and claims who are greenwashing



2026+: Applies 24 months after the date of Entity into force

## **Alignment: Next Steps**



#### **Challenges:**

- > Continued proliferation of initiatives by topic, region, sector, material
- > Regulation entering spaces previously left to voluntary initiatives

#### Next steps:

Mapping the ASI Performance V3 and CoC V2 Standards against the frameworks of...

#### TCFD and TNFD:

- Governance
- Strategy
- Risk management
- Metrics and Targets (additional ASI categories may include Due diligence and Disclosure, as per below)

### EU CSDDD and CSRD / ESRS

- Human Rights and Environmental Due Diligence
- Sustainability Reporting

#### ... and discuss with SC to discuss including in next Standards Revision

Leverage regulatory drivers for supply chain due diligence
Align with new sustainability reporting frameworks

•Continue and extend broader standards **harmonisation** efforts

## Harmonisation



# Discussion and Q&A






## 2024-27 Priorities

- Restructuring of Principles
  - Systemic performance
    - Adaptation of existing criteria
    - Consolidation of existing sub-criteria (e.g. public disclosure)
  - Outcomes based criteria
    - Thresholds
    - Pathways
    - Circularity metrics
    - Etc
- Thematic/ risk gaps in current Criteria
  - Mine tailings
  - Sound/vibrations
  - Wellbeing/psychological health & safety

- Changes to supply chain activities/applicability
  - New activities (e.g.
  - Non-linear processes
  - Applicability of systemic criteria (above) at group level (agnostic of SCA)
  - Linkage to potential new certifying membership applicability
    - E.g. carbon products (anodes etc), chemical aluminas, scrap management, pre-melt processing, traders
- Chain of Custody Standard evolution
- Claims and Claims Guide



## ASI Chain of Custody Standard evolution

ASI Standards Committee Meeting, Liverpool

28 September 2023





## ASI Chain of Custody (CoC) Standard



• Enables a link between verified practices under the ASI Performance Standard at successive steps of the supply chain, to the Products produced by ASI Certified Entities.

#### Objective

• Increase the supply of, and demand for, ASI Aluminium through the global value chain.

#### **Value to Certified Members**

- Enhance transparency
- Access to sustainability data
- Respond to customers' requests
- Make claims for end-use products
- · Prepare for regulatory compliance requirements



## **Chain of Custody Qualitative Research Interviews**



- Interviews conducted between 26 June and 31 August, 2023
- 15 Entities from:
  - Production and Transformation (9),
  - Industrial Users (4),
  - Downstream Supporters Membership classes (1),
  - Non-Members (1).
- 11 Entities had achieved a CoC Certification.



- How ASI CoC Certification is being used in practice and how ASI CoC Standard may need to evolve in the future to meet market and stakeholder expectations.
- Inform ASI Standards revision in 2027.

Main topics discussed:

- 1. Internal/external drivers for ASI CoC Certification.
- 2. Challenges in implementing and auditing the current ASI CoC Standard.
- 3. The 'Dream' ASI CoC Standard: what would it deliver?
- 4. Interest in sustainability data.





1.5 Degree AlignedEmissions Pathwaysfor the AluminiumValue Chain





## Agenda



1.	Aluminium sector 1.5 degree greenhouse gas pathway(s) and emissions budget	30 mins
2.	A "Sectoral Decarbonisation Approach" (SDA)	15 mins
3.	ASI Performance Standard methodological gap and method "constraints"	15 mins
4.	Evolution of the GHG method and trade-offs	15 mins
5.	Discussion/Q&A	15 mins
6.	BREAK	30 mins
7.	The DRAFT Entity-level GHG method proposed for "ASI endorsement"	30 mins
8.	Excel-based tool walkthrough	15 mins
9.	Implications for the sector and for ASI	15 mins
10.	Discussion/Q&A	30 mins

## Agenda



1.	Aluminium sector 1.5 degree greenhouse gas pathway(s) and emissions budget	30 mins

## The aluminium sector



- Is responsible for...
  - …around 2% of global annual anthropogenic GHG emissions (as CO<sub>2</sub>e);
  - …around 4% of CO<sub>2</sub> emissions;
- Emissions are concentrated in primary aluminium production (95%);
- Electricity-related emissions in aluminium smelting (electrolysis) make up 60% of total sectoral emissions;
- High (regional and asset-level) variability in electricity-related emissions in aluminium smelting, driven by power mix, all other emissions exhibit relatively low variability;
- Availability of (quality) scrap and current "lowest available carbon" primary is a limiting factor; as the sector decarbonises the latter may ease, but the former remains constrained and will be unevenly distributed;
- The sector will need similar volumes of primary aluminium in 2050 as today, even with near 100% recycling rates.





#### Net Zero Emissions by 2050 Scenario

- **Definitions** A scenario which sets out a pathway for the global energy sector to achieve net zero CO2 emissions by 2050. It doesn't rely on emissions reductions from outside the energy sector to achieve its goals. Universal access to electricity and clean cooking are achieved by 2030.
- **Objectives** To show what is needed across the main sectors by various actors, and by when, for the world to achieve net zero energy related and industrial process CO2 emissions by 2050 while meeting other energy-related sustainable development goals such as universal energy access.



#### https://www.iea.org/reports/global-energy-and-climate-model

# **EMISSIONS REDUCTION**

Aluminium Sector (million tonnes CO2e)





- Only global aluminium sector 1.5 degree scenario (1.5DS)
- "Broadly aligned" with IEA NZE scenario
- Incorporates non-CO<sub>2</sub>
   GHG emissions
  - Mining to semifabrication (including recycling)

https://international-aluminium.org/resource/1-5-degreesscenario-a-model-to-drive-emissions-reduction/

#### **Source: Mission Possible Partnership**





https://missionpossiblepartnership.org/action-sectors/aluminium/

## **Global metal supply**



#### Primary Aluminium (million tonnes)





Pre-Consumer scrap\* (million tonnes)



\*Pre-consumer scrap generated during the production of final products from semis

## Primary aluminium emission sources, 2021 (source: IAI)





## ASI PS Certifying Smelters (scopes 1+2+3 from anode purchases only)

t CO2e/t



ASI Performance Standard

Production kt

#### Source: CRU Group https://emissionsanalysistool.crugroup.com





## Agenda



1.	Aluminium sector 1.5 degree greenhouse gas pathway(s) and emissions budget	30 mins
2.	A "Sectoral Decarbonisation Approach" (SDA)	15 mins



#### **SDA Calculations**

The Sectoral Decarbonisation Approach (SDA) is a method to derive a company specific benchmark from sector specific decarbonisation trajectory. The calculation steps are as follows:

 $d = CI_b - SI_{2050}$ d: Initial performance in base year relative to 2050 sector target  $CI_b$ : Company emissions intensity in base year  $SI_{2050}$ : Sector emissions intensity in year 2050

 $p_{y} = \frac{SI_{y} - SI_{2050}}{SI_{b} - SI_{2050}} = \frac{Intensity \ reduction \ from \ target \ year \ to \ 2050}{Intensity \ reduction \ from \ base \ year \ to \ 2050}$ 

 $p_y$ : Decarbonisation index of the sector in year y SI<sub>y</sub>: Sector emissions intensity in year y SI<sub>b</sub>: Sector emissions intensity in base year SI<sub>2050</sub>: Sector emissions intensity in 2050

 $CI_{y} = d \times p_{y} + SI_{2050}$ CI<sub>y</sub>:Company emissions intensity benchmark in year y

From RMI Center for Climate Aligned Finance (DRAFT)

- Science Based Targets Initiative have an SDA for aluminium, but:
  - Not 1.5 degree-aligned
  - Not applicable to whole value chain
  - Applies to direct (scope 1) emissions only
- SBTi are "working on" a revised SDA, but will not be published any time soon (2025 at earliest) and will only apply to primary at first.
- SDA is being used by CCAF and was preferred approach of the ASI Climate Change WG
- CCAF SDA not applicable to whole value chain and focused on measuring performance of inverstment portfolio rather than Entity

#### Sectoral Decarbonisation Approach DRAFT *Center for Climate Aligned Finance* Framework





## ASI Climate Change WG Decisions/Directions



- Sectoral Decarbonisation Approach:
  - -Convergence on a target intensity following a sectoral "slope" or slopes
  - Requires sectoral absolute emissions budget in a given period (year) and sectoral activity data (production/shipments/procurements) to define a (sectoral) intensity slope
  - -Entity/asset/supply chain activity can be mapped to the sectoral slope with a known baseline intensity as long as the Entity/asset/supply chain activity has the same scope (system boundary) as the sectoral slope.
- Direct and indirect = cradle to gate (broadly equivalent to GHG Protocol Scopes 1, 2 and 3 (cats. 1, 3 & 4 - upstream)

Table 1: 1.5 GHG Budget Aluminium Sector									
			CO <sub>2</sub> e emission	s (Mt)			2018-	2018-	2018-
	2018	2030	2035	2040	2045	2050	2030	2040	2050
Electricity (Electrolysis)	670	461	74	15	6	6	-31%	-98%	-99%
Electricity (Other)	33	27	20	14	9	4	-19%	-58%	-89%
Aluminium Industry	279	231	176	120	76	31	-17%	-57%	-89%
Aluminium in Other Sectors + Transport	77	64	49	34	21	9	-17%	-57%	-89%
PFC	35	29	22	15	10	4	-17%	-57%	-89%
Aluminium Sector	1,095	813	341	198	121	53	-26%	-82%	-95%
Table 2: 1.5 Budget Aluminium Sector by Proc	955								
Table 2. 1.5 Budget Aluminum Sector by Pro-									
			CO <sub>2</sub> e emission	s (Mt)			2018-	2018-	2018-
	2018	2030	2035	2040	2045	2050	2030	2040	2050
Primary Aluminium	1,037	756	289	155	87	35	-27%	-85%	-97%
Electrolysis	823	586	165	75	40	18	-29%	-91%	-98%
Refining	171	136	99	63	37	13	-21%	-63%	-92%
Recycled Aluminium	19	22	20	16	10	8	19%	-14%	-55%
Internal Scrap/Fabrication Scrap	11	9	7	5	3	1	-20%	-58%	-89%
Semis Process	29	26	24	23	21	8	-11%	-20%	-71%
Aluminium Sector	1,095	813	341	198	121	53	-26%	-82%	-95%
Table 3: 1.5 Production									
			Aluminium (	Mt)			2018-	2018-	2018-
	2018	2030	2035	2040	2045	2050	2018-	2018-	2010-
Primary Aluminium	64	66	69	71	70	68	2030	10%	6%
Recycled Aluminium	32	/19	57	66	70	81	5/1%	108%	155%
New Scran/Manufacturing Scran	13	16	15	15	14	13	24%	15%	1%
Old Scrap/Post-Consumer Scrap	19	33	42	52	60	68	73%	170%	257%
Internal Scrap/Eabrication Scrap	33	36	34	32	30	27	7%	-2%	-19%
Semis Shipments	95	118	126	138	144	150	24%	45%	57%
Final Product Shipments	82	103	112	123	131	137	26%	51%	68%
New Scrap + Internal Scrap = Pre-Consumer Sc	rap								
Recyclea Aluminium = Includes Alloying Elem	ents and Metal L	osses							
Primary Aluminium = Tapped from Electrolytic	c Cells or Pots								
Table 4: 1.5 Intensity Data (Process Emissions)	)								
		CO <sub>2</sub> e emis	sions intensity (	tonnes per tonn	e)		2018-	2018-	2018-
	2018	2030	2035	2040	2045	2050	2030	2040	2050
Primary Aluminium	16.1	11.5	4.2	2.2	1.2	0.5	-28%	-86%	-97%
Recycled Aluminium (Gate to Gate)	0.6	0.5	0.4	0.2	0.1	0.1	-22%	-59%	-82%
Semis Process (Gate to Gate)	0.3	0.2	0.2	0.2	0.1	0.1	-28%	-45%	-81%



 IAI activity and emissions data at various points on the value chain allow definition of multiple SDA Pathways, for different Entity/supply chain activity types

https://internationalaluminium.org/wpcontent/uploads/2021/10/1.5-Scenario-Dataset-3.xlsx

# Sectoral (average) slope measured at different points on the value chain





## What is the method for?



- It is a way to measure ASI Entity (or other defined entity asset, corporation, site) performance over time in line with a sectoral 1.5 degree scenario;
- It respects the sectors 1.5DS carbon budget (so slopes may/will change if action is delayed);
- · It is forward-looking;
- It is not a measure of "low carbon", "green", "net zero" aluminium;
- ASI Performance Standard does have a criterion for smelter emissions performance today (5.2), designed as a way to exclude new fossil fuel based production;
- Criterion 5.2 is broadly aligned with the SDA method (we will explore later) for a currently operating coal fired smelter, but it is not a measure of "low carbon aluminium" either.
- ASI IS NOT DEVELOPING A "LOW CARBON STANDARD" BUT THAT DOESN'T STOP STAKEHOLDERS FROM:
  - THIKING WE ARE ...
  - THINKING WE SHOULD...

#### ASI Performance Standard v3 (2022) 5.2 Aluminium Smelter GHG Emissions Intensity.

Where an Entity is engaged in Aluminium Smelting and where the Aluminium Smelter:

- a. Started production after 2020, the Entity shall demonstrate that the average Mine to Metal Emissions intensity is below 11.0 tonnes CO2e per metric tonne of cast Aluminium (t CO2e/t Al).
- b. Was in production up to and including 2020, the Entity shall demonstrate that Mine to Metal Emissions intensity:
  - i. Is below 11.0 t CO2e/t Al.
    - or
  - Has been reduced by a minimum 10% over the previous three reporting periods and that the Entity has established GHG Emissions abatement plans that ensure Mine to Metal Emissions intensity is:
    - a. below 13.0 t CO2e/t AI by end 2025, and
    - b. below 11.0 t CO2e/t Al by end 2030.

## ASI Performance Standard v3.0 (2022) Criterion 5.3



The Entity shall:

- a. Establish a GHG Emissions Reduction Plan and ensure a GHG Emissions Reduction Pathway consistent with a 1.5°C warming scenario, using an ASI endorsed methodology when available.
- b. Ensure that the GHG Emissions Reduction Pathway includes an Intermediate Target covering a period no greater than five years, which:
  - i. Addresses all Direct and Indirect GHG emissions.
  - ii. Is developed using a Science-Based Approach endorsed by ASI, if available.
  - iii. Is publicly disclosed.
- c. Review the GHG Emissions Reduction Plan annually.
- d. Review the GHG Emissions Pathway on any changes to the Business that alter baselines or targets.
- e. Publicly disclose:
  - i. The latest version of the GHG Emissions Reduction Pathway
  - ii. The latest version of the GHG Emissions Reduction Plan.
  - iii. Progress against the GHG Emissions Reduction Plan on an annual basis.

## Agenda



1.	Aluminium sector 1.5 degree greenhouse gas pathway(s) and emissions budget	30 mins
2.	A "Sectoral Decarbonisation Approach" (SDA)	15 mins
3.	ASI Performance Standard methodological gap and method "constraints"	15 mins

## ASI Performance Standard v3.0 (2022) Criterion 5.3



The Entity shall:

- a. Establish a GHG Emissions Reduction Plan and ensure a GHG Emissions Reduction Pathway consistent with a <mark>1.5°C warming scenario</mark>, using an ASI endorsed methodology when available.
- b. Ensure that the GHG Emissions Reduction Pathway includes an Intermediate Target covering a period no greater than five years, which:
  - i. Addresses all Direct and Indirect GHG emissions.
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  - iii. Is publicly disclosed.
- c. Review the GHG Emissions Reduction Plan annually.
- d. Review the GHG Emissions Pathway on any changes to the Business that alter baselines or targets.
- e. Publicly disclose:
  - i. The latest version of the GHG Emissions Reduction Pathway
  - ii. The latest version of the GHG Emissions Reduction Plan.
  - iii. Progress against the GHG Emissions Reduction Plan on an annual basis.

Additionally, the method needs to:

- Apply to ALL certifying Entities
  - 5.3 is not just for smelters, it is for all P&T and IU Entities
- Be simple to use (by Entities) and communicated (by ASI)
- Produce Entity Pathways and Targets that are Auditable (simplicity and consistency)
- Be fair in its treatment of similarly scoped Entities (benchmark-able)
- Have reasonable data requirements, while helping to drive improvements in data transfer/transparency
- Use, reference and harmonize with existing Guidance, frameworks and emerging approaches (including regional approaches), while meeting the requirement of 1.5 alignment (c. 15-16 GT CO<sub>2</sub>e emissions budget to 2050).

#### **Scope 3 categories**





## Methodological gaps in aluminium value chain



- While there are emerging emission intensity pathway methods (SDA) for some parts of the aluminium value chain, there are gaps.
- When the WG started its work:
  - ☑ there are existing/draft/emerging methods;
  - $\boxtimes$  there are currently no well articulated methods;
  - $\square$  existing methods could be adapted.

#### As at 21 March 2023

ASI Member Class	Supply Cl (ASI	hain Activity Entities)	Broad weight of Scope 3 emissions (up/downstream) as a share of SCA total	Primary cradle to gate	Recycling gate to gate	Semis gate to gate	Post-semis gate to gate
P&T	Bauxite Mining		<b>44</b>		N/A	N/A	N/A
P&T	Alumina Refining		$\mathbf{\Psi}$	$\overline{\checkmark}$	N/A	N/A	N/A
P&T	Aluminium Sm (electrolysis)	elting	<b>→</b>		N/A	N/A	N/A
		Primary	<b>^</b>	$\overline{\checkmark}$	☑ (scrap share)	N/A	N/A
P&T	Casthouses	Secondary	ተተ	<ul> <li>Primary procurement pathway (mass-weighted) for scope 3 cat 1?</li> <li>(cold metal g2g – just use recycling slope?)</li> </ul>	☑ (scrap share)	N/A	N/A
P&T	Aluminium Re-melting/Refining		<b>→</b>	N/A		N/A	N/A
P&T	.T Semi-fabrication		ተተ	Procurement (scope 3 c pathway (mass-weigh !! METHODOLOGICAL ALIGNMEN BURDEN OF SCRAP	ategory 1) hted) IT REQUIRED (		N/A
• P&T • IU	Material conversion		<b>ተተተ</b>	N/A	N/A	I Procurement (scope 3 category 1) pathway	could use IEA electricity slope
IU	Other manufacturing or sale		<b>ተ</b> ተተ	N/A	N/A	N/A	Procurement (scope 3 category 1) pathway

## Agenda



1.	Aluminium sector 1.5 degree greenhouse gas pathway(s) and emissions budget	30 mins
2.	A "Sectoral Decarbonisation Approach" (SDA)	15 mins
3.	ASI Performance Standard methodological gap and method "constraints"	15 mins
4.	Evolution of the GHG method and trade-offs	15 mins
	Discussion/Q&A	
	BREAK	
	The DRAFT Entity-level GHG method proposed for "ASI endorsement"	
	Excel-based tool walkthrough	
	Implications for the sector and for ASI	
	Discussion/Q&A	

#### As at 21 March 2023

ASI Member Class	Supply Cl (ASI	hain Activity Entities)	Broad weight of Scope 3 emissions (up/downstream) as a share of SCA total	Primary cradle to gate	Recycling gate to gate	Semis gate to gate	Post-semis gate to gate
P&T	Bauxite Mining		<b>44</b>		N/A	N/A	N/A
P&T	Alumina Refining		$\mathbf{\Psi}$	$\overline{\checkmark}$	N/A	N/A	N/A
P&T	Aluminium Sm (electrolysis)	elting	<b>→</b>		N/A	N/A	N/A
		Primary	<b>^</b>	$\overline{\checkmark}$	☑ (scrap share)	N/A	N/A
P&T	Casthouses	Secondary	ተተ	<ul> <li>Primary procurement pathway (mass-weighted) for scope 3 cat 1?</li> <li>(cold metal g2g – just use recycling slope?)</li> </ul>	☑ (scrap share)	N/A	N/A
P&T	Aluminium Re-melting/Refining		<b>→</b>	N/A		N/A	N/A
P&T	.T Semi-fabrication		ተተ	Procurement (scope 3 c pathway (mass-weigh !! METHODOLOGICAL ALIGNMEN BURDEN OF SCRAP	ategory 1) hted) IT REQUIRED (		N/A
• P&T • IU	Material conversion		<b>ተተተ</b>	N/A	N/A	I Procurement (scope 3 category 1) pathway	could use IEA electricity slope
IU	Other manufacturing or sale		<b>ተ</b> ተተ	N/A	N/A	N/A	Procurement (scope 3 category 1) pathway

## As at 10 July 2023

ASI Member Class	Supply Cl (ASI I	nain Activity Entities)	Broad weight of Scope 3 emissions (up/downstream) as a share of SCA total	Cradle to gate gate		Semis gate to gate	Post-semis gate to gate
P&T	Bauxite Mining		$\psi\psi\psi$		N/A	N/A	N/A
P&T	Alumina Refini	ng	$\mathbf{\Psi}$	C2G)	N/A	N/A	N/A
P&T	Aluminium Smelting (electrolysis)		<b>→</b>	√ (at smolter	N/A	N/A	N/A
	Casthouses	Primary	<b>^</b>	casthouse)	<ul> <li>(if using casthouse mass allocation slope)</li> </ul>	N/A	N/A
P&T		Secondary	<b>^</b>	<ul><li>✓ cut-off/top down</li><li>✓ mass allocation/bottom up</li></ul>		N/A	N/A
P&T	Aluminium Re-melting/Refining		<b>→</b>	Allocation choice detern scrap generator/supplie	mined by er	N/A	N/A
P&T	Semi-fabrication		<u> ተተ</u>				N/A
<ul><li>P&amp;T</li><li>IU</li></ul>	Material conversion		<b>ተተተ</b>				
IU Other manufact		turing or sale	<u> </u>				could use IEA electricity slope/SBT

## **Primary Aluminium**







## Primary cradle-to-gate intensity




#### Challenges - addressed by July 2023 method



- There is only one (cradle to gate) sectoral slope articulated/published with annual intensities:
  - IAI/Misson Possible Partnership primary aluminium (measured at the smelter casthouse, includes no recycling)
- BUT, there are periodic IAI emissions and activity data for semi-fabricated and fabricated outputs
- ...and total casthouse (primary + post-consumer + pre-consumer) outputs can be derived from published data.
- Emissions from primary production dominate the sector, so a reasonable assumption is that interpolated cradle to gate intensities of downstream processes follow a primary slope (between the known periodic intensities)
- Hence, ASI Secretariat developed top-down sectoral slopes for semis, fabricated and total casthouse (primary plus recycled) aluminium output.
- These are then used to define slopes for entities with these activities in their scope, given a baseline performance.
- These top-down slopes make no reference to recycled content or changes in recycling input (at Entity level) over time; they are just emissions slopes for a given GHG intensity baseline. The emissions allocated to scrap OUTPUT however, do play a role.
- Where scrap input to a casthouse is allocated a carbon footprint, however, a bottom-up analysis that sums input slopes is required; given that there is an internal loop or loops of emissions within such an approach, a top-down reference sectoral slope, with a fixed boundary that counts all emissions and all activities in a single bucket, cannot be used.
- Lets explore each of these in turn:

	5° Scenario fo	or the Alumi	nium Sector				Aluminium Stewardship
Table 1: 1.5 GHG Budget Aluminium Sector							Initiative
			CO <sub>2</sub> e emission	s(Mt)			
	2018	2030	2035	2040	2045	2050	
Electricity (Electrolysis)	670	461	74	15	6	6	
Electricity (Other)	33	27	20	14	9	4	
Aluminium Industry	279	231	176	120	76	31	
Aluminium in Other Sectors + Transport	77	64	49	34	21	9	Caethouse
PFC	35	29	22	15	10	4	Custilouse
Aluminium Sector	1,095	813	341	198	121	53	"cut-off method"
Table 2: 1.5 Budget Aluminium Sector by Prod	0ess						
			CO <sub>2</sub> e emission	s (Mt)			
	2018	2030	2035	2040	2045	2050	
Primary Aluminium	1,037	756	289	155	87	35	1
Electrolysis	823	586	165	75	40	18	
Refining	171	136	99	63	37	13	
Recycled Aluminium	19	22	20	16	10	8	
Internal Scrap/Fabrication Scrap	11	9	7	5	3	1	L V Emissions Mt CO2e (2018, 2030, 2040, 2045 & 2050
SemisProcess	29	26	24	23	21	8	· · · · · · · · · · · · · · · · · · ·
Aluminium Sector	1,095	813	341	198	121	53	
Table 3: 1.5 Production							
			Aluminium (	Mt)			Activity (Mt Al)
	2018	2030	2035	2040	2045	2050	
Primary Aluminium	64	66	69	71	70	68	
Recycled Aluminium	32	49	57	66	74	81	
New Scrap/Manufacturing Scrap	13	16	15	15	14	13	
Old Scrap/Post-Consumer Scrap	19	33	42	52	60	68	
Internal Scrap/Fabrication Scrap	33	36	34	32	30	27	
SemisShipments	95	118	126	138	144	150	
Final Product Shipments	82	103	112	123	131	137	
New Scrap + Internal Scrap = Pre-Consumer S	crap						
Recycled Aluminium = Includes Alloying Elen	nents and Metal L	losses					
Primary Aluminium = Tapped from Electrolyt	ic Cells or Pots						
Table 4: 1.5 Intensity Data (Process Emissions	5)						
		CO <sub>2</sub> e emiss	sions intensity (t	tonnes per tonn	e)		
	2018	2030	2035	2040	2045	2050	https://international-aluminium.org/wp-
Primary Aluminium	16.1	11.5	4.2	2.2	1.2	0.5	
Recycled Aluminium (Gate to Gate)	0.6	0.5	0.4	0.2	0.1	0.1	content/uploads/2021/10/15-Scenario-Dataset-3xlsx
jemis Process (Gate to Gate)	0.3	0.2	0.2	0.2	0.1	0.1	

(ES)						
INTERNATIONAL						
ALUMINIUM	1.5° Scenario fo	r the Alumir	nium Sector			
Fable 1: 1.5 GHG Budget Aluminium Sect	or					
5						
			CO <sub>2</sub> e emissions	s (Mt)		
	2018	2030	2035	2040	2045	2050
Electricity (Electrolysis)	670	461	74	15	6	6
Electricity (Other)	33	27	20	14	9	4
Aluminium Industry	279	231	176	120	76	31
Aluminium in Other Sectors + Transport	77	64	49	34	21	9
PFC	35	29	22	15	10	4
Aluminium Sector	1,095	813	341	198	121	53
Table 2: 1.5 Budget Aluminium Sector by	Process					
			CO <sub>2</sub> e emission	s (Mt)		
	2018	2030	2035	2040	2045	2050
Primary Aluminium	1.037	756	289	155	87	35
Electrolysi	s 823	586	165	75	40	18
Refinin	g 171	136	99	63	37	13
Recycled Aluminium	19	22	20	16	10	8
Internal Scrap/Fabrication Scrap	11	9	7	5	3	1
SemisProcess	29	26	24	23	21	8
Aluminium Sector	1,095	813	341	198	121	53
Table 3: 1.5 Production						
			Aluminium (1	Vlt)		
	2018	2030	2035	2040	2045	2050
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New Scrap/Manufacturing Scrap	p 13	16	15	15	14	13
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New Scrap + Internal Scrap = Pre-Consur	ner Scrap					
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Primary Aluminium = Tapped from Electr	olytic Cells or Pots					
Table 4: 1.5 Intensity Data (Process Emiss	ions)					
		CO <sub>2</sub> e emiss	ions intensity (t	onnes per tonn	e)	
	2018	2030	2035	2040	2045	2050
Primary Aluminium	2018	2030	2035	2040	2045 1.2	2050
Primary Aluminium Recycled Aluminium (Gate to Gate)	2018 16.1 0.6	2030 11.5 0.5	2035 4.2 0.4	2040 2.2 0.2	2045 1.2 0.1	2050 0.5 0.1



#### Fabrication and Semi-fabrication

Emissions Mt CO2e (2018, 2030, 2040, 2045 & 2050)



## Interpolated slopes for casting top-down (based on primary)





- -Semis Sectoral Cradle-to-Gate (t CO2e/t Al)
- -Fab Sectoral Cradle-to-Gate (t CO2e/t Al)
- ----Primary Sectoral Cradle-to-Gate (t CO2e/t AI) (IAI/MPP)
- ---Casthouse Sectoral (cut-off) Cradle-to-Gate (t CO2e/t Al)





https://aluminium-stewardship.org/drive-change/chain-of-custody-material-flows



- Complex, particularly where "mass allocation" approach followed;
- Scrap generators' slopes could change radically based on allocation approach chosen (emissions stay the same on the numerator, activity changes on denominator depending on stream to which emissions are allocated)
  - This is not necessarily a bad thing can encourage resource efficiency (less pre-consumer scrap generated) and transparency
- ASI rules for when a certain allocation approach can be used tend to favour mass allocation:
  - Traceability of (pre-consumer) scrap is limited, footprint data not available (particularly when via Traders), ergo remelters of pre-consumer scrap driven to mass allocation
  - However, this is the approach in CoC pre-consumer scrap only eligible when accompanied by CoC documentation (even if through a Trader)
- Focus of the method at this stage should be on reducing primary emissions and having these reductions flow through the system

## As at 20 September 2023

ASI Member Class	Supply Chain Activity (ASI Entities)		Broad weight of Scope 3 emissions (up/downstream) as a share of SCA total	Cradle to gate	Recycling gate to gate	Semis gate to gate	Post-semis gate to gate	
P&T	Bauxite Mining		$\psi\psi\psi$		N/A	N/A	N/A	
P&T	Alumina Refini	ng	$\mathbf{\Psi}$	⊠ (mining & refining	N/A	N/A	N/A	
P&T	Aluminium Smelting (electrolysis)		Aluminium Smelting (electrolysis)		C2G)	N/A	N/A	N/A
		Primary	<b>^</b>	casthouse)	<ul> <li>✓ (if using casthouse Pathway, ie scrap share)</li> </ul>	N/A	N/A	
P&T	Casthouses	Secondary	<u> ተ</u> ተ	<ul> <li>Casthouse procurement (scope 3 cat. 1)</li> </ul>		N/A	N/A	
P&T	Aluminium Re-	melting/Refining	<b>→</b>	Allocation choice of casthouse		N/A	N/A	
P&T	Semi-fabrication		<u> ተተ</u>	☑ Semis procurement (scope 3 cat. 1)			N/A	
• P&T • IU	Material conversion Other manufacturing or sale		<b>ተተተ</b>	☑ Fabrication	procurement (scope 3 cat. 1)		$\boxtimes$	
IU			<u> </u>					

#### **DRAFT METHOD**



Supply Chain Activity	Applicability	ı/o	of	measured at	System boundary	GHG Protocol Scopes
Primary aluminium (& precursors)	100% electrolytic metal	OUTPUT	Cast electrolytic metal	Smelter casthouse	Cradle to gate	1+2+3 (cats 1, 3 & 4)
(Secondary) casthouses	Casthouse with non-electrolytic share (scrap,	INPUT	Purchased metal + purchased scrap	Certification scope (or casthouse if smelter)	Procurement	3 (cat 1)
	purcnasea)	OUTPUT	Cast metal	Casthouse	Gate to gate	1+2
	Any semi- fabrication	INPUT	Purchased cast metal	Certification scope	Procurement	3 (cat 1)
Semi-fabrication	differentiation between processes)	OUTPUT	Semi	Process(es) – average if multiple	Gate to gate	1+2
Fabrication	Any process transforming semi-fabricated or fabricated metal	INPUT	Purchased metal	Certification scope	Procurement	3 (cat 1)



	4 59 0	al al st				
<u> </u>	1.5° Scenario to	or the Alumir	num sector			
Table 1: 1.5 GHG Budget Aluminium Secto	r					
			CO2e emission	s (Mt)		
	2018	2030	2035	2040	2045	2050
Electricity (Electrolysis)	670	461	74	15	6	6
Electricity (Other)	33	27	20	14	9	4
Aluminium Industry	279	231	176	120	76	31
Aluminium in Other Sectors + Transport	77	64	49	34	21	9
PFC	35	29	22	15	10	4
Aluminium Sector	1,095	813	341	198	121	53
Tabla 2: 1 E Budgat Aluminium Sactor bu	Process					
Table 2. 1.5 budget Aluminium Sector by I	100235					
			CO <sub>2</sub> e emission	s (Mt)		
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Primary Aluminium	1,037	756	289	155	87	35
Electrolysis	823	586	165	/5	40	18
Refining	1/1	136	99	63	3/	13
Internal Serve /Enhrication Serve	11	22	20	10	2	1
Somis Prosors	29	26	24	22	21	
Aluminium Control	1.005	20	24	100	121	
Aluminium Sector	1,095	615	341	198	121	55
Table 3: 1.5 Production						
			Aluminium (I	(tN		
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Recycled Aluminium = Includes Alloving E	lements and Metal L	osses				
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Table 4: 1.5 Intensity Data (Process Emissi	ons)					
		CO <sub>2</sub> e emiss	ions intensity (t	onnes per tonn	e)	
	2018	2030	2035	2040	2045	2050
Primary Aluminium	16.1	11.5	4.2	2.2	1.2	0.5
Recycled Aluminium (Gate to Gate)	0.6	0.5	0.4	0.2	0.1	0.1



#### Casthouse INPUT NEW

Emissions Mt CO2e (2018, 2030, 2040, 2045 & 2050)

#### Activity (Mt Al)

- 6 SB						
100 m	1.5° Scenario fo	or the Alumir	nium Sector			
Table 1: 1.5 GHG Budget Aluminium Secto	r					
			CO <sub>2</sub> e emissions	s (Mt)		
	2018	2030	2035	2040	2045	2050
Electricity (Electrolysis)	670	461	74	15	6	6
Electricity (Other)	33	27	20	14	9	4
Aluminium Industry	279	231	176	120	76	31
Aluminium in Other Sectors + Transport	77	64	49	34	21	9
PFC	35	29	22	15	10	4
Aluminium Sector	1,095	813	341	198	121	53
Table 2: 1.5 Budget Aluminium Sector by I	Process					
			CO <sub>2</sub> e emission:	s (Mt)		
	2018	2030	2035	2040	2045	2050
Primary Aluminium	1,037	756	289	155	87	35
Electrolysis	823	586	165	75	40	18
Refining	171	136	99	63	37	13
Recycled Aluminium	19	22	20	16	10	8
Internal Scrap/Fabrication Scrap	11	9	7	5	з	1
Semis Process	29	26	24	23	21	٤
Aluminium Sector	1,095	813	341	198	121	53
Table 3: 1.5 Production						
			Aluminium (1	VIt)		
	2018	2030	2035	2040	2045	2050
Primary Aluminium	64	66	69	71	70	68
Recycled Aluminium	32	49	57	66	74	81
New Scrap/Manufacturing Scrap	13	16	15	15	14	13
Old Scrap/Post-Consumer Scrap	19	33	42	52	60	68
Internal Scrap/Fabrication Scrap	33	36	34	32	30	27
SemisShipments	95	118	126	138	144	150
Final Product Shipments	82	103	112	123	131	137
New Scrap + Internal Scrap = Pre-Consum	er Scran					
Recycled Aluminium = Includes Alloving E	lements and Metal L	osses				
Primary Aluminium = Tapped from Electro	olytic Cells or Pots					
Table 4: 1 5 Intensity Data (Process Emissi	ions)					
rable 4. 2.5 Intensity Data (Frocess Emiss)						
		CO. e emiss	ions intensity (t	onnes per tonn	e)	
		ooje emiss				
	2018	2030	2035	2040	2045	2050
Primary Aluminium	2018 16.1	2030 11.5	2035 4.2	2040 2.2	2045 1.2	2050
Primary Aluminium Recycled Aluminium (Gate to Gate)	2018 16.1 0.6	2030 11.5 0.5	2035 4.2 0.4	2040 2.2 0.2	2045 1.2 0.1	205 0.1



#### Fabrication and Semi-fabrication OLD

Emissions Mt CO2e (2018, 2030, 2040, 2045 & 2050)



	4.59.0					
	1.5° Scenario f	or the Alumir	ium Sector			
Table 1: 1 E GHG Budget Aluminium Secto						
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,	,					
Table 4: 1.5 Intensity Data (Process Emissi	ons)					
		CO <sub>2</sub> e emiss	ions intensity (t	onnes per tonn	e)	
	2018	2030	2035	2040	2045	2050
Primary Aluminium	16.1	11.5	4.2	2.2	1.2	0.5
	0.6	0.5	0.4	0.2	01	0.1
Recycled Aluminium (Gate to Gate)	0.0	0.5	0.4	0.2	0.1	0.1



#### Semi-fabrication INPUT (casthouse output) NEW

Emissions Mt CO2e (2018, 2030, 2040, 2045 & 2050)

Activity (Mt Al)

INTERNATIONAL						
ALUMINIUM	1.5° Scenario fo	or the Alumir	nium Sector			
Table 1: 1.5 GHG Budget Aluminium Secto	pr					
			CO <sub>2</sub> e emission:	s (Mt)		
	2018	2030	2035	2040	2045	2050
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		CO o omire	ions intensity /	onnas par topo	2)	
			A REAL PROPERTY IN	unnesper ionn		
	2010	2020	2025	2040	2045	0050
Primer, Alveriaire	2018	2030	2035	2040	2045	2050
Primary Aluminium Recycled Aluminium (Gate to Gate)	2018 16.1	2030 11.5	2035	2040	2045	2050



#### Fabrication INPUT (semi-fab output) NEW

Emissions Mt CO2e (2018, 2030, 2040, 2045 & 2050)

Activity (Mt Al)



1.	Aluminium sector 1.5 degree greenhouse gas pathway(s) and emissions budget	30 mins
2.	A "Sectoral Decarbonisation Approach" (SDA)	15 mins
3.	ASI Performance Standard methodological gap and method "constraints"	15 mins
4.	Evolution of the GHG method and trade-offs	15 mins
5.	Discussion/Q&A	15 mins
	BREAK	
	The DRAFT Entity-level GHG method proposed for "ASI endorsement"	
	Excel-based tool walkthrough	
	Implications for the sector and for ASI	
	Discussion/Q&A	



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#### **Next steps**



- ASI Standards Committee meet w/c 25<sup>th</sup> September
- Will consider draft method for recommendation to ASI Board (Nov/Dec 2023), under PSv3 criterion 5.3
- Standards Committee is ASI decision making body re changes to Standards and Guidance and may also direct amendments to method
- Endorsement by ASI Board would see inclusion of language/tools in Performance Standard Guidance initially (Q4 2023 or possibly Q1 2024), although with potential for normative language changes to embed method in criterion, if Standards Committee direct
- Q1 2024 rollout, including training
- Third party initiatives and products due for delivery in Q4 2023 could see minor (sector slope) amendments to align
  - RMI Horizon Zero Product level Emission Reporting Guidance (Dec '23) & Procurement (2024)
  - Center for Climate Aligned Finance aluminium framework (Dec '23); see <a href="https://home.treasury.gov/news/press-releases/jy1744">https://home.treasury.gov/news/press-releases/jy1744</a>
  - No revised SBTi Sectoral Decarbonization Approach or Sector Guidance for aluminium coming any time soon, though ASI is in liaison with SBTi Aluminium team (along with IAI and RMI)

## ASI Performance Standard v3.0 (2022) Criterion 5.3



The Entity shall:

- a. Establish a GHG Emissions Reduction Plan and ensure a GHG Emissions Reduction Pathway consistent with a 1.5°C warming scenario, using an ASI endorsed methodology when available.
- b. Ensure that the GHG Emissions Reduction Pathway includes an Intermediate Target covering a period no greater than five years, which:
  - i. Addresses all Direct and Indirect GHG emissions.
  - ii. Is developed using a Science-Based Approach endorsed by ASI, if available.
  - iii. Is publicly disclosed.
- c. Review the GHG Emissions Reduction Plan annually.
- d. Review the GHG Emissions Pathway on any changes to the Business that alter baselines or targets.
- e. Publicly disclose:
  - i. The latest version of the GHG Emissions Reduction Pathway
  - ii. The latest version of the GHG Emissions Reduction Plan.
  - iii. Progress against the GHG Emissions Reduction Plan on an annual basis.

#### **Base Year**



- Entities that are developing GHG Pathways for the first time are encouraged to use the most recent year for which data is available as the base year.
- If an Entity has more detailed data for a previous year this is acceptable for validation purposes, as long as most recent year data is also disclosed.
- If the chosen base year is more than 3 years prior to the initial ASI Performance Standard Certification/Re-Certification Audit that is assessing conformance with Criterion 5.3 (e.g. to align with a corporate baseline), the most recent year data should indicate already achieved performance in line with the Entity Pathway in order for the Entity to be in conformance.
- The base year should be fixed for the duration of the Pathway.
- Intermediate Targets must cover a minimum of 5 years and a maximum of 10 years from the chosen base year.
- Intermediate Targets must cover a period no greater than five years from the chosen base year

#### **Demonstrating Conformance**



- In addition to articulation of a GHG Pathway that aligns with (is at or below) the generated Entity slope, conformance in subsequent Audits would require demonstration of performance that follows (is at or below) the GHG Pathway, averaged (by production mass) over the certification period.
- For example:
  - Smelter casthouse
  - 2024 initial Audit
    - 2023 base year (8.6 t CO<sub>2</sub>e/t Al)
    - Pathway slope Intermediate Targets: 2024: 8.4 2025: 8.2 2026: 7.8
  - 2027 re-certification Audit
    - Production 2024: x 2025: y 2026: z
    - Demonstrate an average production weighted emissions performance (a), 2023-2026 of:
      - a = (8.4(x)+8.2(y)+7.8(z)) / (x+y+z)
      - If x = y = z, then  $a = 8.1 \text{ tCO}_2 \text{e/t Al}$

## Sectoral average intensities (t CO<sub>2</sub>e/t AI)





## Primary (electrolytic) aluminium & precursors



- Fixed boundary, mine to smelter casthouse (electrolytic metal only)
- Cradle to gate emissions (direct and upstream indirect)
  - Good Practice Guidance for Calculation of Primary Aluminium and Precursor Product Carbon Footprints
     v2.0 (2021): <u>https://international-aluminium.org/wp-content/uploads/2021/08/CF-Good-Guidance-v2\_final-2021.pdf</u>
- Slope measured at casthouse **OUTPUT** (precursors non-integrated alumina refiners and bauxite miners will need to in-gather data from customers until SDAs for bauxite and alumina are developed, in 2024)
- Choice of slope:
  - All emissions in a single Pathway
  - Electricity and non-electricity emissions split Pathways (as per Center for Climate Aligned Finance DRAFT)
- Singular portfolio (Entity) slope or individual smelter casthouse slopes

### Primary cradle to gate intensity

**Electricity-related** 



#### Non-electricity-related





## Primary cradle-to-gate intensity (single slope)





#### Non-electrolytic supply chain activities



- Dual slopes: casthouse & semi-fabrication
  - Metal procurement emissions intensity (scope 3 cat. 1)
  - Process emissions intensity (scopes 1 & 2)
- Single slope: fabrication
  - Metal procurement emissions intensity (scope 3 cat. 1)
- Procurement slope measured at supply chain activity <u>INPUT</u>
- Process slope measured at OUTPUT
- Slopes apply at Entity level, with procurement encompassing all metal entering the certification scope (even if from within same corporate system).

#### Simplified data entry

Casthouse: 2 base year data points Semi-fab: 2 base year data points Fab: 1 base year data point





### Process slopes (casting & semi-fabrication)







Non-smelter casthouse:

Average mass-weighted emissions intensity of input aluminium (cold metal + liquid metal + scrap (with yield factor applied) entering the Entity certification scope (i.e. purchased or transferred from outside the Entity) in the baseline year.

Smelter casthouse:

• Average mass-weighted emissions intensity of input aluminium (cold metal + liquid metal + scrap (with yield factor applied) entering the casthouse process in the baseline year.

Allocation method choice:

- The allocation of an emissions burden to input scrap (i.e. embodied carbon) is a decision for the Entity the sectoral slope does not change accordingly (although the Entity slope will).
- However, Entities should align with the IAI's Guidelines on Transparency Aluminium Scrap, when calculating and communicating the emissions intensity of scrap containing products: <u>https://international-aluminium.org/wp-content/uploads/2022/09/IAI-Guidelines-</u> <u>Transparency-Final\_Sept-2022.pdf</u>.

# CASTING: casthouse inputs emissions intensity







#### SEMI-FABRICATION:

- Average mass-weighted emissions intensity of cast aluminium entering the Entity certification scope (i.e. purchased or transferred from outside the Entity) in the baseline year.
- Not including metal from integrated casthouse processes (which is captured in the prior process stage (casthouse)

#### FABRICATION:

- Average mass-weighted emissions intensity of semi-fabricated and fabricated aluminium entering the Entity certification scope (i.e. purchased or transferred from outside the Entity) in the baseline year.
- Not including metal from integrated semis processes (which is captured in the prior process stage (semi-fabrication)

## SEMIS: Casthouse products procurement emissions intensity



Aluminium

## FAB: Semis procurement emissions intensity







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6.	BREAK	30 mins
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8.	Excel-based tool walkthrough	15 mins
	Implications for the sector and for ASI	
	Discussion/Q&A	



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## Some implications/issues



- Increase in non-conformances likely, even among existing certified Entities some may not ever be able to achieve
  - May be (but not necessarily) regionally specific
- The sectoral slope with shift if action is delayed; this will steepen Entity slopes how to cope with this (potentially) fast change and shifting targets.
- New facilities from what base do they plot their slope?
- GHG Plans and relationship with GHG Pathways auditor "stress tests"
- If primary doesn't decarbonise at scale, downstream cannot meet the Pathway requirements (at scale)

   first movers that can lock in low carbon supply (primary and/or recycled material) will be
   advantaged;
- Some Entities that were v3 Audited between April 2022 and the method endorsement/publication will
  not have GHG Pathways that follow an ASI endorsed method and may not have Intermediate Targets
  that meet the standard.



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Visit the ASI Website:

www.aluminium-stewardship.org

Chris Bayliss Director of Standards <u>chris@aluminium-stewardship.org</u>

**as Aluminium** Stewardship Initiative

