

How to get involved?

Working structures and procedures within the Clean Steel Partnership (CSP)

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- Public calls open to every organization
 - According to Horizon Europe (HEU) regulation
 - According to Research Fund for Coal and Steel (RFCS) regulation
 - No membership etc. required

- ESTEP facilitates the private side of the Clean Steel Partnership
 - Membership in ESTEP (European Steel Technology Platform) available for steel stakeholder
 - Clean Steel Partnershipboard private side composed of ESTEP members
 - ESTEP organises CSP related events for its members (in addition to open events)
 - Contribute to definition of the call texts of CSP (HEU+RFCS)
 - Information sharing
 - Brokerage event, consortium matchmaking

- Partnership in the frame of Horizon Europe (2021-2027)
 - Accelerate the decarbonisation of the EU steel industry
 - Basket of technologies (no silver bullet)
 - Unique setting due to synergies of two public financial pillars
- Projects
 - size: € 10-100 million
 - Developments start at TRL 6 to end up with TRL 8, exceptional start at 5 to end up with at least TRL 7
- CSP-Budget: € 1.7 billion
 - € 350 million from assets of the ECSC* in Liquidation (source of funding from RFCS*)
 - € 350 million from Horizon Europe
 - At least matched by steel sector (expected €1.000 million)
- ESTEP organises the private side 
- Total need for large R&D&I projects on low-carbon steelmaking technologies
 - € 2.55 billion (estimate)
 - Funding gap outside the partnership financed with other EU and national instruments



* RFCS: Research Fund for Coal and Steel
* ECSC: European Coal and Steel Community
* TRL: Technology Readiness Level

The European Steel Technology Platform: ESTEP

- European Technology Platform (EU 2020)
 - Created in 2004 (ULCOS) and reconfirmed by EC in 2013
 - Legal entity (AiSBL): incorporation by 13 founders in March 2018
 - Members almost 5-fold by 2023: 65 members (June 2023)
 - Open for organisations from EU + associated countries
- ESTEP mission
 - Collaborative EU actions (projects) on innovative technology to tackle EU challenges (renewable energy, climate change (CO₂), Circular Economy) in order to create a sustainable EU steel industry



- Collaborative work in 6 Focus Groups
 - Thematic mini-conferences
 - Initiate proposal writing
 - Road mapping and publication
 - Work towards standardisation
- EU Clean Steel Partnership (CSP)



upcoming

ESTEP & CSP
ESTEP & CLEAN STEEL PARTNERSHIP
INFORMATION DAYS
6 - 7 June 2023
Krakow (Poland)

3-5 October 2023, Barcelona
ESTEP ANNUAL EVENT 2023
A CIRCULAR ECONOMY DRIVEN by European Steel

European Steel Technology Platform – ESTEP

Strategic Research Agenda (SRA)

(This is an electronic version of the SRA, last updated on 5th September 2017)



Private side

- ESTEP
- **Members:**
 - EUROFER
 - Producers
 - Plant Builders
 - Research
 - others

Partnership Board

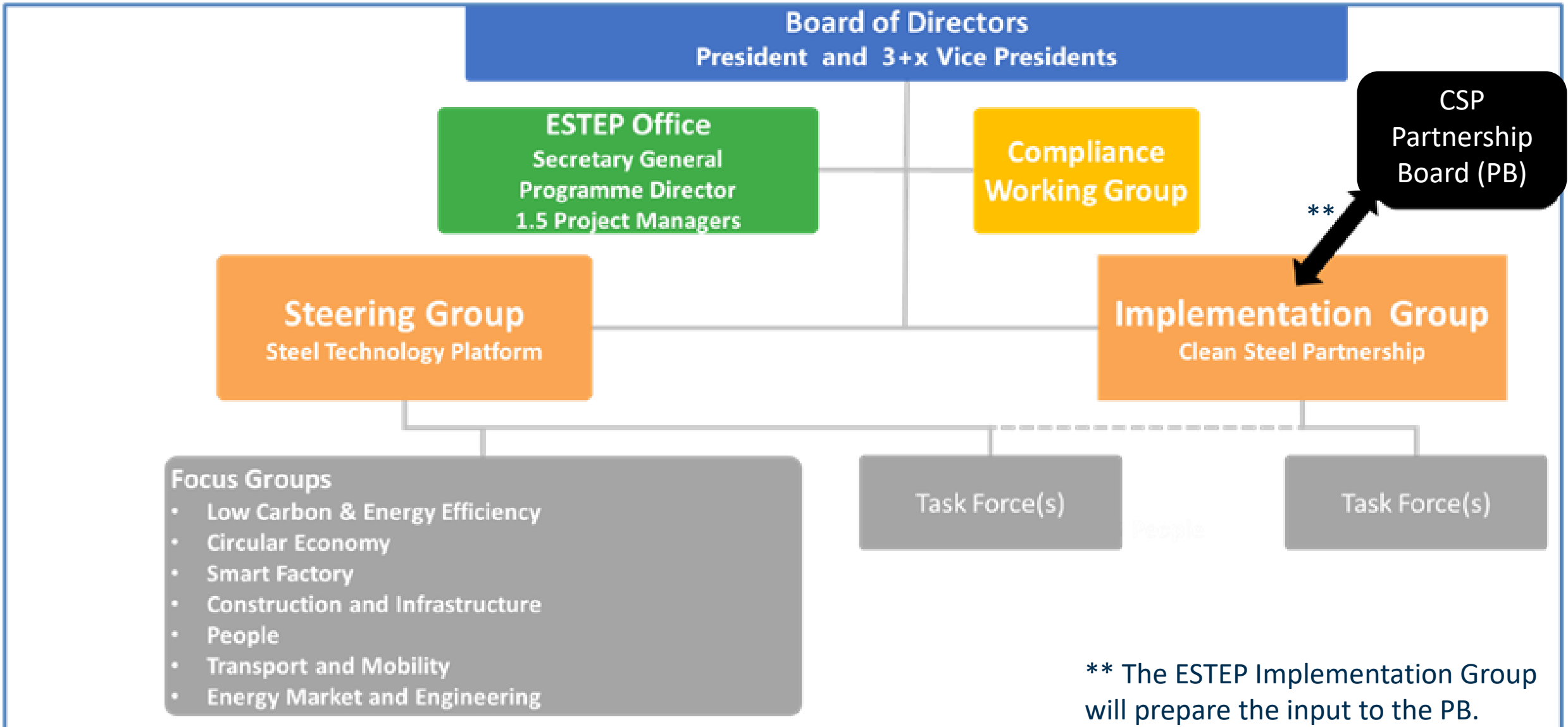
Public side

- Commission (& Executive Agencies)
- **Horizon Europe** - leading – (HDEA)
- **RFCS (REA)**


1x / year

Up to 2 external advisory groups





- 14 running projects from years 2021 and 2022
- 19 proposals under evaluation from 2023 calls
(Horizon Europe and Research Fund for Coal and Steel)

Prg.	Year	Topic	Project Acronym
HEU 	2021	18	MaxH2DR
		19	HiYield
		19	ReMFra
		19	CAESAR
		22	RecHycle
	2022	13	PureScrap
		13	TransZeroWaste
		16	GreenHeatEAF
		16	ModHEATech
		16	HyTecHeat


Topic 18: Carbon Direct Avoidance in steel:
Electricity and hydrogen-based metallurgy

Topic 19: Improvement of the yield of the iron and steel making

Topic 22: Adjustment of Steel process production to prepare for the transition towards climate neutrality

Topic 13: Raw material preparation for clean steel production

Topic 16: Modular and hybrid heating technologies in steel production

Prg.	Year	Obj.	Project Acronym
RFCS Big Ticket Steel 	2022	2	MODIPLANT
		2	FullH2Reheat
		2	HYDREAMS
		2	TWINGHY

Obj. 1: Preparation of steel CO/CO₂ gases for Carbon Capture Use and Storage (CCUS)

Obj. 2: Process Integration (PI) in steel plants to reduce the use of fossil carbon and associated CO₂ emissions

Obj. 3: CO₂ neutral iron ore reduction (Increasing the use of pre-reduced iron carriers)

Obj. 4: Developing technologies to reduce the specific energy required to produce steel

no	project acronym	EU funding
1	MaxH2DR	4,2
2	CAESAR	5,6
3	HIYIELD	3,6
4	RemFRa	4,8
5	RecHycle	6,2
6	PURESCRAP	5,0
7	TransZeroWaste	5,0
8	GreenHeatEAF	3,6
9	HyTecHeat	3,4
10	ModHEATech	3,4
11	FULL2REHEAT	8,6
12	HYDREAMS	4,3
13	MODIPLANT	8,0
14	TWINGHY	4,5

Million EUR

Prg.	Year	Topics	Funding budget	# proposals	Requested funding	Total project costs
HEU	2023	43	23	2		
		45	12	8		
RFCS		1-5	130	9	90	263

90 / 263 = 34.2% << 50%
High commitment of private side in RFCS

CSP calls 2023 Cluster 4 Horizon Europe



Topic 43: Low carbon-dioxide emission technologies for melting iron-bearing feed materials **OR** smart carbon usage and improved energy & resource efficiency via process integration

Topic 45: Circular economy solutions for the valorisation of low-quality scrap streams, materials recirculation with high recycling rate, and residue valorisation for long term goal towards zero waste

CSP RFCS BIG Ticket call objectives



1. CO2 neutral iron ore reduction (Increasing the use of pre-reduced iron carriers)
2. Developing technologies to reduce the specific energy required to produce steel
3. Circular economy and sector coupling solutions to meet the zero-waste goal for steelmaking
4. Preparation of steel CO/CO2 gases for Carbon Capture Use and Storage (CCUS)
5. Process Integration (PI) in steel plants to reduce the use of fossil carbon and associated CO2 emissions

Questions??

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www.estep.eu

<https://www.estep.eu/clean-steel-partnership>

- MoU
- SRIA
- Events
- Calls
- Projects

Clean Steel Partnership CSP: Vision, Ambition and Resources

