UNESID. Multiapproach on steel C label

Classification of the Steel families based on fossil carbon Footprint (BASED on CONSENSUS)

Evolution and ADAPTATION.

… now quicker

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decarbonization

Technical development

(NO CO2 or suppression footprint energy vectors, CCS/U...)

Efficiency

(energy, materials – CE, water, etc- , products processes and administration)

Leveled playgroud

intra extra EU

(ETS, CBAM, other commercial & market measures).

Effective affordable "input & invest"

(specially Energy carriers and CAPEX)

Output recognation

(public & private purchases, eligibility, production

Production or regulatory and administrative support etc)

If ↑↑ € (↓ ↓ CO_2): ensure what I buy

€ "green steel" **more expensive**

Valuate : 1º measure (same), 2º inform (same)

- ❑ **Sliding Scale**(% metal recycling).
  - ❑ GE-LESS, IEA, ResponsibleSteel, China

EU steelmakers. NO agreement 7yr

- ❑ **Footprint.** threshold (IT,GSCC, SS-EU)

If not → Brussels WILL

COM. Voluntary labelling in I(D)AA (Green Ind. Deal).
ESPR+CPR

UNESID PREPOSAL Sliding scale + thresholds

Integration of improvements. Feedback from many stakeholders

- ❑ **From National/regional authorities**
- ❑ **From other steelmaking producers**
- ❑ **From hired specialised consultancy company**
- ❑ **From other labelling schemes**

Spring document. 13 -> 5 → 17 + example of possible NON sliding families

While keeping coherence with approved principles.

IAA. Took place, but “Steel” ground to improve

Sliding SCALE: ONLY C steel <90% metallic from mineral

NON sliding SCALE: Alloy, high Alloy

Not defining “how to slide”

Not good for Fine
NON alloy, NON Flat

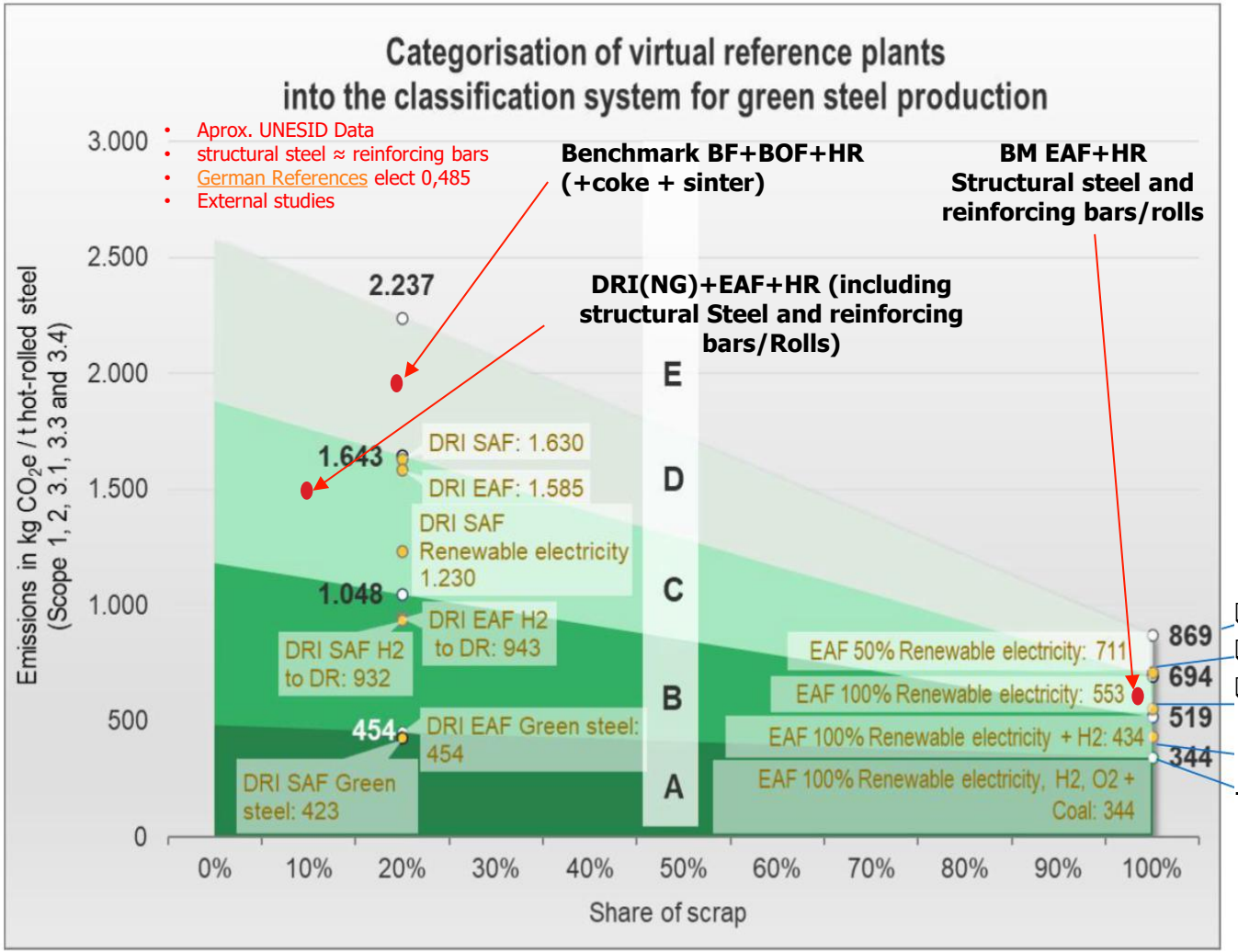
IAA. Good intention → bad (in)definition/execution

What if:
DRI-EAF for reinforcing bars.

Leaked IAA: sounding balloom

Integration of improvements from many stakeholders

- ❑ **Up Hot rolled. OK BUT (flat / long all**
- ❑ **Use ETS or CBAM verified data (recital 91) → NOT enough granularity**
- ❑ **Alloyed steel. Not sliding scale OK, BUT need to open for consideration (delegate acts)**
- ❑ **Need to differentiate Carbon Fine Steel (to better apply taxonomy criteria which opens to fine tune (e.g. social aspects or DNSH)**
- ❑ **A – F (seven levels) → A+ - E (seven levels but "A+" (differentiate scope 3 reference value)**
- ❑ **Open the ground for "unharmonized" labelling→ absurd (TBT when linked to Public Contracts)**
- ❑ **Lacking Annex VII (main aspects)**



Sliding Scale
Good approach

Support technological changes – and investments- from mineral

avoid excessive scrap use (dilute fossil carbon footprint)

But
Secondary effects

- ❑ Sanctify C steel from mineral 3x.!!!
- ❑ not suitable **High Alloyed Steels**
- ❑ **Not fine tuned** for recycled "fine" steels.

→ **NO Support already massively by recycling steels @EU**

UNESID levelled solution for a diverse sector

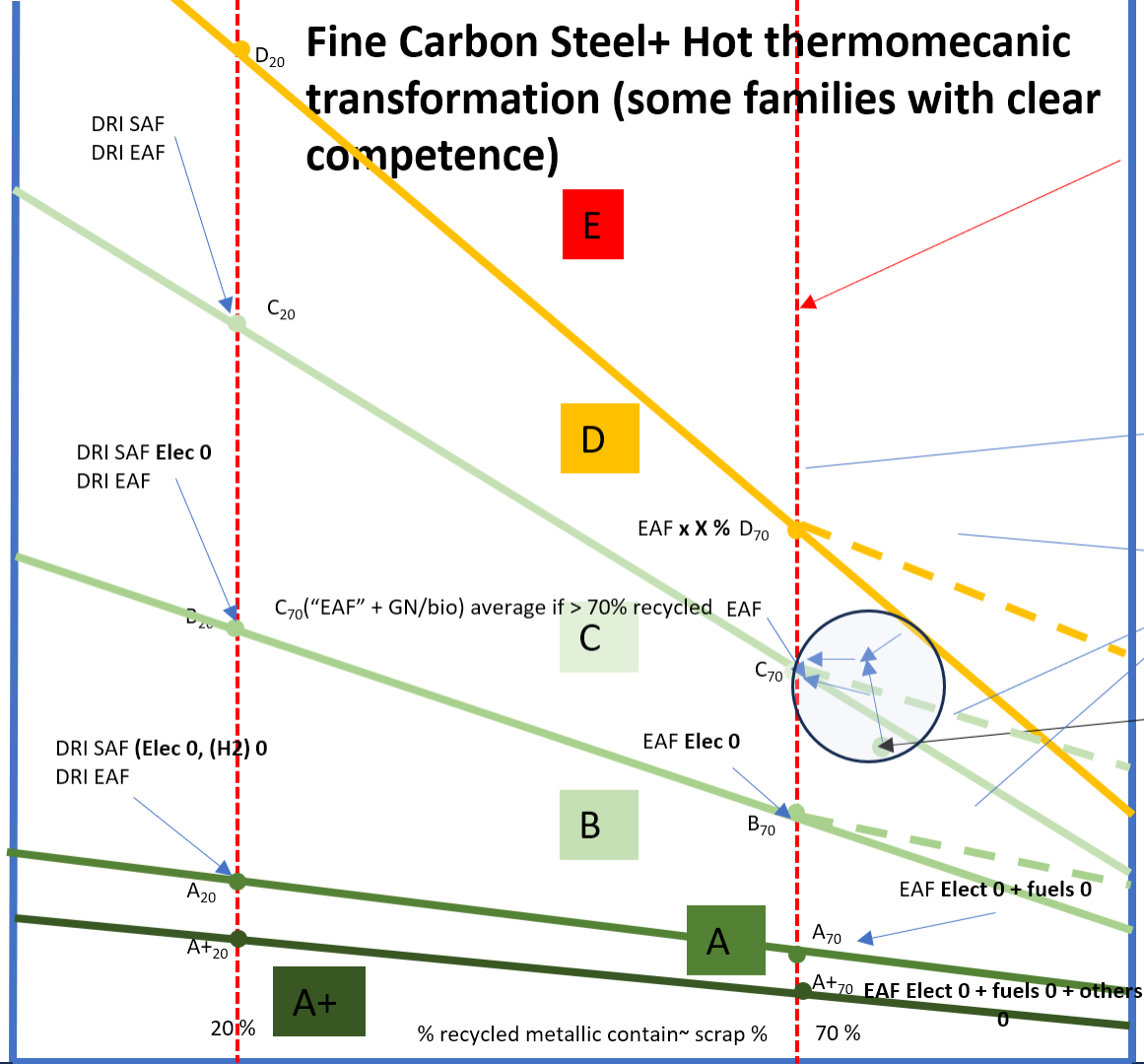
Hybrid approach, technically but pragmatic (open for discussion on technicalities).

limits: cradle – Hot thermo-mechanic (first heat on hot roll; scope:1, 2, 3.1,3.3, 3.4)

- **aggregation by steel families ("similar" metallurgical + emission profiles)**
  - **sliding scale *recalculated*: steel families mainly from mineral**
  - **Specific threshold:** steel families almost from recycling @ EU.

  TAXONOMY BASED (mitigation) sustainable investment (EU legislation)
- **Reference level for labelling by families (@ EU)**
- **Avg production footprint (taxonomy installation-route-product)→threshold**
- **Optative: + offsetting footprint. Melted and Poured (and extensive logging)**
- **"Heritable" (steel transformation: labelled according of steel used)**

Fine Carbon Steel+ Hot thermomecanic transformation (some families with clear competence)



Adapted Sliding Scale

Taxonomy Criteria ≥ 70% recycled metallic contain

Indirect emission for threshold calculations :
EU Electricity Average (0,365??)

Mathematical normalization for averaging the EU plants which meet the taxonomy criteria values EAF > 70% (recycled metallic contain) as if they were all at 70%

Correction – very simplified- due to the full use of external energy for the Hot transformation in an EAF - vs BF and their energy gases (pending to be assessed).Estricto senso diverging curve)

Ej Real footprint from an EAF + hot rolling
Labelling level C
750 kg CO2/tsteel hot rolled
81 % scrap (more correctly: metallic recycled contain).

Processing emissions for a Steel family from a route from a site.
Considering actual route for a Steel families. YES
Actual inputs for a Steel family (if relevant differences). YES
Reallocation of inputs to specific batches. NO
Electricity. Reference of the electricity consumption footprint of the site
*Specific input

Other direct emissions from ancillary or raw materials with relevant emissions EAF (direct C inputs: electrodes, coals, Ferros high C, DRI etc)

- **Scope 3**

Fine steel (fine C, High Alloy, Specials in EU

> 85 % (ej) EAF

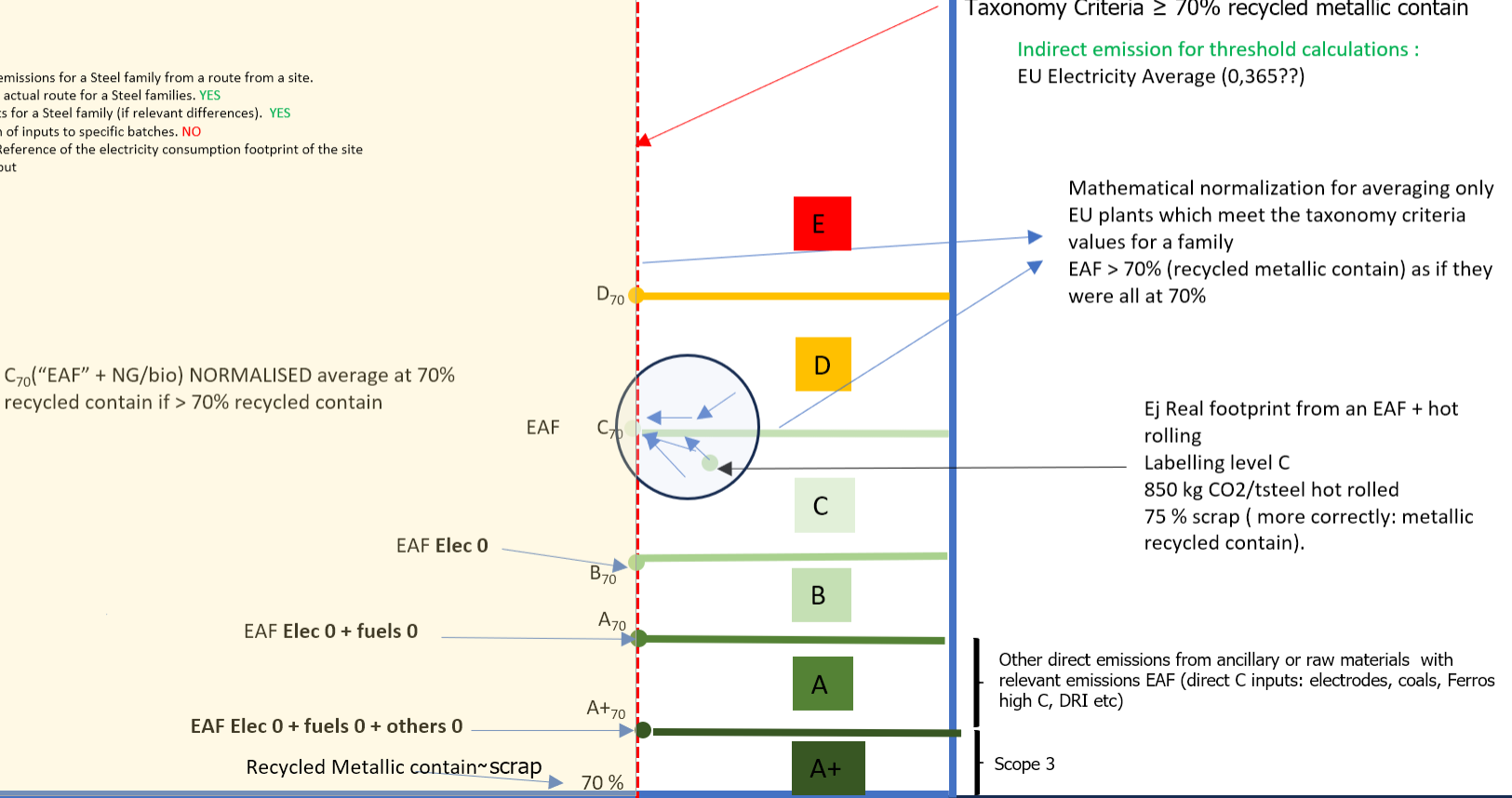
Processing emissions for a Steel family from a route from a site.
Considering actual route for a Steel families. YES
Actual inputs for a Steel family (if relevant differences). YES
Reallocation of inputs to specific batches. NO
Electricity. Reference of the electricity consumption footprint of the site
*Specific input

By Steel familiy: metalurgical and C-footprint similarites

Threshold for each family

Taxonomy Criteria ≥ 70% recycled metallic contain

Indirect emission for threshold calculations :
EU Electricity Average (0,365??)



Mathematical normalization for averaging only EU plants which meet the taxonomy criteria values for a family
EAF > 70% (recycled metallic contain) as if they were all at 70%

C_{70}("EAF" + NG/bio) NORMALISED average at 70% recycled contain if > 70% recycled contain

Ej Real footprint from an EAF + hot rolling
Labelling level C
850 kg CO2/tsteel hot rolled
75 % scrap (more correctly: metallic recycled contain).

Other direct emissions from ancillary or raw materials with relevant emissions EAF (direct C inputs: electrodes, coals, Ferros high C, DRI etc)

Scope 3

EAF C Steel (not fine Steel – High Alloy Bench.)

All the population VERY close each others (90-100% recycled metallic contain). For simplicity: NO normalizatiion

EAF **x X %** D_{90}

C_{90}("EAF" + NG/bio) average if > 90% recycled contain → EAF C_{90}

EAF **Elec 0** B_{90}

EAF **Elec 0 + fuel 0** A_{90}

EAF Elec 0 + fuels 0 + others 0

Recycled Metallic contain~scrap 90 %

E

D

C

B

A

$A+_{90}$

A+

Scope 3

By Steel familiy: metalurgical and C-footprint similarites

Threshold for each family

Taxonomy Criteria ≥ 90% recycled metallic contain

Indirect emission for threshold calculations :
EU Electricity Average (0,365??)

CO2 de energía Traormación en Caliente como GN

ONLY EU SITES > 90 % recycled (+NG o biofuel for hot transforming)

Ej Actual Carbon footprint: EAF + hot rolling
Labelling level B
175 kg CO_2/tsteel hot rolled
93 % scrap (more correctly: metallic recycled contain).

Processing emissions for a Steel family from a route from a site.
Considering actual route for a Steel families. YES
Actual inputs for a Steel family (if relevant differences). YES
Reallocation of inputs to specific batches. NO
Electricity. Reference of the electricity consumption footprint of the site
*Specific input

Other direct emissions from ancillary or raw materials with relevant emissions EAF (direct C inputs: electrodes, coals, Ferros high C, DRI etc)

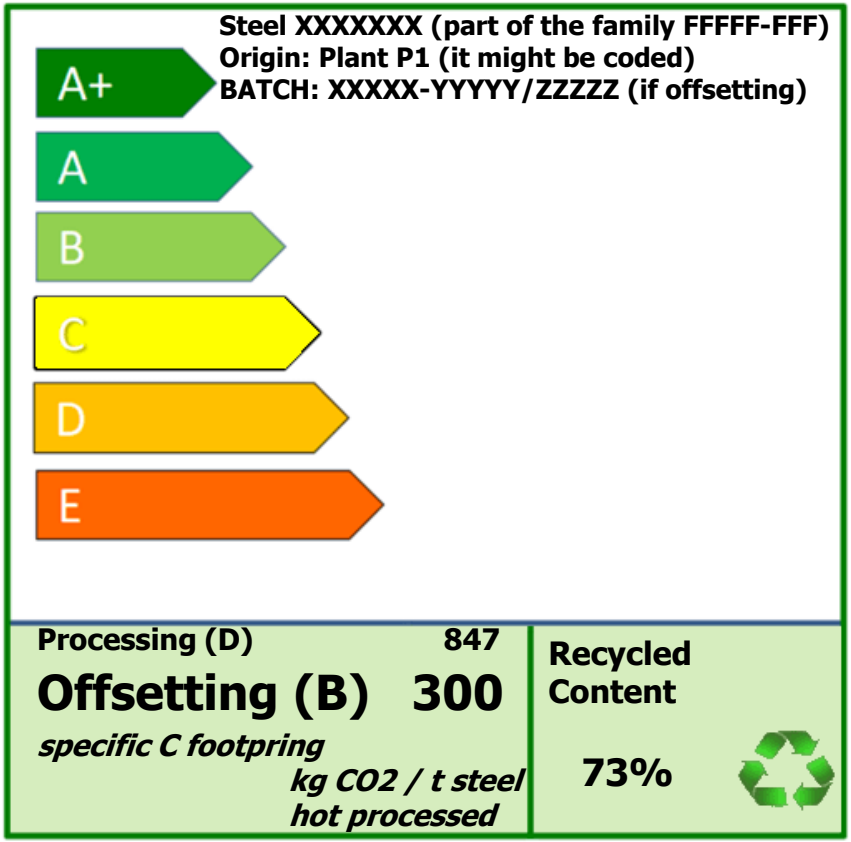
FULL INFORMATION. Costumer to decide!!!

+ **Additional** OFFSETTING (**annihilate**)

- ETS allowances,
- Guarantees of Origin (0 electricity)
- GOO +Probe of sustainability
  (0 gas/biomass/biogenic carbon)
- Elimination Certificates: CCU/S, sequestration

- **NOT against Sliding Scale** BUT extend sides where does NOT work well.

→if NOT, EU Com/MS. Will propose (¿¿ sliding scale 4 ALL??).



Summary: value of steel in future is forged today

- Reasonable labelling for ALL (but optimum for none): our voice in the market.
- robust, transparent, flexible ... y reasonably ours.
- If paid for: administration, costumers e investors will demand it

Hoping EC-MS-Parliament understand EU steel diversity!!!

Green_Steel_UNESID-Final-adjusted_2026-EN.pdf

Green_Steel_UNESID_Final-ajustado_2026-ES.pdf