



Net-Zero and Critical Material Act

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'shocking' news

REUTERS World Business Markets Sustainability More

Climate & Energy | Sustainable Markets | Technology | Energy Storage | Climate Change

EU risks depending on China for batteries after quitting Russian energy

Expected Return

Risk Free %

Capital Market Line

Ideal Market Portfolio

Efficient Frontier

Inferior Portfolios & Individual Assets

Expected Risk

Investopedia

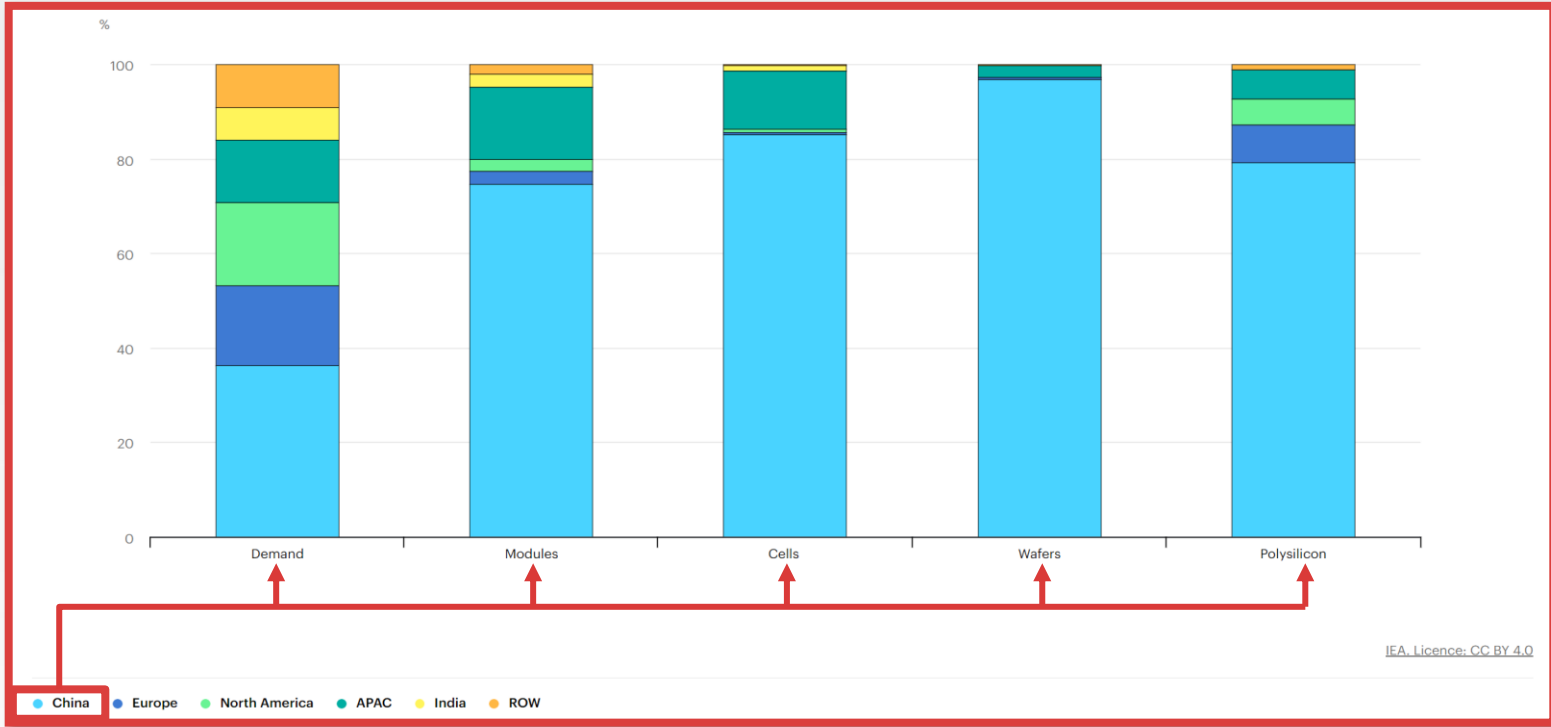
risk realization 100%?

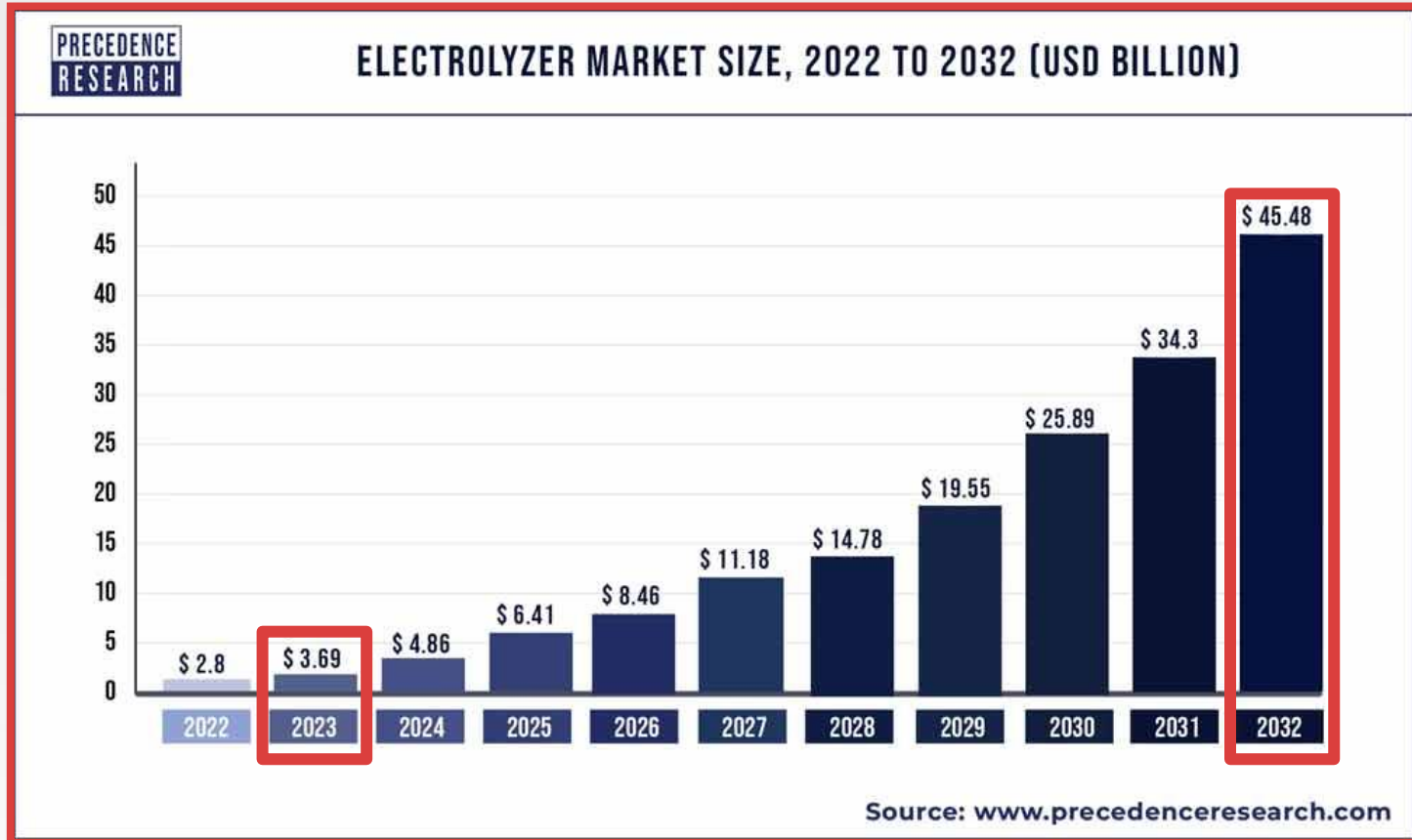




Solar PV manufacturing by component capacity

Paradigmatic example for external dominance



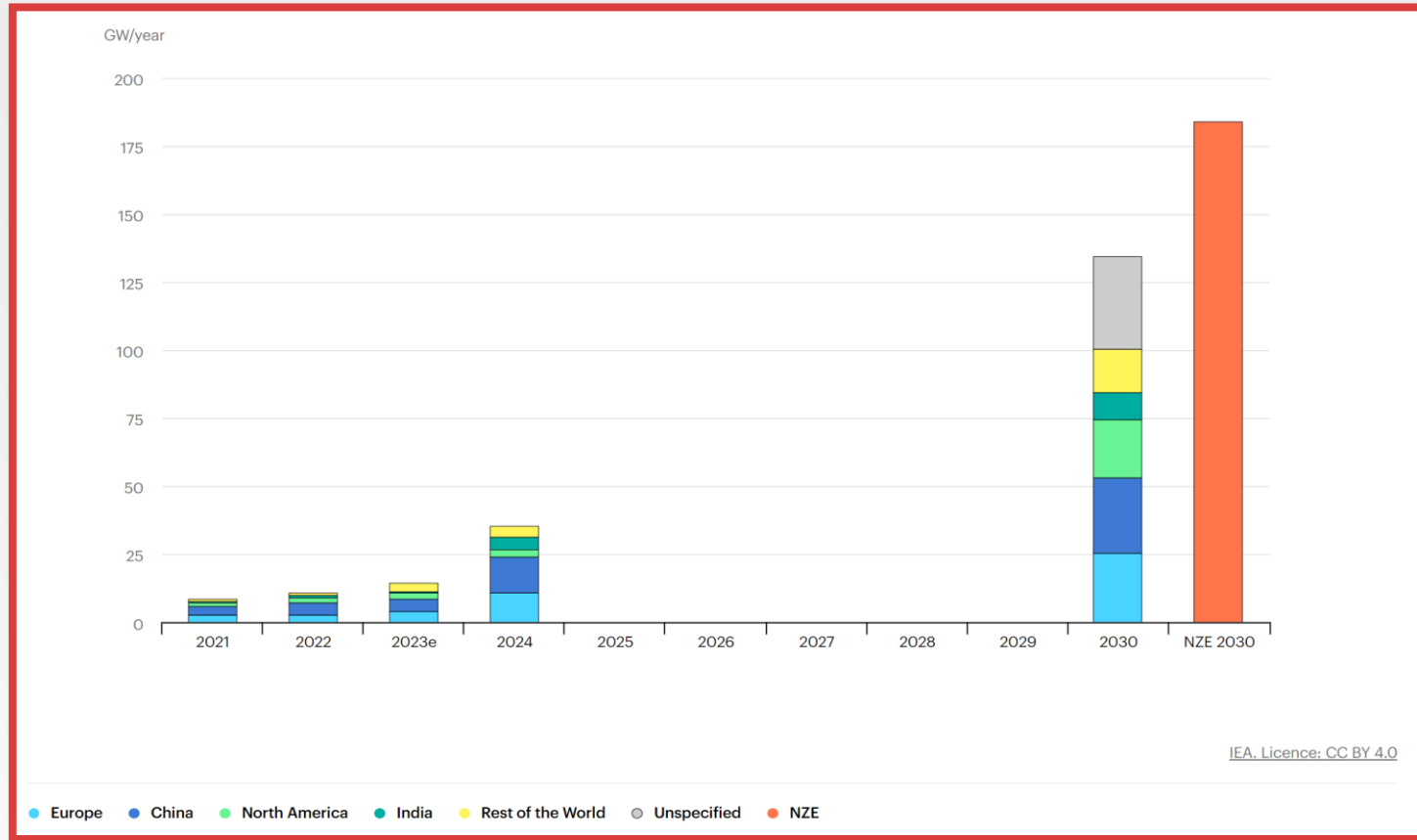


What are electrolyzers?
Green Hydro uses electricity to split water into hydrogen and oxygen





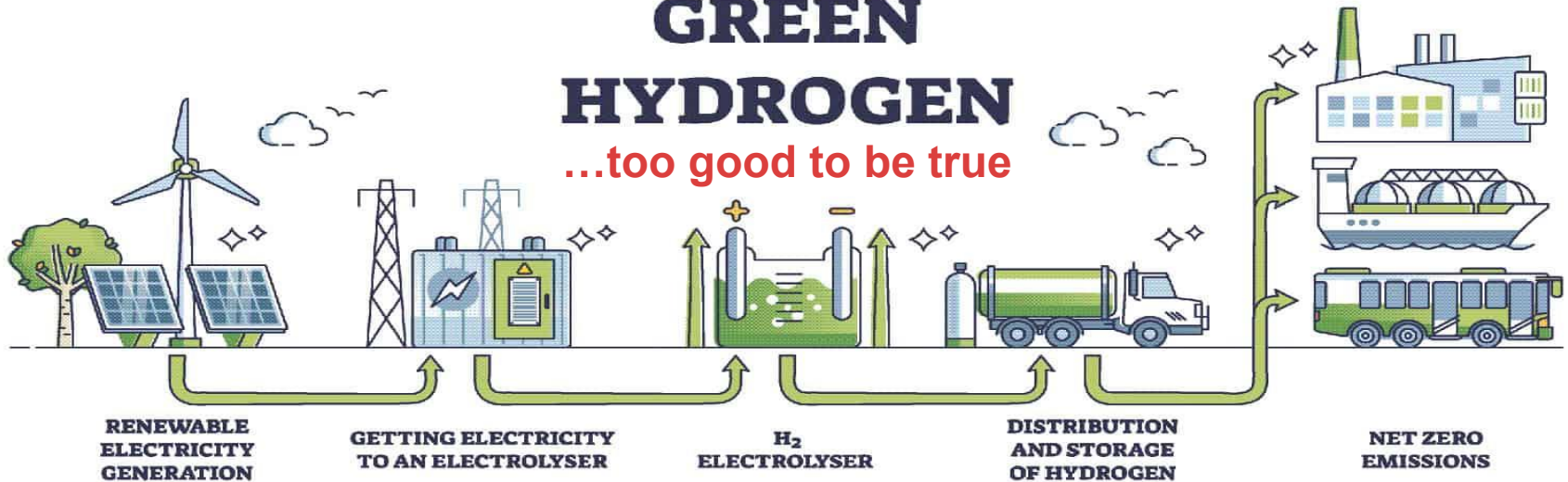
Announced electrolyser manufacturing





GREEN HYDROGEN

...too good to be true



Nexus of Problems regarding all Net-Zero Technologies

P) Lots of resources needed

P) Giving away Know-How

P) Not enough manufacturing

P) Not enough Investments



Critical Raw Materials



Same problem here
 97 % Magnesium from China, 100% rare earths from China, 98% Borate from Turkey, 71% from South Africa, 60% of refined Cobalt from China

Geopolitical Dependence





Structure

- I. **Solution by the EC**

- II. **Net Zero Industrial Act (NZIA)**
 1. **General provisions**
 2. **Key elements**
 3. **Problems**

- III. **Critical Raw Materials Act (CRMA)**
 1. **General provisions**
 2. **Key elements**
 3. **Problems**

- IV. **Reflections**





How to tackle it

EC (!) attempts to address these issues with two regulations

Net-Zero industry Act
(NZIA)

Synergy

Critical Raw Materials Act
(CRMA)

Goals of the NZIA

- Simplifying regulatory framework
- Scaling up manufacturing
- Fostering competition and resilience

Goals of the CRMA

- By 2030 : 10% Extraction, 40% Processing, 15% Recycling, 65% import limit
 - Building up resilience
- Building European Capacities

Geopolitical Independence / Efficiency / Environment





Content of the NZIA

Chapter I: Subject matter, scope and definitions

Art. 1: Benchmark

Manufacturing Capacity of 40%
→ **How** do we reach these goals?

1st step: Understanding crucial terms
= Art. 3 I lit. a)-s)

lit. f) Permit granting process

All administrative permits

→ planning, building, expanding, operating, technologies; heat pumps; technologies; sustainable grid connection, environmental assessment ed technologies to

renewable energy grid technologies alternative fuels to produce energy from nuclear processes with minimal waste from the fuel cycle, small modular reactors, and related best-in-class fuels; carbon capture, utilisation, and storage technologies; and energy-system related energy efficiency technologies.





Content of the NZIA

Chapter II: Enabling conditions

Major objective of Section I:

Reducing bureaucracy costs for **all** net-zero technologies

Article 4

One **national**
Stop Shop

Article 5

Online accessibility of
information

Article 6

Permit-granting
process (12-18mo)

Special privileges for **strategic** projects

*...if a project falls under **Article 10***

Article 12

Priority for
strategic project

Article 13

Even quicker permit granting
process (9-12mo)

Article 14

Support for
strategic projects

A priori rule for hydrogen (valley/bank) → (!) **NO** assessment required





ANNEXES
to the

proposal for a Regulation of the European Parliament and of the Council
on establishing a framework of measures for strengthening Europe's net-zero
technology products manufacturing ecosystem (Net Zero Industry Act)

Article 10
Selection criteria

ANNEX

STRATEGIC NET-ZERO TECHNOLOGIES

1.	Solar photovoltaic and solar thermal technologies
2.	Onshore wind and offshore renewable technologies
3.	Battery/storage technologies
4.	Heat pumps and geothermal energy technologies
5.	Electrolysers and fuel cells
6.	Sustainable biogas/biomethane technologies
7.	Carbon Capture and storage (CCS) technologies
8.	Grid technologies

1.

Member States shall recognise as net-zero strategic projects net-zero technology manufacturing projects corresponding to a technology listed in the Annex and located in the Union that contributes to the realisation of the objectives set out in Article 1 of this Regulation and meet at least one of the following criteria:

- (a) the net-zero technology manufacturing project contributes to the technological and industrial resilience of the Union's energy system by increasing the manufacturing capacity of a component or part in the net-zero technology value chain for which the Union heavily depends on imports coming from a single third country ;
- (b) the net-zero technology manufacturing project has positive impact on the Union's net-zero industry supply chain or downstream sectors, beyond the project promoter and the Member States concerned, contributing to the competitiveness and quality job creation of the Union's net-zero industry supply chain, according to at least three of the following criteria:
 - (i) it adds significant manufacturing capacity in the Union for net-zero technologies;
 - (ii) it manufactures technologies with improved sustainability and performance;
 - (iii) it puts into place measures to attract, upskill or reskill a workforce required for net-zero technologies, including through apprenticeships, in close cooperation with social partners;
 - (iv) it adopts comprehensive low-carbon and circular manufacturing practices, including waste heat recovery.





Content of the NZIA

Chapter III: CO2 injection capacity

Article 16-18

Goal: 50 million tonnes of CO2 by 2030

→ Obligation of the MS to look for storage sites

Chapter IV: Access to markets (Procurement rules)

1st rule of Art. 19 I
Most economic
advantageous tender
(MEAT)

2nd Art. 19 II
Cumulative criteria for
sustainability and
resilience contribution

3rd Art. 19 III
Weighting between
15% and 30% of the
award criteria

Same applies to auctions (Art.20) and other forms of public intervention (Art. 21)





Content of the NZIA

Chapter V: Enhancing skills for quality job creation

Article 23: Net Zero Industry Academies

Chapter VI: Innovation

Article 26: regulatory sandboxes

→ Development of technologies in a real-world environment

Chapter VII: Governance

Article 28 ff.: Platform consisting out of EC and MS





Problems of the NZIA

Art. 2 f) NZIA

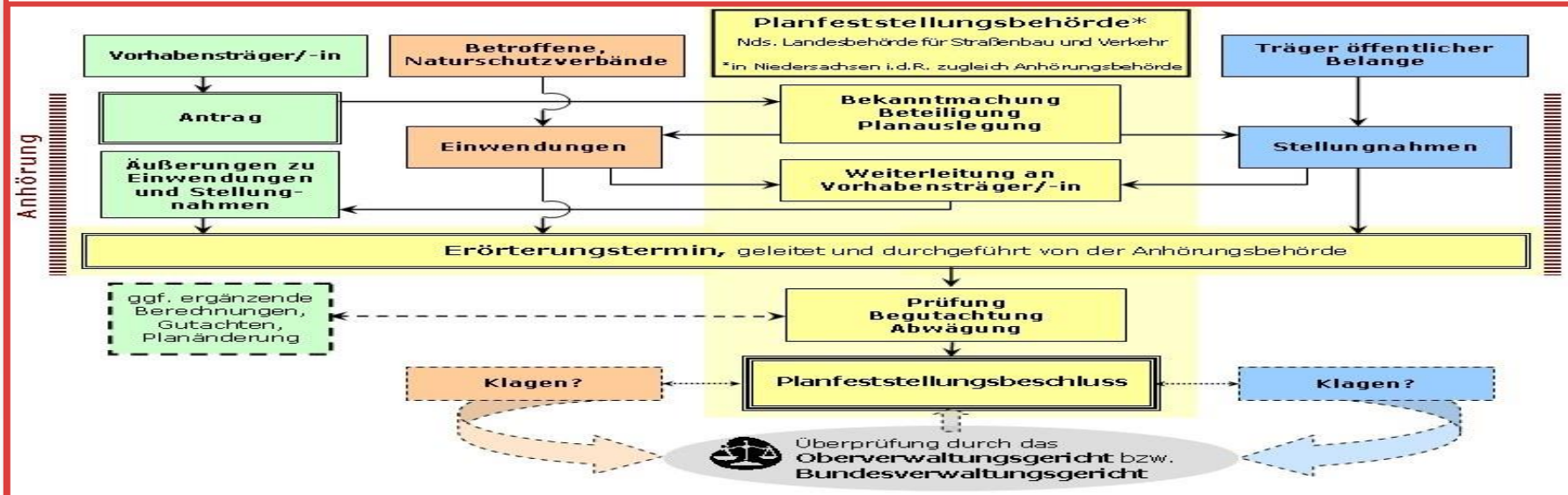
“Permit granting process” means a process covering all relevant administrative permits [...] by (!) the responsible national competent authority

Art. 2 g) NZIA takes a step back

“Comprehensive decision” means the decision or set of decision taken by Member State authorities → P)
Translation from German: One or multiple

Dilemma: regional **and** national authority will both need to approve

→ Building a facility in Tyskland as integral part of the NZIA



Olaf Scholz announced “Deutschland-Pakt” on the 6th of September

Goal = Promoting Renewables and reduce bureaucracy



Problems of the NZIA

More inefficiency through the regulation? (German perspective)

1st Litigation as a (!) **major** efficiency risk

- Projects won't be able to start → "Does a project really qualify as strategic?"
- Regulation doesn't contribute to legal clarity

2nd Local authorities **can't** transfer power

- Germany: Only the municipalities are allowed to license/grant projects in their territory
(Gemeindehoheitsprinzip)

3rd We need the space!

- Solar & wind takes a lot of space
- Raumordnungspläne / spatial plans & zoning are critical

- **Recital 53:** [...] The national should ensure that applicants and project promoters have access to a (!) simple dispute settlement procedure.

Installation of a dispute settlement **platform**?

- **Recital 56:** [...] Certain administrative restrictions should be partially lifted or simplified to speed up (NZA) implementation.

Recital 57 → in short: Environmental procedures are important but should be **tightened**

- **Recital 58:** Regional / local authorities **should** consider provisions for Net-Zero-Tech when planning.

Problem: Non-binding





Content of the CRMA

Chapter I&II: General provisions

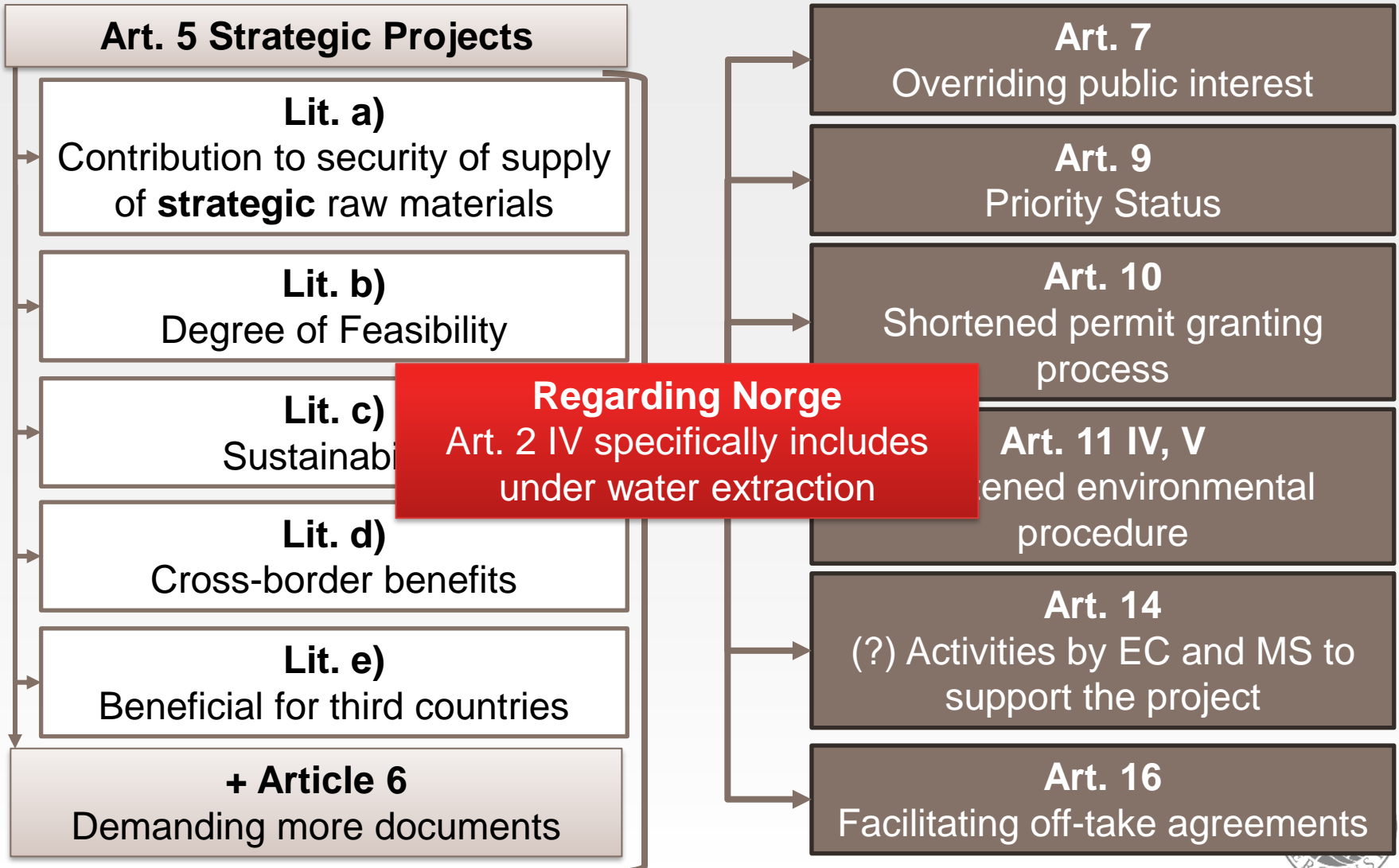
**Article 4 & Annex II: 34
Critical Raw Materials**
= Essential to the functioning
[...] of industrial ecosystems

**17 of which are identified as
strategic**
= Will grow exponentially in terms
of demand → high supply risk





Chapter III: Strengthening the value chain





Content of the CRMA

Chapter III: Strengthening the value chain

Art 8: One stop shop for all projects
→ Much like in the NZIA with the **same** problems

Article 15 (!) Coordination of finances
→ Unlike in the IRA



Use of CRM derived from the domestic value chain must be **stimulated (money talks)**

One efficient way? = **Tax credits**

Article 18 ff. national exploration programs
→ Obliging MS to draw up a national program for general exploration





Content of the CRMA

Chapter IV: Risk monitoring and mitigation

Art. 19 ff.: EC monitoring trade flow, demand and supply, concentration of supply and Union wide production
→ Collecting data from MS and companies (with criticism)

Chapter V: Circularity

Art. 25 ff.: Outsourcing measures regarding recycling of CRM to the Member States → national programs (quite broad)

Chapter VI: Strategic Partnerships

Art. 33 ff.: Ranking trade partnerships (Can the EC be picky?)





Core Question

Is the 'nexus of problems' addressed?

Efficiency

Quicker realization for certain technologies/projects

Quicker realization for (!) **certain handpicked** technologies/projects

(big) solution: Cutting down administrative procedures?

Geopolitical Independence

Ambitious goals regarding both NZA and CRM

Decade long outsourcing will be hard to be addressed by two regulations

State subsidies (debts) and Investment Funds?

Environment

Acts address emission low tech

CRM value chain mostly consists of fossil fuels

Quicker progression vs. more restrictions

Prevent Europe of two speeds

- Whole economy should be addressed (steel and chemical industry?)
 - No cherrypicking of certain technologies