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FORSCHUNGSPROJEKTE ZU PFAS-FREIEN MEMBRANEN /

VIEL BEWEGUNG IN EUROPA?

06.11.2024

Ausschreibungsprogramm 2024 Clean Horizon

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Table 2 Correspondence of topics into the different scientific priorities

	Topic identifier	Topic Title	Type
Renewable Hydrogen	HORIZON-JTI-CLEANH2-2024-01-01	Innovative proton conducting ceramic electrolysis cells and stacks for intermediate temperature hydrogen production	RIA
	HORIZON-JTI-CLEANH2-2024-01-02	Advanced anion exchange membrane electrolysers for low-cost hydrogen production for high power range applications	RIA
	HORIZON-JTI-CLEANH2-2024-01-03	Development of innovative technologies for direct seawater electrolysis	RIA
	HORIZON-JTI-CLEANH2-2024-01-04	Development and implementation of online monitoring and diagnostic tools for electrolysers	RIA
	HORIZON-JTI-CLEANH2-2025 -01-05	Hydrogen production and integration in energy-intensive or specialty chemical industries in a circular approach to maximise total process efficiency and substance utilisation	IA

KPI 2024 EU

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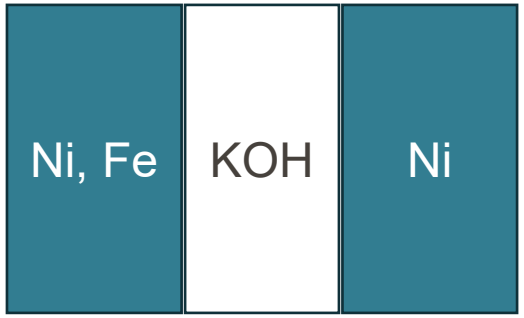
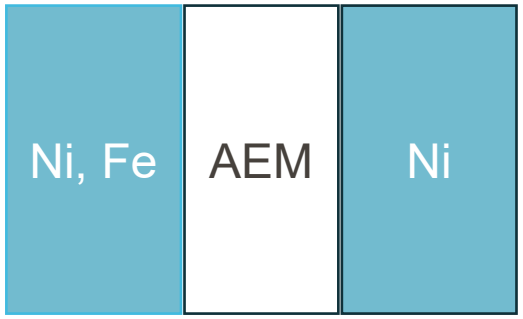
Alkalische Wasserelektrolyse



- Niedrige Leistung
- Hoher innerer Widerstand
- Keine hohen Drucklevel
- Niedrige CRM
- TRL9
- Hohe Rezyklefähigkeit

Parameter:	2020	2030
Strom (A/cm²)	0.6	1.0
Degradation (%/10³ h)	0.12	0.1
CRM (mg/W)	0.6	0

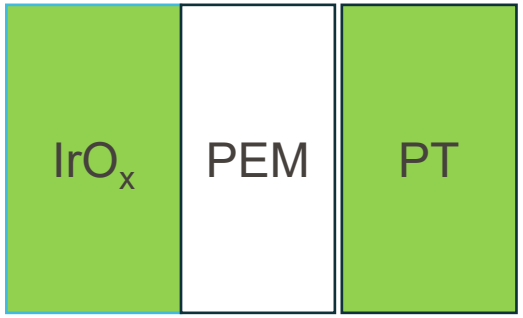
Alkalische Membran-EL



- Preiswerte Materialien
- Hohe Stromdichten möglich
- Differentialdrücke möglich
- Gute Effizienz
- TRL 6
- Hohe Degradation

Parameter:	2020	2030
Strom (A/cm²)	0.5	1.5
Degradation (%/10³ h)	1	0.5
CRM (mg/W)	1.7	0

PEM Membran-EL



- Teure Materialien
- PFAS (EU verlangt PFAS frei)
- Rezylefähigkeit gegeben (nicht etabliert)
- Hohe Stromdichten /Differenzdrücke
- TRL 8
- Hohe Effizienz

Parameter:	2020	2030
Strom (A/cm²)	2.2	3
Degradation (%/10³ h)	0.19	0.12
CRM (mg/W)	2.5	0

A Review of Membrane Electrode Assemblies for the Anion Exchange Membrane Water Electrolyser: Perspective on Activity and Stability

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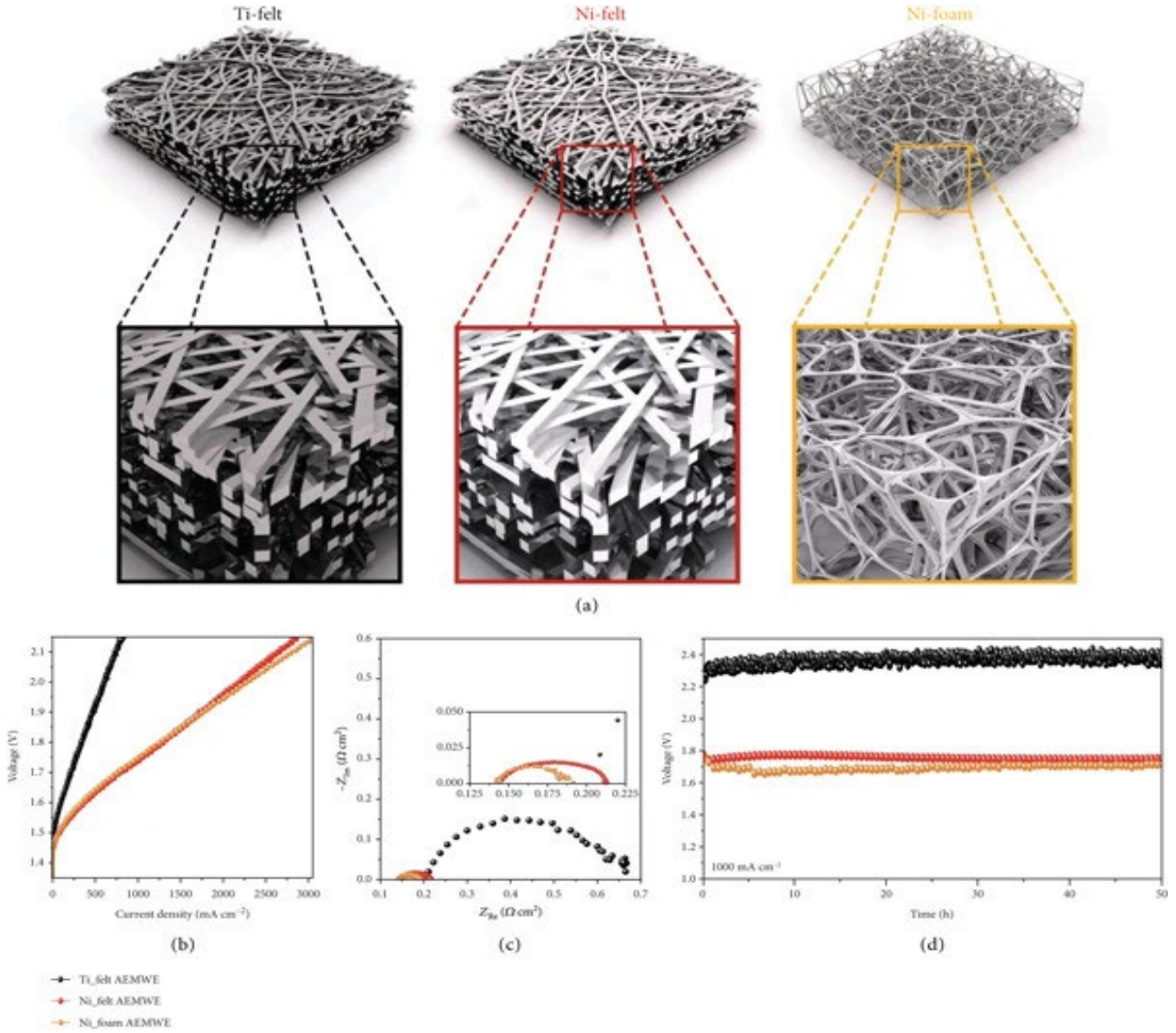

Interfaces;

Conductivity

Reliability

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1. https://www.clean-hydrogen.europa.eu/knowledge-management/strategy-map-and-key-performance-indicators/clean-hydrogen-ju-sria-key-performance-indicators-kpis_en
2. https://onlinelibrary.wiley.com/doi/full/10.1155/2024/7856850
3. https://www.clean-hydrogen.europa.eu/document/download/8a35a59b-a689-4887-a25a-6607757bbd43_en