

UPDATES ON THE IRA AND OTHER POLICIES SUPPORTING RENEWABLE FUELS



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Proposed 2026-2027 RVO and Percentage Standards

	2024	2025	2026 Proposed	2026 Proposed % Standards	2027 Proposed	2027 Proposed % Standards
Cellulosic Biofuel	1.01 Revised & Final	1.19 Proposed to be revised	1.30	0.87% (0.77%)	1.36	0.92% (0.82%)
Biomass-based Diesel	3.04	3.35	5.61	4.75% (4.24%)	5.86	5.07% (4.52%)
Advanced Biofuel	6.54	7.33	9.02	6.02% (5.37%)	9.46	6.40% (5.70%)
Implied D6 Ethanol Mandate	15	15	15	n/a	15	n/a
Total Renewable Fuel	21.54 Revised & Final	22.33 Proposed to be Revised	24.02	16.02% (14.30%)	24.46	16.54% (14.74%)

- EPA aiming to issue Final Rule by October 31.

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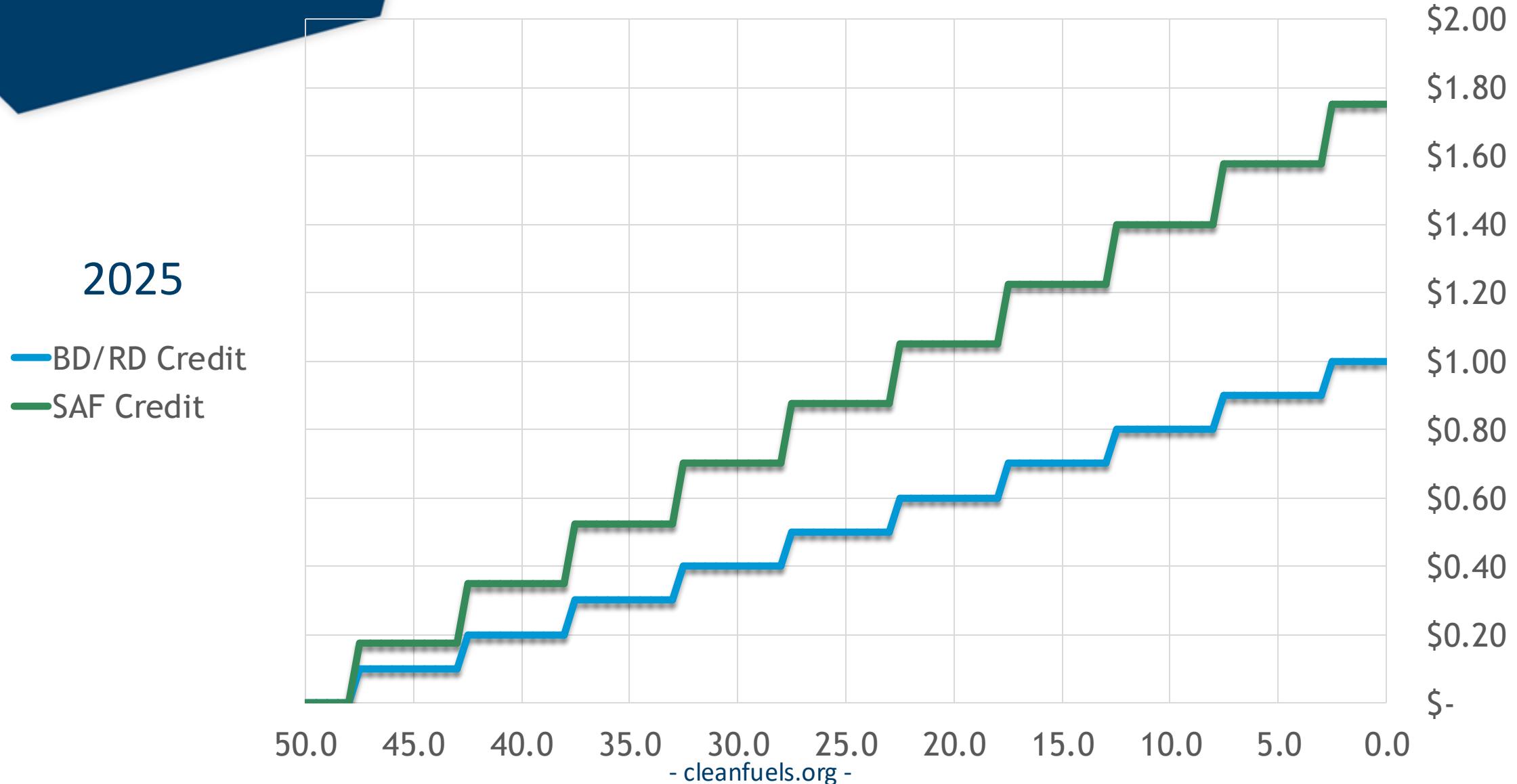
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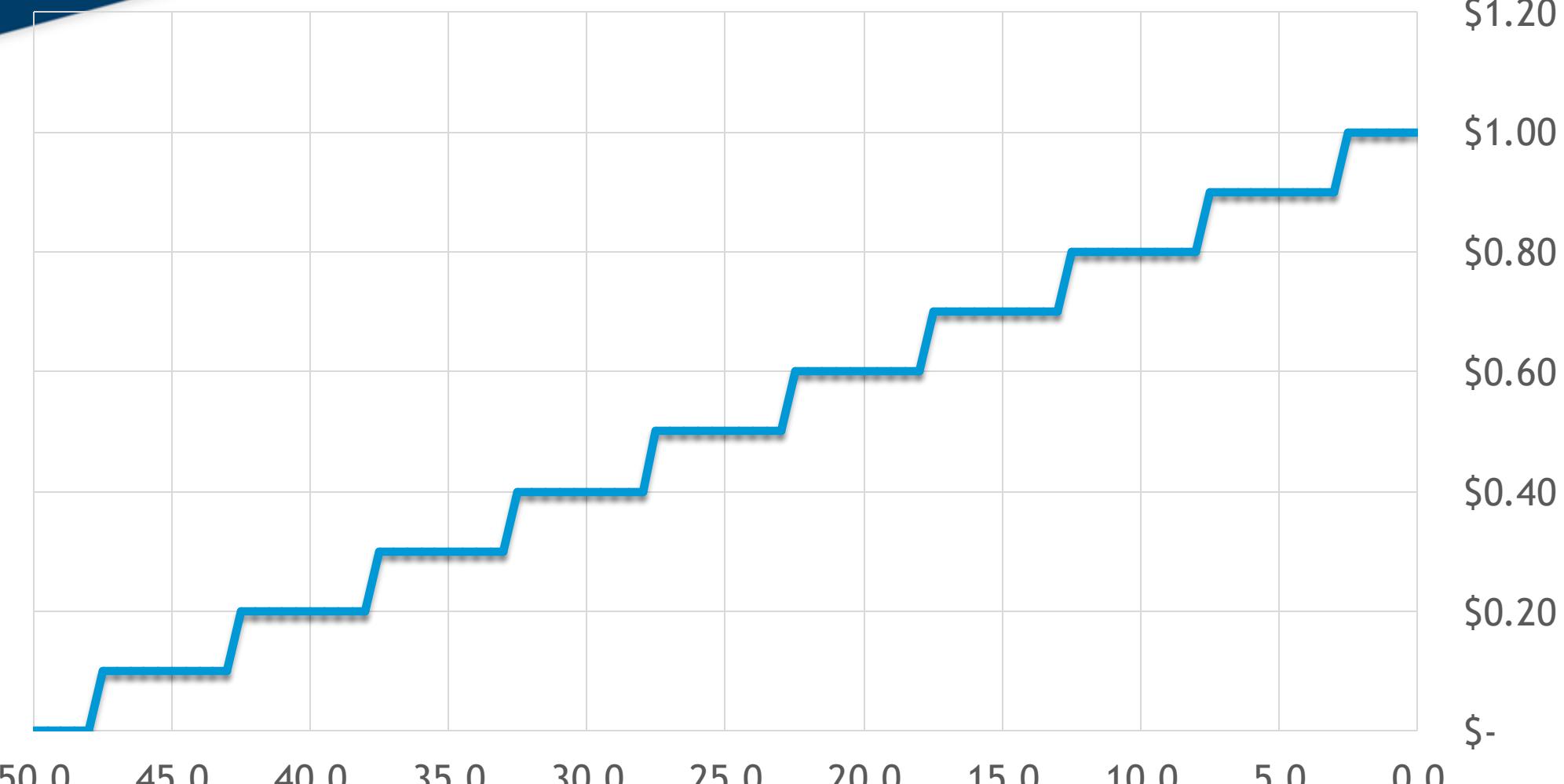
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45Z Credit value will vary by fuel producer based on feedstock choices, product slates, and process inputs



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2026-29



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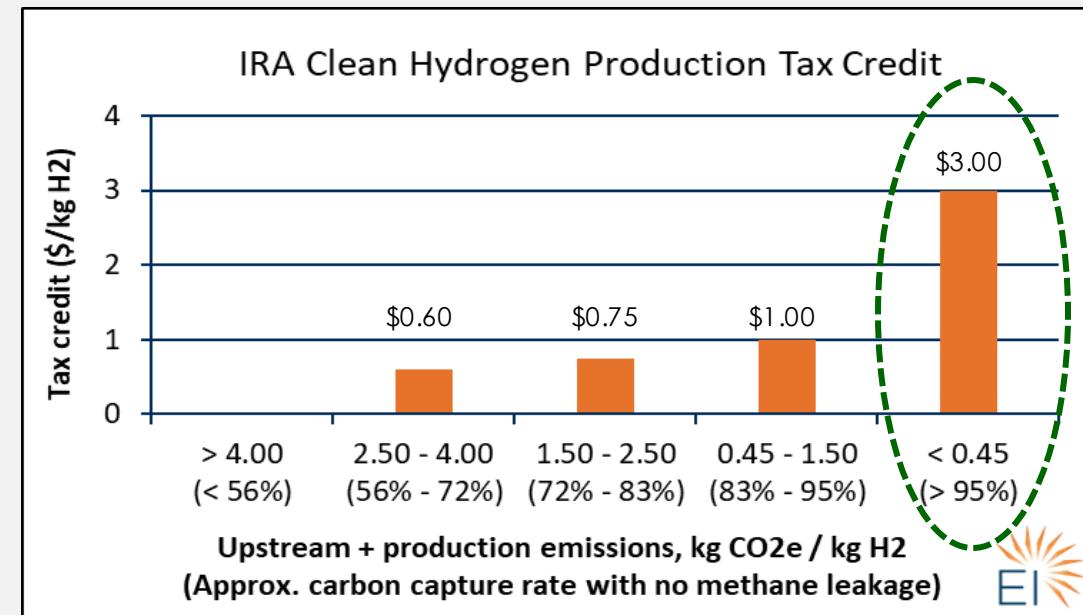
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U.S. Hydrogen Policy Updates

- **IRA:** The 45V Clean Hydrogen Production Tax Credit value is based on lifecycle production emissions and is worth up to \$3/kgH₂ (equiv. to ~\$60/MWh)
- **U.S. Treasury (Final 45V Rules):** Published January 2025, keeps “three pillars”
- **OBBA:** 45V ends for projects beginning construction after 2027 (originally 2032)
- **U.S. Treasury (Notice 2025-42):** Released August 2025, changes beginning of construction guidance for wind & solar



The credit values shown above depend on meeting prevailing wage and apprenticeship requirements; otherwise, divide values by 5.

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Greenhouse Gas Accounting Standards



GHGP Corporate Accounting & Reporting Standard
Revised Edition: 2004

GHGP for Project Accounting: 2005

GHGP Corporate Value Chain (Scope 3) Accounting & Reporting Standard: 2011

GHGP Product Life Cycle Accounting & Reporting Standard: 2011

GHGP Scope 2 Guidance: 2015

GHGP Land Sector & Removals Guidance: 2022

GHGP Standards Update including new workstream for Action Markets & Instruments (AMI): 2023 → 2028



14064-1:2018 GHG Quantification & Reporting of GHG and Removals

14064-2:2019 Project Level for Quantification, Monitoring & Reporting of GHG Emission Reductions or Removal Enhancements

14064-3:2019 Verification and Validation of GHG Statements

22095:2020 Chain of Custody – General Terminology & Models

Models w/out Mixing	Models w/ Mixing	
Identity Preserved	Segregated	Controlled Blending



GREENHOUSE
GAS PROTOCOL

History of GHG Protocol standards





EPA Biogas Regulatory Reform Rule

- Disaggregated Registration Model in which each party in the production and distribution chain (biogas producer, RNG producer, RIN Separator) registers individually
- RIN Separation also begets RNG allocation to dispensing locations in which RNG volume/supply feedstocks are traceable to fueling infrastructure now



CARB LCFS Program

- CARB will look to sunset LCFS credits associated with avoided methane emissions, impacting RNG projects from manure or organic waste feedstocks
- Biomethane injected into the pipeline outside of California will eventually need physical delivery requirements, changing the from the provisions today found in the less stringent LCFS 19-05 Guidance that allows for a looser book-and-claim accounting

Vermont Clean Heat Standard

- The VT CHS is on the books and could be confirmed in a future legislative session, but is not currently enforceable at the moment
- The VT CHS has a physical deliverability requirement (applicable to RNG), where an obligated party would be responsible for acquiring capacity rights and physically scheduling the gas from source to city gate



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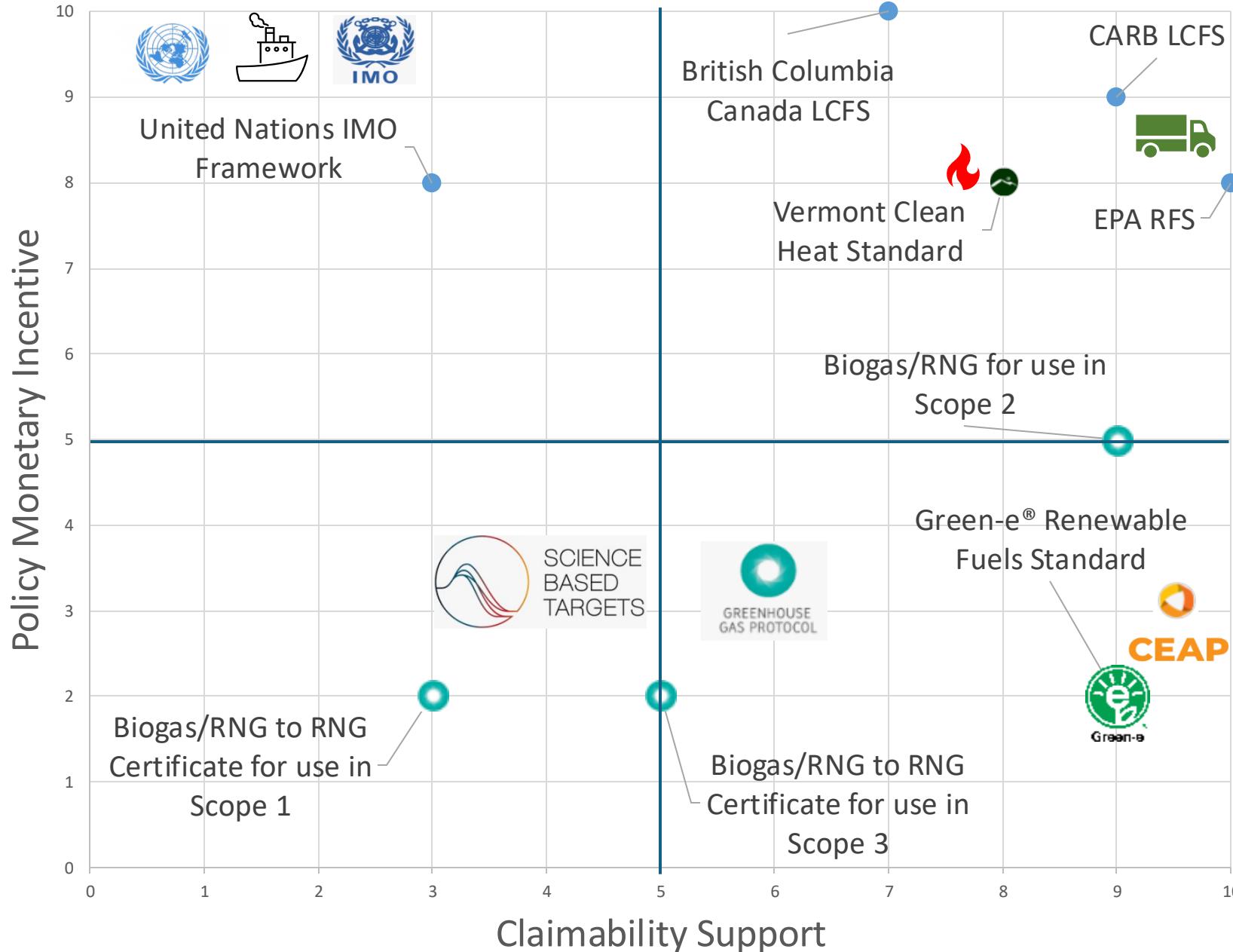
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RNG Scatter Plot – Risk vs. Reward



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EPA 2025 August Decisions on SREs

Compliance year	Petitions Pending on 8/21	Petitions Granted 100% on 8/22 (total in parenthesis)	Petitions Granted 50% on 8/22	Estimated Exempted RVO (million RINs) (total in parenthesis)	Petitions Denied on 8/22 (total in parenthesis)	Ineligible on 8/22	Petitions Still Pending on 8/22
2016	2	0 (19)	0	0 (790)	1 (8)	0	0
2017	1	0 (35)	0	0 (1820)	1 (1)	0	0
2018	10 (38)	0 (29)	3	60 (1450)	7 (0)	0	0
2019	29	25	4	1460	0 (1)	0	0
2020	30	7	17	770	6	0	0
2021	22	15	6	910	1	2	2
2022	19	6	14	760	3	1	0
2023	22	6	15	680	4	1	0
2024	30	4	18	730	5	3	0
2025	11	0	0	0	0	0	11
Totals	204	63 new actions	77		28 new actions	7	13

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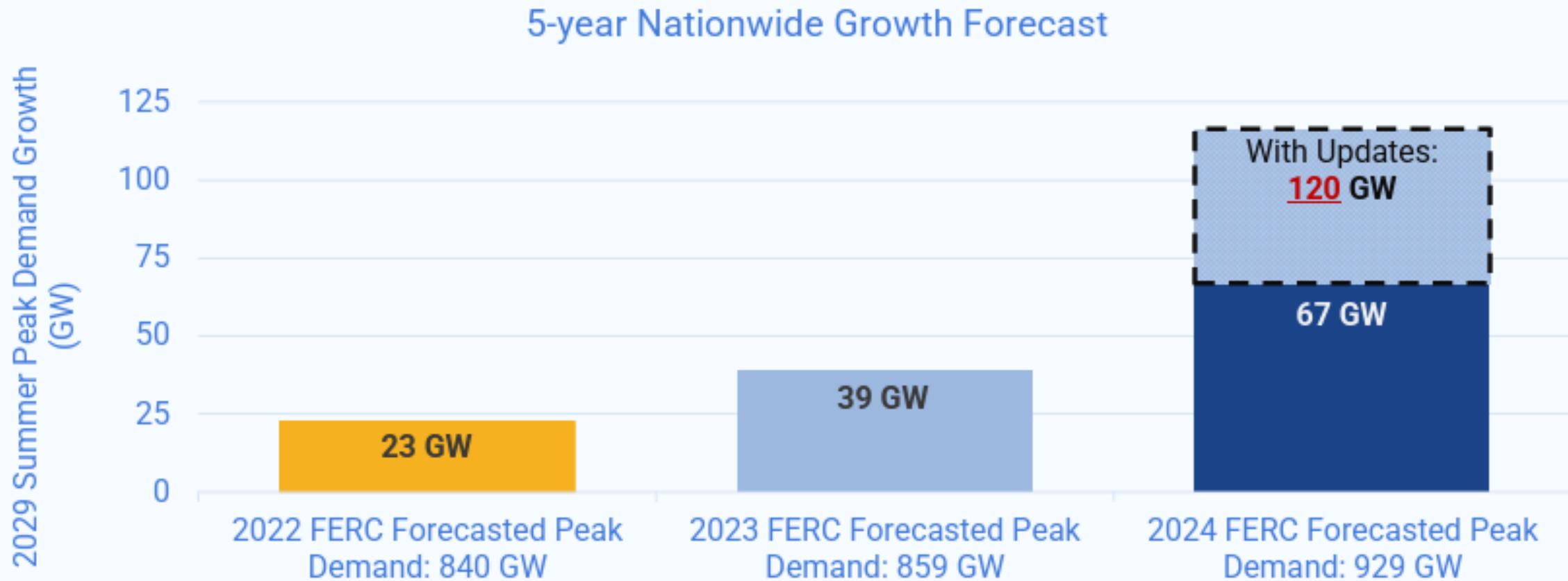
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Five-Year Load Growth Up Five-Fold to 120 Gigawatts

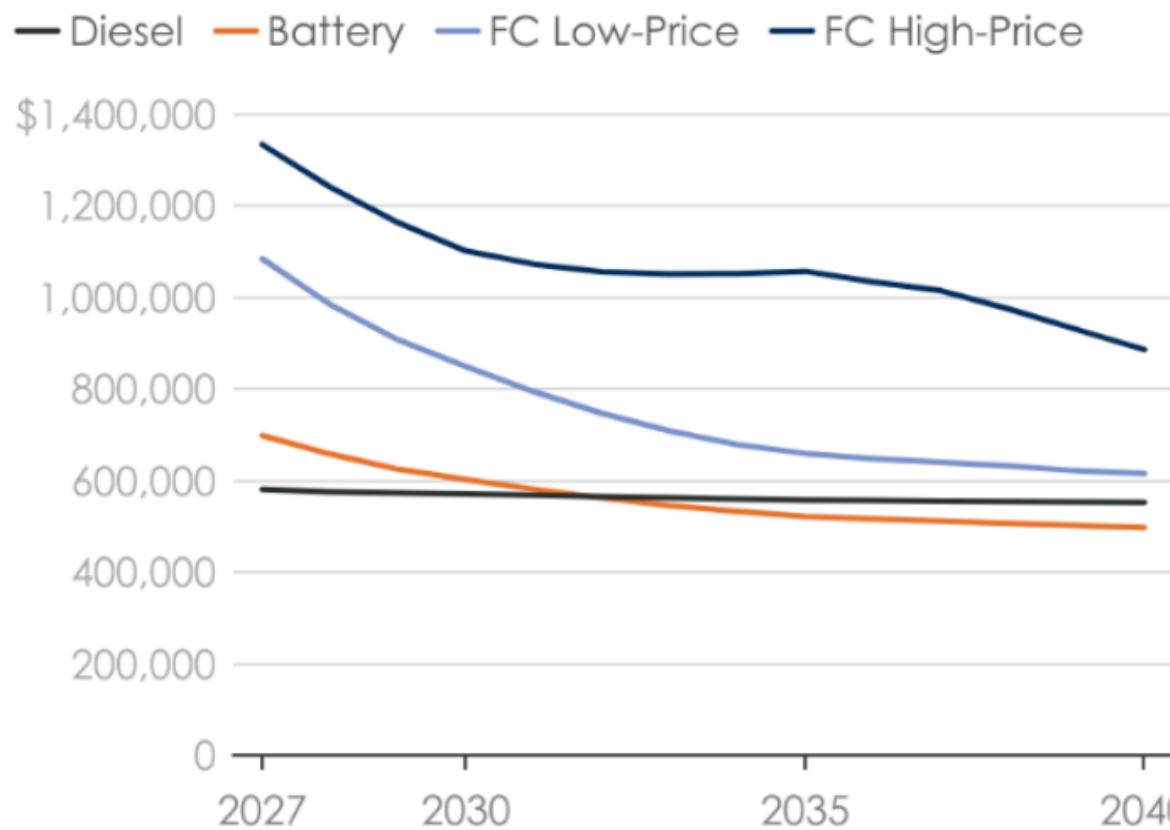


Hydrogen's competitive prospects for decarbonization by end-use sector

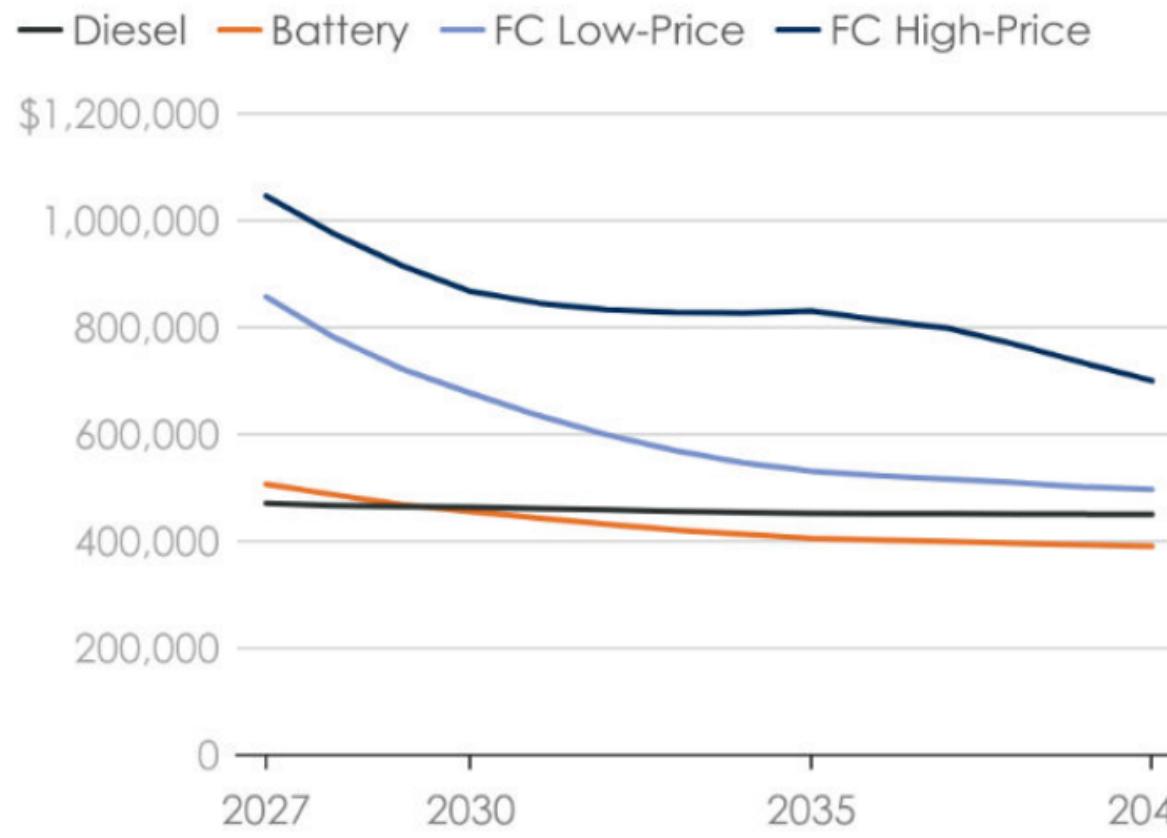


Figure 14.a. California TCO for diesel, battery electric, and fuel cell HDVs

California Class 8 Long-Haul Tractor



California Class 8 Short-Haul Tractor



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European Union Renewable Energy Directive III

- RED III targets **42% uptake** of renewable fuels of non-biological origin (RFNBOs) for hydrogen used for final energy and non-energy purposes in industry **by 2030** (and 60% by 2035)
- RED III targets **1%** total energy supplied to the transport sector to come from RFNBOs by **2030**

The EU has formally launched infringement proceedings against **26 out of its 27 Member States** for failing to transpose the Renewable Energy Directive III (RED III) by the **21 May 2025** deadline. Only **Denmark** has fully completed transposition and thus avoided legal action.

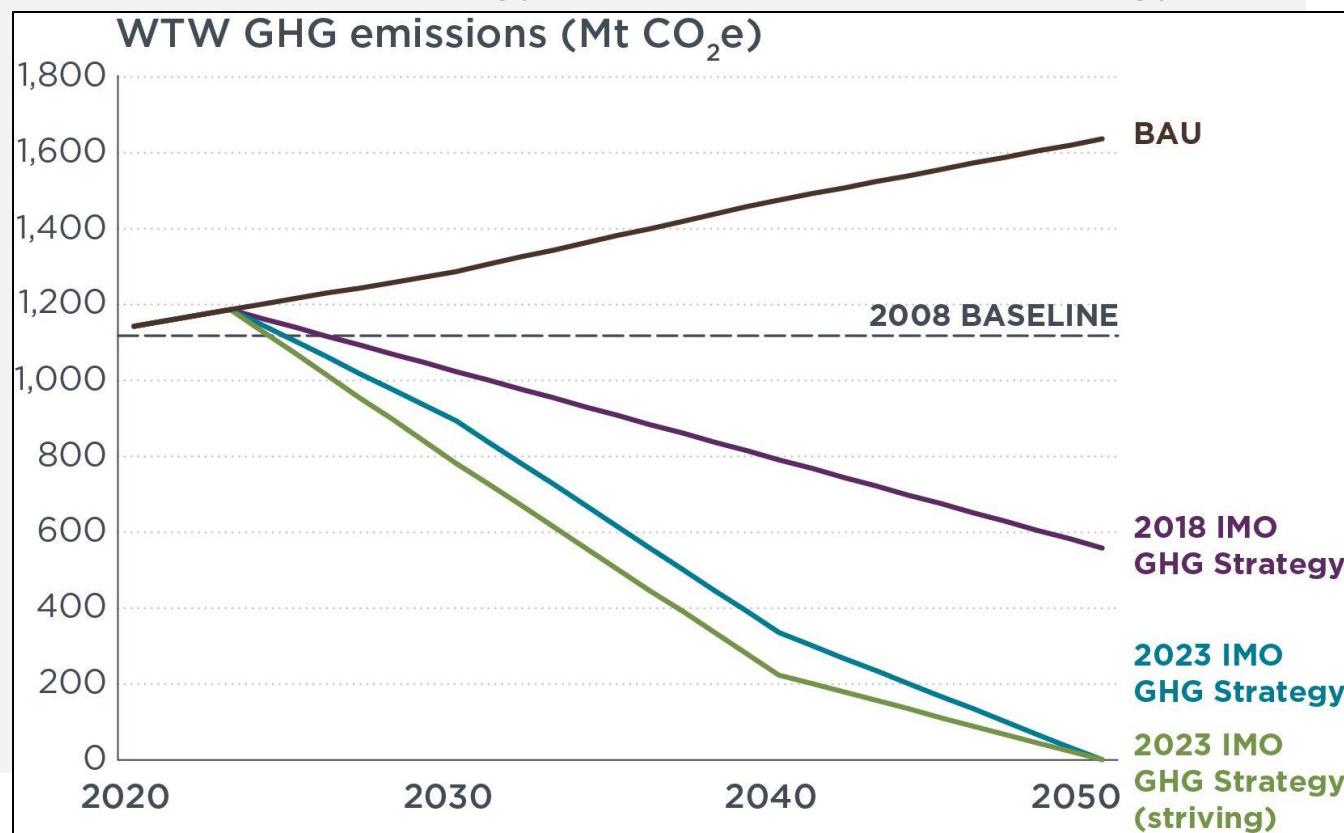
Grouping Summary

Group	Countries	Status & Risk
Fully compliant	Denmark	No infringement notice; leading on hydrogen and permitting
Partial implementers	Czechia, Romania, Finland, Germany, Netherlands, France, Italy, Spain, Poland, others	Drafting RFNBO and permitting laws; risk of reasoned opinion if delayed
Laggards	Bulgaria, Cyprus, Slovakia, Sweden, Portugal, etc.	Formal infringement notice; slow or no transposition; high legal risk

International Marine Organization Fuel Standards

- IMO's 2023 "Strategy on Reduction of GHG Emissions from Ships" includes a **goal of having zero or near-zero GHG fuels reach at least 5% of energy used by international shipping by 2030**
- In April 2025, the IMO's Maritime Environment Protection Committee approved a **new fuel standard for ships and global pricing mechanism for emissions** (to be adopted Oct. 2025, begin in 2027)

Well-to-wake GHG emissions pathways implied by the revised (2023) strategy vs. the initial (2018) strategy



Read more:

<https://globalmaritimeforum.org/insight/imo-policy-measures-whats-next-for-shippings-fuel-transition/>

<https://theicct.org/marine-imo-updated-ghg-strategy-jul23/>

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