AMMPOWER

Understanding the Credit for Production of Clean Hydrogen and its impact on AmmPower's IAMM™ Unit

Clean Hydrogen Production Credit

The clean hydrogen production credit provides a varying incentive depending on the carbon intensity of the hydrogen production pathway. Based on the amount of lifecycle greenhouse gas emissions created during the hydrogen production process as measured by the GREET Model, different levels of the credit are available for owners of the Independent Ammonia Making Machine™ – the IAMM™ unit – as detailed in the following table:

Cat.	Lifecycle Emissions (kg of CO_2 / kg of H_2)	Credit Value ($/kg of H_2)	Max ($kg of H_2)	Credit Total ($/metric ton NH_3)	w/ 5x Multiplier[1] ($/metric ton NH_3)
1	0.0 - 0.45	$ 0.60	$ 3.00	$ 106.53	$ 532.36
2	0.45 - 1.5	$ 0.20	$ 1.00	$ 35.51	$ 177.55
3	1.5 - 2.5	$ 0.15	$ 0.75	$ 26.63	$ 133.16
4	2.5 – 4.0	$ 0.12	$ 0.60	$ 21.31	$ 106.53

[1] The bill has several labor requirements that taxpayers must meet in order to qualify for the full value of the credits; such as prevailing wage and apprenticeship requirements. These requirements are integrated throughout the bill and additional guidance will be forthcoming from the Secretary of Labor on how to determine taxpayer eligibility.

Key Definitions:

- **Qualified clean hydrogen:** Hydrogen produced through a process that results in a lifecycle greenhouse gas emissions rate of not greater than 4 kilograms of CO_2e per kilogram of hydrogen. Additional requirements: 1) produced in the United States; 2) produced in the ordinary course of a trade or business; 3) produced for sale or use; AND the production and sale or use is verified by an unrelated party.
- **Qualified clean hydrogen production facility:** a facility 1) owned by the taxpayer; 2) which produces qualified clean hydrogen; and 3) the construction of which begins before January 1, 2033
- **Lifecycle greenhouse gas emission:** means the aggregate quantity of greenhouse gas emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes), as determined by the Administrator, related to the full fuel lifecycle, including all stages of fuel and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery and use of the finished fuel to the ultimate consumer, where the mass values for all greenhouse gases are adjusted to account for their relative global warming potential.

Emissions Qualifications:

Any emissions generated to produce hydrogen and ammonia by the IAMM™ unit – would be produced upstream by the electricity used to power the system. Using 100% green electricity to power the IAMM™ unit would qualify the owner to receive Cat. 1 hydrogen tax credits, a maximum of about $533 per metric ton of ammonia created. If power is sourced from the grid and uses natural gas or coal, the following table shows the distribution of energy required to qualify for minimum amount of the hydrogen tax credit (Cat. 4), and the emissions generated by each source per kilogram of hydrogen.

Green Energy (0kg CO_2/kg H_2)	Natural gas (19.68kg CO_2/kg H_2)	Coal (46.56kg CO_2/kg H_2)
79.7 %	20.3 %	--
91.7 %	--	8.3 %

Conclusion

The maximum credit amount of $533 per metric ton of ammonia is the equivalent to saving $0.0625/kWh. That implies that if green energy is available for a premium there will be $0.0625/kWh available to purchase the green energy with no impact to the bottom line. There would be a savings which would drop to the bottom line for any green electricity cost premium less than $0.0625/kWh.

Note: The IAMM™ – Complete system package offered by AmmPower may be the only product eligible for the hydrogen production tax credit at this time.

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