Objectives of EoI Invitation:	**Expectation from Interested stakeholders:**	**Note:**
To explore the potential for producing urea using green ammonia aligning with CCUS Program and/or National Green Hydrogen mission: - Feasible Production Capacities - Infrastructure Requirements Possible - Implementation Models	- Concepts, technical approach & business model for production - Policy Support, Incentives, and Regulatory Framework required from Government - Details on the feasibility of integrating green ammonia into existing natural gas-based ammonia facilities	In view of the objectives and desired expectations, the interested entities are requested to come up with their best inputs under EoI including the policy asks from Government. **The below responses may please be considered indicative and not restrictive while preparing Expression of Interest.** Interested Entities are requested to submit their EoI as per the Timeline and manner given in the invitation.

Sl. No.	Topic	Query	Response
1	Green Urea shall broadly mean urea produced using green hydrogen derived through electrolysis powered by renewable energy sources and carbon dioxide obtained from emitting sources.	1. We understand that green hydrogen will be governed by Green Hydrogen definition stipulated by GoI. Pls confirm. 2.We understand that CO2 emitting source need not be biogenic and it can be any industrial source. Pls confirm.	As this EoI invitation intends to collate concepts from interested entities so no restrictive stipulations are conditioned in it. However, the Definitions wherever provided by GoI having interface with Green Urea projects shall be adopted as well. Further, during formation of Green Urea policy, any specific requirement may also be incorporated during deliberation by relevant departments.
2	General	Pls provide information on offtake arrangements of urea. Whether it would be governed by fertilizer policy or it will be a long term (25 years) bilateral purchase agreement with defined buyers.	GoI have been providing Urea offtake guarantee but the policy for Green Urea is yet to come wherein the period for offtake shall be defined. This EoI does intend to collate information/asks from interested Entities in this regard.
3	General	Pls provide some clarity on what are the next envisaged steps after EoI.	Generally, Request for Proposal is the next milestone in inception which intends firm commitment and considerations towards the given objective. However, activities like policy formulation may be taken up in parallel in consideration of requirements presented in EoIs.
4	General	Will there be any Qualification requirements in subsequent stages? This is essential to understand & decide the project development model i.e. in a JV or consortium etc.	Yes. A model RFP does include qualification requirement viz. technical and financial criteria to assure the soundness of the proposers. The Development Model is one of the asks under EoI. The Prequalification in RFP shall be tailored to suit such models. Interested Entities to please elaborate on this point in their EoI to be submitted.
5	Identification and justification of proposed project location(s), including availability of renewable energy resources, water, CO_2 source, logistics connectivity and fertilizer demand centers.	A briefing or information regarding the fertilizer demand centers will help in understanding & deciding the location for the players who are not in the sector.	Presently India is importing Urea in the range of 9-10 million tonne annually. Also, the DoF acts as the controlling authority for distribution of urea on PAN India basis. Moreover, off take of Urea is guaranteed by GoI, so interested entities to consider other factors like availability of feedstocks and RE power etc. Info: Region wise as well as overall Fertilizer statistics are published by Fertilizer Association of India in form of books, info of the same are available at their website.

6	Expected levelized cost of Green Urea	May please clarify whether the existing state or central Govt incentives should be considered while calculating this cost? It is essential to understand since the additional policy support will nbe governed by this for commercial viability. May please clarify.	The levelised cost to be derived for both the scenarios i.e. *considering central schemes alone* and *considering central +States schemes* based on the co-applicability mentioned therein the staes schemes. In any case, proper disclosure viz State location, scheme name, formula, eligible amount and disbursement schedule etc to be provided by interested entities in their EoI.
7	Policy, fiscal and regulatory support required from Government. Respondents may indicate the minimum support mechanism required for commercial viability	In continuation to query at sl.no.2, may please provide clarity on commercial arrangements so that additional policy support can be asessed.	Refer relevant responses above.
8	EOI Process	Kindly confirm whether this EOI shall be followed by a subsequent tender/RFP. Further what will be the process for selection of participants from this EOI process. Are only participants who have qualified the EOI process will be allowed to participate in the tender or whether it will be also open to parties who have not participated in the EOI process.	Refer relevant responses above. Further, as the concept behind inviting EoI is to explore pathways for realization of Green Urea Projects and those submitting EoI are nowhere put under any liability leading to formation of Contract. Therefore, the next stage shall also be open basis in the wider participation in the intiative.
9	Offtake	Please clarify whether off taker is identified for Green Urea and how much is the assured offtake quantity. Also clarify for how many years, the offtake of Urea is planned.	refer response #2 and 5 above. Suggestions on optimum plant capacity are also among inputs asked under the EoI.
10	Plant Capacity	Kindly provide information regarding the quantity of Green urea to be supplied in a year in terms of Million Metric Tons per Annum. Also specify the date from which supply is to be started.	Refer relevant responses above.
11	CO_2 Sourcing	Please clarify whether the CO_2 used for production of urea needs to be biogenic or industrial sources of CO_2 is also allowed. Also kindly clarify whether any facilitation/support will be provided by the Government.	Refer relevant responses#1 above. Regarding CO2 sourcing, CCUS scheme of GoI may be referred.
12	Policy Support / Incentive Eligibility	Kindly clarify whether incentive under the NGHM will be provided for the Green urea produced and for how many numbers of years the incentive will be provided. Also kindly clarify whether any viability gap funding or 30% CAPEX subsidy will be provided for the project	The policy for Green Urea is expected to integrate the two national missions i.e. for Green hydrogen mision and CCUS.
13	Project Timeline	Please indicate the targeted timeline for implementation and commissioning of proposed project.	As this route of Urea Production is depending on availability of Green hydrogen/Green Ammonia, CO2 and RE power etc, the target timeline shall be discovered accoordingly for a particular Model of development.
14	Supply timeline	Kindly indicate the expected timeline for commencement of supply from the proposed project	Refer relevant responses above.
15	Consortium Participation	Please confirm whether consortium participation is allowed. If yes, kindly specify roles, responsibilities, and eligibility criteria of consortium members.	Invitation is open for all options. Further clarity on roles, responsibilities, and eligibility criteria of consortium members shall be brought in next stage.

16	Costing Requirements	Kindly clarify the expected level of detail for cost estimation, including Capex and Levelized Cost of Urea (LCOU) methodology.	Interested Entities are encouraged to use best class of estimation based on the avilability and accuracy of cost data. Similarly assumptions/Budgetary Quotations (BQ) for arriving at suggested LCOU should be mentioned in the EoI for better clarity.
17	Project Model	Kindly clarify preferred development models (EPC / BOO / BOT / JV etc.) and expected role of participating entities.	A project may also be of a combination of known models. Interested entities are requested to opine on their proposal/suggestion for development model elaborating the rationale. However, the interested entity may specify their role in the project like Project Owner, EPC Contractor, BOO operator etc.
18	Power Source	Please clarify whether renewable power sourcing is the responsibility of the developer or Government facilitation will be provided (e.g., RE parks / open access).	Requirement is well noted. However, as requested under the invitation, Interested Entities should provide all the requirements leading to realization of Green Urea. The later stage of inception shall clarify further on this.
19	Price Mechanism	Please clarify if any pricing framework or subsidy-linked pricing mechanism is envisaged for Green Urea.	It is clarified that, Urea is sold to farmers at a subsidised rate fixed by GoI and similar policy is expected for Green Urea. More clarity is expected in coming stages of the initiative. Also refer relecent responses above.
20	Multiple Proposals	Kindly confirm whether an entity is permitted to submit multiple proposals covering different configurations and/or project locations under a single EOI submission.	Yes. An interested entity may come up with multiple options under single EoI. Reiterating that this is not the RFP stage where firm proposal is asked for.
21	Land Requirement	Please clarify whether land shall be arranged by the developer or allocated by Government/authorities.	It will depend on the selected model of development/policy formulation. However, EoI should be indicative of Land Area required for the project.
22	Location Preference	Kindly clarify whether any preferred project locations, industrial clusters, or proximity requirements (such as availability of CO_2 sources, renewable energy resources, and proximity to fertilizer demand centres) have been identified by the Government.	At present, no specific location has been identified. However, Interested entities to explore feasible options considering the proximity of available resources required for projects.
23	Objective	Is the EOI purely for policy formulation, or does it form the basis for a future competitive bidding process	As mentioned under Confidentiality para of Invitation, the info gathered from EoI stage shall be used for subsequent stages including feasibility study, policy formulation, aand RFP for a future competitive bidding etc.
24	Government Commitment	Does the Government intend to subsequently issue an RFP or VGF scheme based on responses received	Govt. is in a serious consideration of issuance of RFP. The policy for Green Urea is expected to integrate the two national missions i.e. for Green hydrogen mision and CCUS.
25	Project Selection	Will projects submitted under the EOI receive any preferential treatment in future tenders	No such preference is envisaged.
26	Commercial Model	Is the Government contemplating a cost-plus model, fixed subsidy model, Contract for Difference (CfD), viability gap funding, or market-linked mechanism	At present stage no such preference has been drawn. However, it is one of the asks in the invitation for entities to indicate the fiscal/regulatory supports required from GoI.
27	Central Procurement	Will Green Urea be procured centrally by the Government, or sold directly by producers	At present, Urea policies govern the sale of Urea in the country at subsidised rates centrally controlled by GoI. Similar framework is envisaged for Green Urea.

28	Price Discovery	How will Green Urea selling prices be determined relative to conventional subsidized urea	Green Urea selling price to farmer shall be same as convenional subsidised Urea however, the quantum of subsidy relative to conventional subsidized urea shall vary as per the delibration being done for Green Urea.
29	Offtake Guarantee	Will long-term offtake agreements be provided to project developers	The same shall be defined in Green Urea Policy. Also refer relevant responses.
30	Tenure	If an offtake arrangement is envisaged, what is the proposed contract duration (10/15/20 years)	Refer relevant responses above.
31	Volume Commitment	Will minimum annual offtake quantities be guaranteed	As Green Urea initiative is for the Domestic consumption only, it is envisaged that entire product shall be offtaken.
32	Payment Security	Will payments be backed by sovereign guarantee, LC mechanism, or PSU guarantee	Query not clear.
33	Existing Urea Subsidy	Will Green Urea qualify under the existing nutrient subsidy regime or will a separate mechanism be introduced	Separate mechanism for subsidy on Green Urea is envisaged. Also refer relevant responses above..
34	Additional Incentive	Will there be an incremental green premium over existing subsidy entitlements	Separate mechanism for subsidy on Green Urea is envisaged. Also refer relevant responses above..
35	Inflation Indexation	Will subsidy support be indexed to inflation or renewable electricity prices	EoIs are expected to contain inputs/asks for the same. However, generally Variable Prices are passed thru in subsidy support mechanism.
36	Carbon Credit	Who will own carbon credits or environmental attributes generated by Green Urea projects	Needs delibration with concerned agencies. Interested Entiries to propose in line with para 12 of tenetative content of EoI.
37	REC/Green Attribute	Can developers monetize Renewable Energy Certificates or similar attributes in addition to urea sales	
38	Hydrogen Incentives	Can incentives available under national green hydrogen programs be combined with Green Urea support	The policy for Green Urea is expected to integrate the two national missions i.e. for Green hydrogen mision and CCUS.
39	Definition	Must 100% hydrogen be renewable-based, or is partial substitution permissible during transition	The intersted Entities may indicate the options for development models and shall be delibrated after receipt of EoIs.
40	Renewable Matching	Will hourly matching, monthly matching, or annual matching of renewable electricity be required	Query not clear.
41	Grid Power	Can grid electricity be used if contracted under renewable open access arrangements	Shall be govered by relevant standards/qualification guidelines issued by GoI to this context. Further, specific provisions may be incorporated as per requirement evolved during delibration for policy formulation.
42	Storage	Will battery or hydrogen storage be mandatory to claim Green Urea status	It is expected from interested entities to develop the scheme based on their techno-economic feasibility model.
43	Imported Hydrogen	Can imported green hydrogen or green ammonia be used as feedstock	The invitation of EOI intends domestic production and the purpose of import will not meet the objective.
44	Third-Party Supply	Can hydrogen be procured from an independent hydrogen producer under long-term contract	Onsite green Hydrogen generation is generally preferred for such cases. However, it is expected from interested entities to develop the scheme based on their techno-economic feasibility model.
45	Merchant Hydrogen	Can merchant hydrogen pipelines or shared hydrogen hubs be utilized	--DO--

46	Certification	What certification methodology will be adopted for verification of green hydrogen content	Shall be govered by relevant standards/qualification guidelines issued by GoI to this context.
47	Eligible CO_2	The EOI permits CO_2 from "emitting sources." Which sources are acceptable (cement, ethanol, bioenergy, refinery, natural gas, DAC, biomass)	It is encouraged to utilise CCUS scheme for sourcing CO2. however, Interested Entiries to propose in line with para 12 of tenetative content of EoI.
48	Fossil CO_2	Will fossil-derived captured CO_2 qualify for Green Urea	--DO--
49	Biogenic Preference	Will projects using biogenic CO_2 receive preferential treatment	No preference has been envisaged so far.
50	Imported CO_2	Can liquefied CO_2 be transported from another industrial cluster	It is encouraged to utilise CCUS scheme for sourcing CO2.It is expected from interested entities to develop the scheme based on their techno-economic feasibility model. However, Interested Entiries to propose in line with para 12 of tenetative content of EoI.
51	DAC Eligibility	Will Direct Air Capture-based CO_2 qualify	It is expected from interested entities to develop the scheme based on their techno-economic feasibility model.
52	Lifecycle Methodology	Which lifecycle assessment protocol will be adopted to determine emissions reduction	EoI to suggest on this.
53	Technology Neutrality	Will all electrolysis technologies (alkaline, PEM, SOEC, AEM) be treated equally	It is expected from interested entities to develop the scheme based on their techno-economic feasibility model.
54	Urea Technology	Can any globally licensed ammonia/urea technology provider be used	EoI invitation is open for all options.
55	Foreign Licensors	Are there any restrictions on foreign licensors or OEMs	Invitation does not impose restriction of such kind.
56	Multiple OEMs	Can different technology packages be sourced independently rather than as an integrated package	Invitation does not impose restriction of such kind.
57	Innovation	Will alternative synthesis routes (electrochemical, plasma, novel catalysts) be considered if emissions targets are achieved	EoI to suggest on this.
58	Brownfield	Can existing gas-based urea plants retrofit with green hydrogen while retaining conventional units	All development models are invitable under EoI.
59	Hybrid Plants	Is partial green production acceptable during transition years	The intersted Entities may indicate the options for development models and shall be delibrated after receipt of EoIs.
60	Greenfield	Is there any minimum plant capacity envisaged	refer relevant responses above.
61	Modular Plants	Are distributed smaller facilities acceptable	refer relevant responses above.
62	Cluster Development	Can hydrogen production be centralized while multiple urea plants are supplied	EoI invitation is open for all options.
63	Captive RE	Must renewable generation be captive or can third-party PPAs be used	The intersted Entities may indicate the options for development models and shall be delibrated after receipt of EoIs.
64	Banking	Will banking and wheeling benefits be recognized across states	It is expected from interested entities to develop the scheme based on their techno-economic feasibility model. Interested Entiries to propose in line with para 12 of tenetative content of EoI.
65	Hybrid Sources	Are solar-wind hybrids encouraged	
66	Firm Power	Can hydro or nuclear-backed renewable contracts be considered	
67	Curtailment	How will renewable curtailment events be treated in compliance calculations	It is expected to be clatified in RFP conditins .

68	Lender Comfort	Does Government intend to provide a standardized bankable framework to facilitate project financing	Needs delibration with concerned agencies. However, Interested Entiries to propose in line with para 12 of tenetative content of EoI.
69	Sovereign Support	Will sovereign-backed commitments be available for subsidy payments	
70	Foreign Investment	Are there restrictions on FDI participation	It is expected that, there shall be no restriction. RFP conditions shall clarify further on this.
71	Land Support	Will Government facilitate land acquisition or industrial parks	Interested Entiries to propose in line with para 12 of tenetative content of EoI.
72	Water	Will desalination-based projects receive preference in water-scarce regions	It is expected from interested entities to develop the scheme based on their techno-economic feasibility model. Interested Entiries to propose in line with para 12 of tenetative content of EoI.
73	Port Infrastructure	Can export-oriented integrated ammonia/urea projects participate	
74	Pipeline Corridors	Is shared hydrogen or CO_2 pipeline infrastructure under consideration	It is expected that, there shall be no restriction. RFP conditions shall clarify further on this.
75	Green Urea Definition	Will a formal national standard or certification scheme be notified before project implementation	It is expected that, RFP conditions shall clarify on this.
76	Compliance Agency	Which authority will certify Green Urea production and compliance	
77	Audits	What monitoring, reporting and verification (MRV) requirements are envisaged	
78	Policy Timeline	When is the Government expected to finalize the Green Urea policy after receiving EOIs	No timeline is given as of now but EoI may be seen as the first step towards policy formulation.
79	Pilot Projects	Will demonstration projects be supported before commercial rollout	It is expected that, RFP conditions shall clarify on this.
80	Capacity Target	Is there an indicative national capacity target or phased deployment plan	refer relevant responses above.
81	Project Timelines	What are the expected timelines for Green Urea Production, Procurement and others	refer relevant responses above.
82	Export Eligibility	Can production intended partly or wholly for export qualify under the scheme	Based on received EoIs and capacities proposed therein, suitable decision may be taken in this regard before RFP stage.
83	Ammonia Intermediate	Can developers produce green ammonia first and convert to urea at another location	All development models are invitable under EoI.
84	Third-Party NH_3	Can externally sourced green ammonia be converted into Green Urea	It is expected from interested entities to develop the scheme based on their techno-economic feasibility model.
85	Hydrogen Hub Model	Will hub-and-spoke hydrogen supply models be permitted	refer relevant responses above.
86	Future Flexibility	If policy evolves, will existing projects receive grandfathering protection to preserve investment certainty	Policy asks from Interested Entities should cover such propositions to be reviewed in policy stage.
87	Co-location in existing Ammonia Urea Units	Whether the modification (revamps) schemes in existing Ammonia-Urea plant enabling partial production of Green Urea shall qualify under the resultant Policy for Green Urea?	It is expected from interested entities to develop the scheme based on their techno-economic feasibility model.It is expected that, RFP conditions shall clarify on this.
88	Offtake Guarantee	What is planned for Offtake assurance for Green Urea? Will it also be subsidised?	It is clarified that, Urea is sold to farmers at a subsidised rate fixed by GoI and similar policy is envisaged. More clarity is expected in coming stages of the initiative.

89	Premium for Green Urea	Whether any premium for green Urea is envisaged?	Presently, no such premium is considered. Interested Entities to propose in line with para 12 of tenetative content of EoI.
90	Timeline extension	Considering the work involved in gathering inputs for preparing EoI covering the information/data asked in the invitation, at least 6 weeks time should be allowed for submission.	Any extension in timeline, if allowed, shall be issued on PDIL website only. Interested entities should keep visiting the Tender Notice section on PDIL website (www.pdilin.com) in this regard.

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