

The Scheme of National Awards for Technology Innovation in Petrochemical and downstream Plastic Processing Industry.

Petrochemicals comprise of plastics and most of other chemicals as downstream hydrocarbons derived from crude oil and natural gas. These hydrocarbons are a valuable resource and constitute vital raw-materials in industry. The value added Petrochemical products all along the value chain cater to the needs of textiles and clothing, agriculture, packaging, infrastructure, healthcare, furniture, automobiles, information technology, power, electronics, telecommunications etc.

2. The Government of India announced the National Policy on Petrochemicals in April 2007. The policy envisioned the following:

- ∅ Development of value added, quality petrochemical products at globally competitive prices using eco-friendly processes and technologies.
- ∅ Innovation of newer application and products with focus on sustainable development.

3. The vision is to be achieved through promotion of Research and Development and Human Resource Planning and Development. Towards furtherance of this objective, the policy envisaged institutionalization of National Awards for Technology Innovation in various fields of Petrochemicals and downstream plastic processing industry.

R&D Status & its prospects:

4. Currently the expenditure on R&D in this sector is less than 1% of industry turnover. This needs to be increased in phases to 2 to 3%. India has a highly trained manpower base. However, as per world industry estimates, inadequate R&D infrastructure is a constraint for attracting investment in innovation. Ultimately, India stands to lose out in the world of polymer and plastic market if low-cost-high-return programmes are not implemented by the government.

5. The future Research & Development vision of the Petrochemical industry needs to provide long term commitment to investment in R&D and strive for continuous innovation in terms of raw material usage, energy efficiency, process/operation improvement, technology forecasting and adoption of emerging technologies, in particular on recycling technologies and development of recycled products etc. It is also felt that new process technologies for high performance polymers (green processes etc.), thrust on new platforms, bio-/nano sciences as enablers for advanced polymeric materials are the need of the hour. At the same time R&D thrust in development of moulds, dies and tools cannot be over emphasized. Collaborative investment through Public Private Partnership (PPP) mode in technology development by Government, academic Institutions and Industry could push the agenda for R&D in this sector, which will have a long term impact on the Industry.

NEED FOR INNOVATION

6. The Petrochemical sector is a key sector of the global (and Indian) economy. At the same time there are public apprehensions about the adverse impact of plastics on environment and health. This concern needs to be addressed by being at the forefront of technology development in this sector as also to enhance the pace of innovation in this field. This on the one hand, would create pressures that would motivate companies to innovate and on the other hand, the environmental concerns will guide sustainable product and process interventions.

7. With the above mentioned objectives, Government of India, Department of Chemicals & Petrochemicals has decided to set up an Award Scheme to incentivize meritorious innovations and inventions in the field of plastics/ elastomers/synthetic fiber/surfactants & intermediates / new emerging areas.

8. This innovation award scheme will motivate the inventors to carry out innovative Research & Development in the areas of petrochemicals industry, which in turn will improve performance / quality of the existing product. This award will be on outstanding contribution in R&D leading to better energy consumption, better plastic waste management, increase in product life cycle, development of innovative new products, quality standards, recycling and other emerging areas.

These awards are also intended to enhance innovative capacities to a level of international recognition. The ultimate objective is to develop and maintain the petrochemical industry as a globally competitive industry using eco-friendly processes & technologies.

9. Copies of the proposed awards and the categories of awards are enclosed in statements at **ANNEX-I & II respectively**.

10. This scheme will help improve the performance of the existing product and its quality leading to better acceptance and increase in demand of the product in the competitive market of polymer and plastic. This will benefit both small and medium enterprises as well as larger companies.

11. Applicant has to apply for award under any category/sub-category as per prescribed formats separately for individual /team and for industry/organization. **(ANNEX-III)**.

IMPLEMENTATION FRAMEWORK & OPERATIONAL MODALITIES

12. The entry applications for awards will be evaluated by a 'Standing Committee on Awards'. This committee will be headed by Additional Secretary/Joint Secretary of the administrative Ministry with representative Government Institutions/Research Laboratories/ Academic Institutions, National Level Industry Associations associated with petrochemical products and other representatives from Government of India. The recommendation of this Standing Committee will be deliberated by Prize Award Committee, an 'Apex Body' headed by the Secretary of the Department of Chemicals & Petrochemicals, besides, Joint Secretary(PC) and Deputy Secretary/Director(PC) of the Department. The other members will be chosen from National level Institutes.

13. Central Institute of Plastics Engineering and Technology (CIPET), Corporate Office – Guindy, Chennai-600 032 has been entrusted with the work of processing of the applications, to whom all applications may be addressed.

FINANCIAL OUTLAY FOR AWARDS PRIZE

Award Category/ Sub Category	Recipient Categories	Proposed Award	Outlay (Rs. In lakh)
A. Plastics			
1. Innovation in Products	Industry	Shield/Citation	2.00
	Institutions	Shield/Citation	2.00
	Individual/Team	Citation/ Cash	2.00
2. Innovation in Raw-materials	Industry	Shield/Citation	2.00
	Institutions	Shield/Citation	2.00
	Individual/Team	Citation/ Cash	2.00
3. Innovation in Machinery and Equipment	Industry	Shield/Citation	2.00
	Institutions	Shield/Citation	2.00
	Individual/Team	Citation/ Cash	2.00
4. Waste Management Technology including recycling and eco-friendly processes and technology	Industry	Shield/Citation	2.00
	Institutions	Shield/Citation	2.00
	Individual/Team	Citation/Cash	2.00
5. Development of Biopolymers,Biodegradable, photodegradable polymers/plastics	Industry	Shield/Citation	2.00
	Institutions	Shield/Citation	2.00
	Individual/Team	Citation/ Cash	2.00

6. Emerging Technologies Creative Design	Packaging including	Industry	Shield/Citation	2.00
		Institutions	Shield/Citation	2.00
		Individual/Team	Citation/ Cash	2.00
7. Innovation in Processes and Technology		Industry	Shield/Citation	2.00
		Institutions	Shield/Citation	2.00
		Individual/Team	Citation/Cash	2.00
8. Innovation in Technology Management		Industry	Shield/Citation	2.00
		Institutions	Shield/Citation	2.00
		Individual/Team	Citation/Cash	2.00

CLASSIFICATION OF CATEGORIES AND SUB-CATEGORIES OF THE AWARD SCHEME

The following broad areas have been identified for the awards:

1. Plastics
2. Elastomers
3. Synthetic Fiber
4. Surfactants and Intermediates
5. New Emerging Areas

I. For Elastomers, Synthetic Fiber, Surfactants and Intermediates and New Emerging Areas following awards will be given:

- i. Innovation in Processes and Technology and
- ii. Innovation in Technology Management.

II. For Plastics, following awards will be given.

- i) Innovation in Processes and Technology and
- ii) Innovation in Technology Management.
- iii) Innovation in Products
- iv) Innovation in raw materials.
- v) Innovation in Machinery and equipment.
- vi) Waste Management Technology including recycling and eco friendly processes and technology.
- vii) Development of Bio-polymers, Biodegradable, Photo degradable polymers / plastics
- viii) Emerging packaging technologies including creative design.

Two awards viz. Innovation in process and technology and innovation in technology management are common in both I & II

**PROTOTYPE APPLICATION FORM FOR AWARD FOR
INDIVIDUAL/TEAM**

- (i) *Incomplete applications are liable to be rejected*
- (ii) *Soft copy of the proposal may also be provided in CD, if possible*
- (iii) *Innovation should not be more than five year old*

- 1. Title of Innovation** :
- 2. Category of Award** : Plastic / Elastomer / Synthetic Fiber/ Surfactants/
(Tick Mark the Category) and intermediates / New Emerging Areas
- 3.Sub-category of Award** : Innovation in Products, Innovation in Raw
(Tick Mark the Category) Materials, Innovation in Machinery and Equipment,
Innovation in Processes and Technology,
Innovation in Technology Management, Waste
Management Technology, including recycling and
eco-friendly processes and technology,
Development of Biopolymers, Biodegradable,
photodegradable, polymers/plastics, Emerging
Packaging Technologies and Creative Design

* *Sub categories would be as per broad areas and mentioned in the guidelines*

4. Particulars of Individual/Team

Sr. No.	Name	Academic Qualification	Name of the Organization	Designation

5. Stage of Development

- i. Lab Scale/ working prototype
- ii. Pilot plan/ test marketing
- iii. Full scale operation

6. Detailed Technical Description (giving its constructional and working mechanism alongwith photographs of the device/plant)

7. Principal Involved

8. Originality /novelty of Innovation

9. Advantages over known Alternatives

10. Status of Commercialization, Employment Generation, Exports, Sales in Domestic Market (Price, quantity, period)

11. Status of Patent in India and Abroad

12. Test report to substantiate claims from some Govt. recognized Test Agency

13. Users' Report

14. Details of Applicants' Employment

i) Self-employed

ii) Employed in an Organization

15. Details of Employer

Name and Designation of Head of the Organization	Name and complete address of the Organization	Phone No./ Mobile No.	E-mail address

16. Signature of Applicant(s)

Name	Signature (s)

Remark of Employer

- (i) The innovation is not an assignment of employment of the applicant(s)**
- (ii) The innovation is part of the assignment of employment of the applicant(s)**

Signature of the Head of the organization

Seal

The following guidelines may be adhered to while making an application:

- 1. Applicant has to apply for award under any category/subcategory as per prescribed format.*
- 2. The innovators(s) employed in any organization should forward his/their application through the head of the Organization.*
- 3. The maximum number of the applicants in any particular Prize Award Application should not be more than five.*
- 4. The innovation should either be an original product, process or an improvement on existing product or process so as to increase utility of the product or process by enhancing consumer advantages, accuracy, reliability, safety, product life, versatility, etc. The innovation should have been successfully tried out in practice.*
- 5. Mere theoretical hypothesis, innovation simply in the idea stage and perpetual motion machines are not eligible for consideration of an award.*

6. *These awards will be given only to the individual/ team who contribute to the innovation, and not to an organization.*
7. *The awards are given to Indian Nationals only.*
8. *The innovation should not be older or patent granted earlier than five years, at the time of submitting the application.*
9. *The applicants may be required to show prototypes/working models to Prize Award Committee for demonstration, if necessary.*
10. *The prize award amount is normally distributed equally among the applicants.*
11. *An application is liable to be rejected if it is not forwarded through proper channel of if any information therein is found to be correct.*
12. *The decision of Prize Award Committee on the proposals submitted for award will be final and no further correspondence shall be entertained.*
13. *The innovation may be referred to outside expert(s) working in Government organizations, research organizations, educational institutions and public sector organizations to evaluate the innovation. The name and opinion of these experts are kept strictly confidential.*
14. *The contribution of the innovation towards employment generation may also be provided.*
15. *In case the applicant(s) are self-employed, it may kindly be clearly indicated in the application form.*

PROTOTYPE APPLICATION FORM FOR AWARD FOR INDUSTRY / ORGANIZATION

Rules & Regulations:

- (i) *Incomplete applications are liable to be rejected*
- (ii) *Soft copy of the proposal may also be provided in CD, if possible*
- (iii) *Innovation should not be more than five year old*

1. Title of Innovation :

2. Category of Award : Plastic / Elastomer / Synthetic Fiber/ Surfactants/
(Tick Mark the Category) and intermediates / New Emerging Areas

3.Sub-category of Award : Innovation in Products, Innovation in Raw
(Tick Mark the Category) Materials, Innovation in Machinery and Equipment, Innovation in Processes and Technology, Innovation in Technology Management, Waste Management Technology, including recycling and eco-friendly processes and technology, Development of Biopolymers, Biodegradable, photodegradable, polymers/plastics, Emerging Packaging Technologies and Creative Design

** Sub categories would be as per broad areas and mentioned in the guidelines*

4. Name and address of the INDUSTRY/ ORGANISATION (including Telephone, Fax Numbers and e-mail address)

Sr. No.	Name of the Organization	Complete address of the Organization	Tele/ Fax No./ E-mil

5. Stage of Development

- i. Lab Scale/ working prototype
- ii. Pilot plan/ test marketing
- iii. Full scale operation

6. **Detailed Technical Description** (giving its constructional and working mechanism alongwith photographs of the device/plant)
7. **Principal Involved**
8. **Originality /novelty of Innovation**
9. **Advantages over known Alternatives**
10. **Status of Patent in India and Abroad**
11. **Test report to substantiate claims from some Govt. recognized Test Agency**
12. **Users' Report**
13. **Status of Commercialization**
14. **Employment Generated (Direct and Indirect)**
15. **Sales in Domestic Market (Price, quantity, period)**
16. **Exports (Price, quantity, period)**
17. **Self Appraisal by the applicant giving full justification for the award**
18. **Details of Head of the Organization**

Name and Designation of Head of the Organization	Name and complete address of the Organization	Phone No./ Mobile No.	E-mail address

19. Details of the Organisation (Enclose Annual Report for last two years)

Name of the Organization	Main Activities	Annual Turnover	Type of organization Prop./Partnership/Pvt Ltd/Public Ltd/Govt/Public sector/Autonomous

20. Signature of Applicant(s)

Name	Signature(s)

Seal of the organization

The following guidelines may be adhered to while making an application:

- 1. Applicant has to apply for award under any category/subcategory as per prescribed format.*
- 2. The innovation should either be an original product, process or an improvement on existing product or process so as to increase utility of the product or process by enhancing consumer advantages, like reduction in cost, effort, weight, volume and improvement in performance, accuracy, safety, product life, versatility, etc. The innovation should have been successfully tried out in practice.*
- 3. Mere theoretical hypothesis, innovation simply in the idea stage and perpetual motion machines are not eligible for consideration of an award.*
- 4. These awards will be given only to the industry/organization who has contributed to the innovation.*
- 5. The awards are given to Indian organizations/ industries only.*
- 6. The innovation should not be older or patent granted earlier than five years, at the time of submitting the application.*
- 7. The applicants may be required to show prototypes/working models to Prize Award Committee for demonstration, if necessary.*

8. *An application is liable to be rejected if any information therein is found to be incorrect.*
9. *The decision of Prize Award Committee on the proposals submitted for award will be final and no further correspondence shall be entertained.*
10. *The innovation may be referred to outside expert(s) working in Government organizations, research organizations, educational institutions and public sector organizations to evaluate the innovation. The name and opinion of these experts are kept strictly confidential.*
11. *The contribution of the innovation towards employment generation may also be provided.*