ECF Energy Technology Innovation Award

Regulations and Guidelines for Participation
(Effective April 1, 2025)

1. Introduction

The ECF Energy Technology Innovation Award (hereinafter the "ECF Award") is a non-monetary international award jointly initiated in 2016 by the Shanghai United Institute for Unconventional Resources and the Coordinating Committee for Geoscience Programmes in East and Southeast Asia (CCOP). It recognizes outstanding technological achievements in the field of unconventional energy, with a particular focus on originality, industrial transformation, and practical impact.

The ECF Award is governed under the spirit of the Regulations on National Science and Technology Awards of China and the Administrative Measures for Social Forces to Establish Science and Technology Awards (2023), and is committed to global openness, scientific rigor, and professional credibility.

2. Mission and Values

The ECF Award upholds the following values:

- Scientific Excellence – Rewarding originality, breakthrough technologies, and academic rigor.

- Engineering Application – Recognizing large-scale deployment and industrial transformation.

- Practical Innovation – Supporting cost-effective, scalable, and field-ready technologies.

- Sustainability – Prioritizing clean energy, carbon reduction, and environmental value.

- Fairness and Transparency – Ensuring objective and impartial evaluation through a structured peer-review process.

3. Award Categories and Recognition Levels

Beginning in 2025, the ECF Award comprises three core categories:

3.1. Technological Invention Award

This category honors original technological achievements with independent intellectual property rights that have overcome critical technical bottlenecks and demonstrated significant originality. Eligible innovations may include products, processes, materials, methods, or substances.

Levels: Special Award of Excellence, Gold Award, Silver Award, Bronze Award

3.2. Scientific and Technological Progress Award

This award recognizes achievements in technology development, engineering implementation, fundamental research, or public-benefit initiatives that have been successfully applied at scale. The winning projects must have generated significant economic or social benefits and contributed to industrial upgrading.

Levels: Special Award of Excellence, Gold Award, Silver Award, Bronze Award

3.3. Technological Improvement Award

This honorary category encourages small-scale, practice-oriented innovations that demonstrate clear utility and value in real-world production scenarios. It recognizes incremental improvements in tools, designs, workflows, or methods that enhance operational efficiency and economic outcomes.

Levels: No ranking; all are honorary recognitions.

All awards are honorary and non-financial in nature. Laureates receive certificates and trophies during an official ceremony.

4. Eligibility and Nomination

4.1. Eligible Participants

- Enterprises (including SMEs)

- Research institutes and laboratories

- Higher education institutions

- Individual researchers or engineers

Projects must meet the following:

- Achievements must be implemented or published for more than one year.

- For the Invention Award, granted invention patents are required.

- No classified, national defense or confidential technologies are accepted.

4.2. Nomination Channels

- Direct application by eligible units or individuals

- Recommendations by academicians, senior ECF experts, or Youth Expert Committee members

- Endorsement by professional associations, industry alliances, or technical consortia

- Expert recommendation letters are welcomed as supporting materials

5. Thematic Scope

The ECF Award encourages submissions that reflect the evolving boundaries of Unconventional Energy — defined not only by the nature of the resource, but also by breakthroughs in technology, system integration, and cross-disciplinary innovation that enable its efficient development, utilization, and transformation.

The scope includes, but is not limited to, the following four dimensions:

I. Unconventional Fossil Energy Resources

- Shale oil and gas

- Tight oil and gas

- Oil shale, oil sands, coalbed methane, gas hydrates

- Ultra-deep and low-permeability reservoirs

- Deep biogenic gas systems and deepwater unconventional petroleum systems

II. Associated Resources and Strategic Energy Minerals

- Co-production and extraction of hydrogen, helium, lithium, uranium and other strategic resources from oil and gas fields

- Coupled extraction from shale/tight formations (e.g., Gas + Lithium systems)

III. Unconventional Development Methods and System Integration

- Digital/AI-driven exploration and production (e.g., AI-assisted geologic modeling, automated drilling and completion)

- High-efficiency hydraulic fracturing and green completion systems

- Smart oilfield and digital reservoir platforms

- Advanced oilfield chemicals and energy-saving equipment systems

- Electrified fracturing fleets (e.g., ProPetro/ProPower models)

IV. Integrated Unconventional Clean Energy Systems

- Geothermal and deep thermal energy

- Subsurface energy storage systems (compressed air, reservoir-integrated)

- Full-chain CCUS solutions and monitoring technologies

- Green hydrogen from methane reforming + carbon capture, or in-situ electrolysis

- Low-carbon energy technologies such as industrial waste heat utilization, biomass CHP, and air energy storage

Note: Projects that fall under multiple dimensions or demonstrate transformative integration across traditional categories are particularly encouraged.

6. Evaluation Process

6.1. Review Mechanism

- Dual-review approach combining written peer review and final committee deliberation

- Anonymous or signed voting; Special Award of Excellence require two-thirds majority approval

- Evaluation criteria are adapted by category (see separate evaluation matrix)

- International cooperation and youth leadership are considered as bonus factors

6.2. Evaluation Principles

- Independent peer review by experts with no conflicts of interest

- Conflict-of-interest policy ensures objectivity: project participants and nominators may not serve as reviewers in the same year

- Scoring thresholds apply to ensure quality; awards may be withheld if minimum scores are not met

6.3. Transparency and Disputes

- Finalist lists are publicly disclosed for at least 7 days prior to awarding

- Objections may be submitted in writing during the public notice period and will be reviewed by an independent panel

- The ECF Award Committee reserves the right to disqualify entries found to have engaged in misconduct or misrepresentation

7. Recognition and Ceremony

- All laureates will be honored during the Annual ECF Asia-Pacific Unconventional Energy Conference, a flagship event attended by global experts and industry leaders.

- Winners will be announced through official channels and receive a Certificate of Excellence and ECF Trophy.

- Attendance at the award ceremony is expected. If unavailable, representatives must be appointed and approved.

8. Award Benefits and Endorsement

The ECF Energy Technology Innovation Award provides not only formal recognition but also a suite of value-added benefits to enhance the visibility, credibility, and global impact of awarded projects.

- The ECF Award is recognized by the Shanghai Municipal Science and Technology Commission and was officially registered with the National Science and Technology Award Office in 2023.

- Award Benefits and Awarded projects will be archived and may serve as reference for promotions, funding applications, or academic evaluations in China.

- Logo Usage: ECF Innovation Award logo usage permitted for the specific award(s) granted.

- Promotion: Exposure including, but not limited to, official ECF's bilingual media platforms, (website, newsletters, WeChat, LinkedIn)

9. Administration

- The ECF Award is administered by the Technology Award Office of the Shanghai United Institute for Unconventional Resources.

- All questions, objections, or suggestions may be directed to:

Email: ecf2@energychinaforum.com

Phone: +86-21-5438-3583

10. Appendices

- A. Application Form (available online or upon request)

- B. Conflict of Interest Disclosure Form

- C: Definition of Unconventional Energy (中英文对照)

10. Appendices

A. Application Form (Available upon Request or Online)

Applicants are required to complete the official ECF Energy Technology Innovation Award Application Form, which includes:

- Project title and category

- Executive summary of innovation

- Details of R&D timeline and implementation status

- Key contributors and their roles

- Supporting documents (e.g., IP certificates, evaluation reports, standards compliance, performance data)

- Endorsements or recommendation letters

Download the latest form from: www.energychinaforum.com

Or request via email: ecf2@energychinaforum.com

B. Conflict of Interest Disclosure Form

To ensure impartiality and fairness in the evaluation process, all experts and reviewers must sign the Conflict of Interest Disclosure Form, declaring:

- No direct or indirect benefit from submitted projects

- No participation as a contributor, advisor, or nominator in any of the year's submissions

- No immediate family or financial ties to applicant organizations

Failure to disclose may result in disqualification of the related submission or revocation of reviewer status.

C: Definition of Unconventional Energy (中英文对照)

【中文】非常规能源（Unconventional Energy）是指通过突破性技术手段、系统集成或跨领域创新，实现高效开发、利用和转化的能源资源与形式。

[English] Unconventional Energy refers to energy resources and formats that are efficiently developed, utilized, and transformed through breakthrough technologies, system integration, or interdisciplinary innovation.

【中文】其范畴包括但不限于：

[English] Its scope includes, but is not limited to:

【中文】一、非常规化石能源资源

[English] I. Unconventional Fossil Energy Resources

【中文】页岩油气、致密油气、油页岩、油砂、煤层气、天然气水合物、超深层与低渗透储层资源、深层生物气及深水非常规油气系统

[English] Shale oil and gas, tight oil and gas, oil shale, oil sands, coalbed methane, gas hydrates, ultra-deep and low-permeability reservoirs, deep biogenic gas and deepwater unconventional systems

【中文】二、非常规伴生资源与能源矿产

[English] II. Associated Resources and Strategic Energy Minerals

【中文】油气伴生氢、氦、锂、铀等战略资源的提取与开发，页岩/致密储层中的多元素耦合开发技术（如气-锂系统）

[English] Extraction and development of hydrogen, helium, lithium, uranium and other strategic resources co-produced with oil and gas; coupled resource extraction from shale/tight formations (e.g., Gas + Lithium systems)

【中文】三、非常规能源开发方式与系统集成

[English] III. Unconventional Development Methods and System Integration

【中文】如 AI 辅助地质建模、自动化钻完井、高效水力压裂、绿色完井系统、智能油田、数字油藏、高端化学品与节能设备、电动压裂系统等

[English] e.g., AI-assisted geologic modeling, automated drilling, high-efficiency fracturing, green completions, smart oilfields, digital reservoirs, advanced chemicals and equipment, electrified fracturing fleets

【中文】四、非常规清洁能源系统（融合发展）

[English] IV. Integrated Unconventional Clean Energy Systems

【中文】地热、深层热能、地下压缩空气储能、CCUS 全链条系统、天然气重整+碳捕集制氢、工业余能/空气能/生物质等低碳能源系统

[English] Geothermal and deep thermal energy, compressed air storage, full-chain CCUS, methane reforming + carbon capture for hydrogen, and low-carbon energy systems including waste heat, air energy, biomass etc.

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