TERMS OF REFERENCE FOR THE INTERNATIONAL PARTNERSHIP FOR THE HYDROGEN ECONOMY

Introduction

A growing number of countries have made commitments to accelerate the development and commercial use of hydrogen energy technologies in order to improve their energy, economic, and environmental security. These commitments demonstrate that many countries share a common interest in advanced research and development needed to enable the demonstration and commercial use of hydrogen and fuel cell technologies. International cooperation is vital to achieve national hydrogen and fuel cell technology program goals for both transportation systems and stationary applications. Building a safe and efficient worldwide infrastructure for hydrogen production, storage, transport, distribution and use is a multinational task that requires careful planning and cooperation. Bilateral and multilateral cooperation on hydrogen and fuel cell technology already exists, and these relationships offer a solid foundation for building a robust and agile international partnership to help the world advance toward a sustainable hydrogen economy and to address our greenhouse gas emissions levels.

The International Partnership for the Hydrogen Economy (IPHE) will provide a mechanism to help organize and implement effective, efficient, and focused joint research, and to support activities that advance hydrogen and fuel cell technology progress. The coordination instituted through the IPHE will leverage limited resources by bringing together the world's best minds to solve difficult challenges to making the hydrogen economy a reality. The IPHE will foster the implementation of cooperative efforts to advance research, development, demonstration and commercial use of hydrogen production, storage, delivery and distribution technologies. The IPHE will also enhance collaboration on fuel cell technologies, support common codes and standards for hydrogen fuel utilization and safety, and help coordinate international efforts to develop a global hydrogen economy. The IPHE will seek to coordinate closely with the International Energy Agency, as its work is an important complement to IPHE efforts.

The ultimate goal of the IPHE will be to enable Partner countries' consumers to have by 2020 the practical option of purchasing a competitively priced hydrogen powered vehicle that can be refueled conveniently. This goal can be realized by achieving the following benchmarks:

- Hydrogen powered vehicles are competitive with conventional vehicles.
- Hydrogen is safely and efficiently produced and delivered to consumers at prices and availability competitive with conventional fuels, without adverse environmental impacts.
- Fueling and storage infrastructure enables ready access to fuel for hydrogen vehicles.
- Hydrogen fuel cells provide stationary and portable power.
- Storage technologies ensure hydrogen vehicle systems operate at the same levels of safety, performance and range as conventional vehicles.

- An internationally consistent system of safety codes and standards related to hydrogen utilization is developed and adopted.

Working together through this Partnership, we can build on the robust efforts taking place around the globe and focus that collective effort on one of the greatest challenges ahead of us – traversing the path to the hydrogen economy. By leveraging resources, developing technology codes and standards, and fostering private-public technology and infrastructure collaboration, we can more easily overcome the technological and institutional barriers that can inhibit the development of a cost-competitive, widely accessible and safe hydrogen economy.

The undersigned government entities (collectively the "Partners") set forth the following Terms of Reference for the International Partnership for the Hydrogen Economy (IPHE), a framework supporting agile, productive international cooperation in the production, delivery, storage, and utilization of hydrogen.

1. Purposes of the IPHE

To serve as a mechanism to organize and implement effective, efficient, and focused international research, development, demonstration and commercial utilization activities related to hydrogen energy technologies. It also provides a forum for advancing policies, and international codes and standards that can accelerate the cost-effective transition to a global hydrogen economy.

2. Functions of the IPHE

The IPHE will seek to:

2.1 Identify and promote potential areas of bilateral and multilateral collaboration on hydrogen energy and fuel cell technologies;

2.2 Analyze and recommend priorities for research, development, demonstration, and commercial utilization of hydrogen technologies and equipment;

2.3 Develop policy and technical guidance, including common codes, standards and regulations, to advance hydrogen and fuel cell technology development, demonstration and commercial use;

2.4 Foster implementation of large-scale, long-term public-private cooperation to advance hydrogen and fuel cell technology and infrastructure research, development, demonstration and commercial use, in accordance with Partners' priorities;

2.5 Align and leverage resources to advance bilateral and multilateral cooperation in hydrogen and fuel cell technology research, development, demonstration and commercial utilization;

2.6 Address emerging technical, financial, legal, market, socioeconomic, environmental, and policy issues and opportunities related to hydrogen and fuel cell technology that are not currently being addressed elsewhere.

3. Organization of the IPHE

3.1 A Planning Committee, Implementation Committee, and Liaison Committee will be formed.

3.2 Unless otherwise determined by consensus of the Partners, each Partner may make up to two appointments to the Implementation and Liaison Committees.

3.3 Appendix A lists those Partners that may make up to two appointments to the Planning Committee. Appendix A may be amended by consensus of the Planning Committee.

3.4 Other experts may attend the Planning Committee, Implementation Committee, and Liaison Committee meetings as deemed necessary by the appointed representatives.

3.5 The Planning Committee will govern the overall framework, policies and procedures of the IPHE, periodically review the program of collaborative activities, and provide direction to the Secretariat. The Committee should meet at least once a year, at times and places to be determined by its appointed representatives. All decisions of the Committee will be made by consensus of its appointed representatives.

3.6 The Implementation Committee will report to the Planning Committee. The Implementation Committee will meet as often as it determines necessary to review the progress of collaborative projects; identify promising directions for research, development, demonstration, and commercial use; provide technical assessments for policy decisions, pursue international codes and standards and safety protocols, and make recommendations to the Planning Committee on needed actions.

3.7 Specific bilateral or multilateral projects may be initiated either by the Planning Committee or the Implementation Committee.

3.8 The Liaison Committee will report to the Planning Committee. The Liaison Committee will meet as often as it determines necessary with

interested international stakeholders to share information on IPHE activities and to develop advice and counsel, which it will subsequently offer to the Planning Committee.

3.9 The IPHE Committees will also meet at such times and places as determined by the Planning Committee.

3.10 The IPHE will coordinate its activities with the International Energy Agency, the hydrogen efforts of which are an important complement to the IPHE and which the IPHE views as a valuable institution in the transition to the hydrogen economy.

3.11 The principal coordinator of the IPHE's communications and activities will be the IPHE Secretariat. The Secretariat will: (1) organize the meetings of the IPHE and its committees, (2) arrange special activities such as teleconferences and workshops, (3) receive and forward new membership requests to the Planning Committee, (4) coordinate communications with regard to IPHE activities and their status, (5) act as a clearinghouse of information for the IPHE, (6) maintain procedures and responsibilities for key functions that are approved by the Planning Committee, and (7) perform such other tasks as the Planning Committee directs. The focus of the Secretariat will be administrative. The Secretariat will not act on matters of substance except as specifically instructed by the Planning Committee.

3.12 The Secretariat may, as required, use the services of personnel employed by the Partners and made available to the Secretariat. Unless otherwise agreed, such personnel will be remunerated by their respective employers and will remain subject to their employers' conditions of employment.

3.13 The U.S. Department of Energy will serve initially as the IPHE Secretariat unless otherwise decided by consensus of the Partners.

3.14 Each Partner will individually determine the nature of its participation in the IPHE activities.

4. Membership

4.1 These Terms of Reference, which are administrative in nature, do not create any legally binding obligations between or among its Partners. Each Partner will conduct the activities contemplated by these Terms of Reference in accordance with the laws under which it operates and the international instruments to which it is a party.

4.2 Upon request, the Planning Committee may invite other national governmental entities to join the IPHE and become Partners through acceptance of the Terms of Reference.

4.3 Technical and other experts from within and without IPHE Partner organizations may participate in activities conducted under the auspices of the IPHE, unless otherwise agreed.

5. Funding

Unless otherwise determined by the Partners, any costs arising from the activities contemplated by these Terms of Reference will be borne by the Partner that incurs them. Each Partner's participation in IPHE activities is subject to the availability of funds, personnel and other resources.

6. Intellectual Property

6.1 To the extent practicable, the research and development fostered by IPHE should be open and non-proprietary.

6.2 The protection and allocation of intellectual property, and the treatment of proprietary information arising from research and development collaborations under the IPHE auspices, will be defined by specific implementing arrangement(s).

7. Commencement, Extension, Modification, Withdrawal, and Termination

7.1 Commencement and Modification

7.1.1 These Terms of Reference will commence on [DATE] and will continue for 10 years unless extended or terminated by the Partners.

7.1.2 These Terms of Reference may be modified in writing at any time by consensus of the Partners, except as otherwise provided in section 3.3.

7.2 Extension, Withdrawal and Termination

7.2.1 By written arrangement, the Partners may extend these Terms of Reference for additional periods.

7.2.2 A Partner may withdraw from membership in the IPHE by giving written notice to the other Partners 90 days prior to its anticipated

withdrawal. The Partners may, by consensus, terminate these Terms of Reference by written arrangement at any time.

Appendix A: Planning Committee - Australia, Brazil, Canada, China, France, Germany, Iceland, India, Italy, Japan, Republic of Korea, Russia, United Kingdom, the United States of America, and the European Commission