



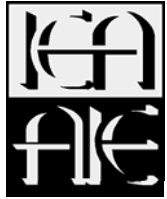
**Low Carbon Society
Research Networks
1-2 April 2009**

**Linking Government, Research,
Industry and Society**

**Carrie Pottinger
R&D Analysis and Coordination**



- **Existing Links**
- **Identify Gaps**
- **Explore Pathways**



- **Existing Links**
- Identify Gaps
- Explore Pathways

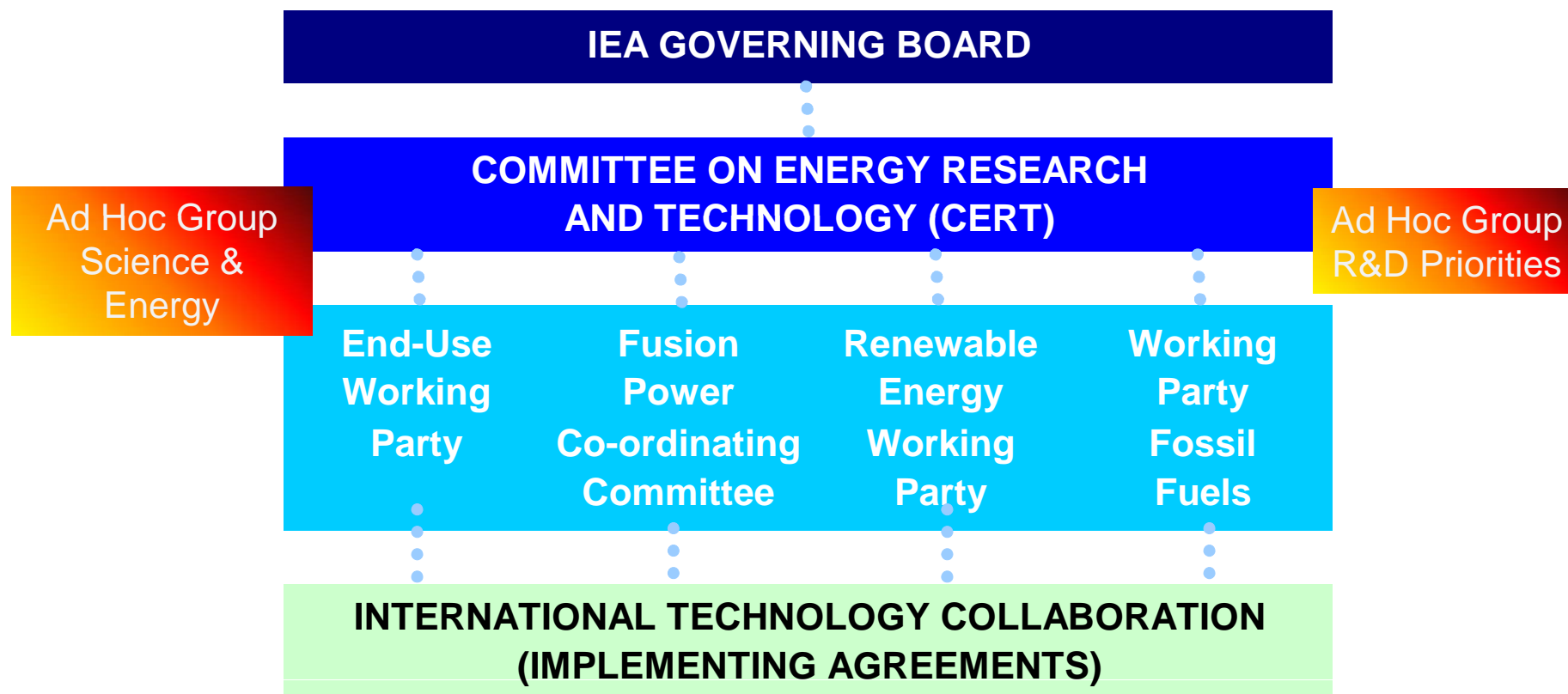


GLOBAL ENERGY R&D NETWORK

- 5,000 scientists, experts, researchers, consultants
- 500 universities, labs, government offices, companies, consultants
- Public and private - national and international



Energy Technology R&D Network





42 Implementing Agreements Supply

FOSSIL FUELS

Clean Coal Sciences
Enhanced Oil Recovery
Fluidized Bed Conversion
IEA Clean Coal Centre
IEA Greenhouse Gas RD
Multiphase Flow Sciences

RENEWABLE ENERGY TECHNOLOGIES

Bioenergy
Geothermal
Hydrogen
Hydropower
Ocean Energy Systems
Photovoltaic Power Systems
Renewable Technology Deployment
Solar Heating and Cooling
SolarPACES
Wind Energy Systems

FUSION POWER

ASDEX-Upgrade
Environmental, Safety, Economy
Fusion Materials
Large Tokamaks
Nuclear Technology Fusion Reactors
Plasma Wall Interaction in TEXTOR
Reversed Field Pinches
Spherical Tori
Stellarator Concept



Demand

TRANSPORT

Advanced Fuel Cells
Advanced Materials for Transportation
Advanced Motor Fuels
Hybrid and Electric Vehicles

BUILDINGS

Buildings and Community Systems
District Heating and Cooling
Energy Efficient Electrical Equipment
Energy Storage
Heat Pumping Technologies

ELECTRICITY

Demand-Side Management
Electricity Networks
High-Temperature Superconductivity

INDUSTRY

Emissions Reduction in Combustion
Industrial Energy and Technologies

Horizontal

INFORMATION AND MODELLING

Climate Technology Initiative
Energy Technology Data Exchange
Energy Technology Systems Analysis



Collaboration

- ✓ **Coordinated research**
Specific energy technology RD&D studies
- ✓ **Joint projects**
Design, construction and operation
of pilot projects, facilities, experiments
- ✓ **Information exchange**
Scientific and technological developments, national programs,
energy policies
- ✓ **Personnel exchanges**
Scientist, experts, technicians
- ✓ **Other**
E.g. Modeling, databases, capacity building



Role of the IEA

✓ Co-ordinate projects between IEA-IA and IA-IA

Joint research, workshops, data, publications

✓ Provide legal advice

Legal text, procedures, participation, withdrawals

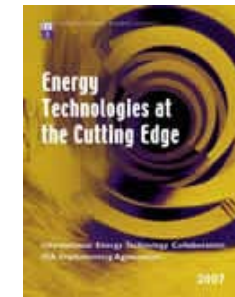
✓ Bring forward policy messages

- Technology briefs to Governing Board
- Ministerial and G8 communiqués
- *Energy Technologies at the Cutting Edge*

✓ Engage key world economies

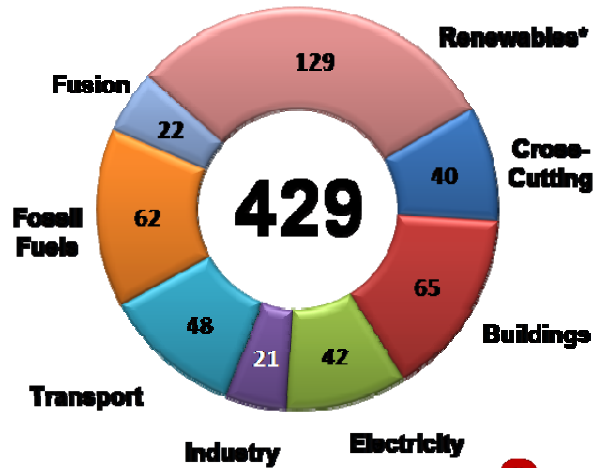
✓ Raise public awareness

- *OPEN Bulletin*
- *Website*

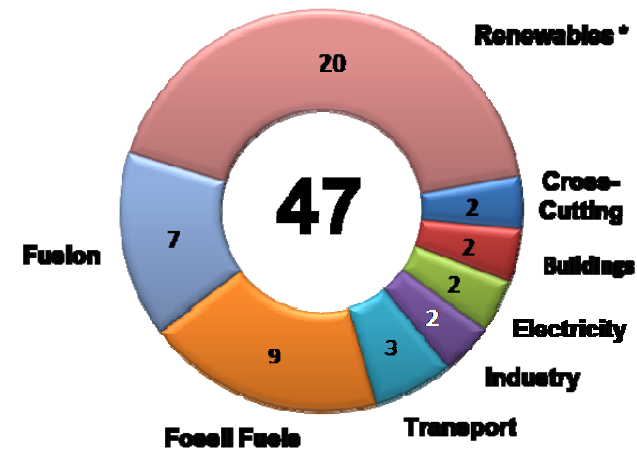




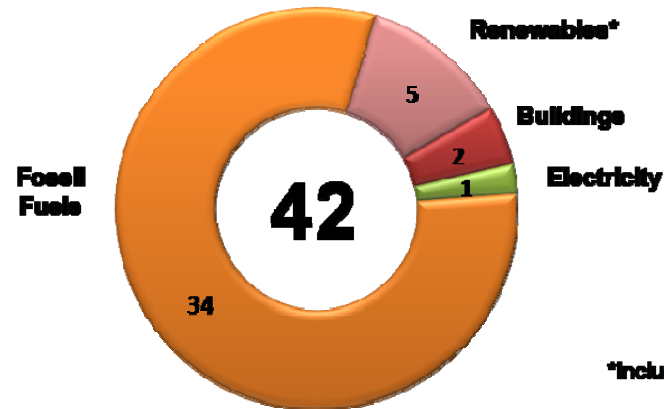
IEA Member Countries



IEA Non-member Countries



Sponsors



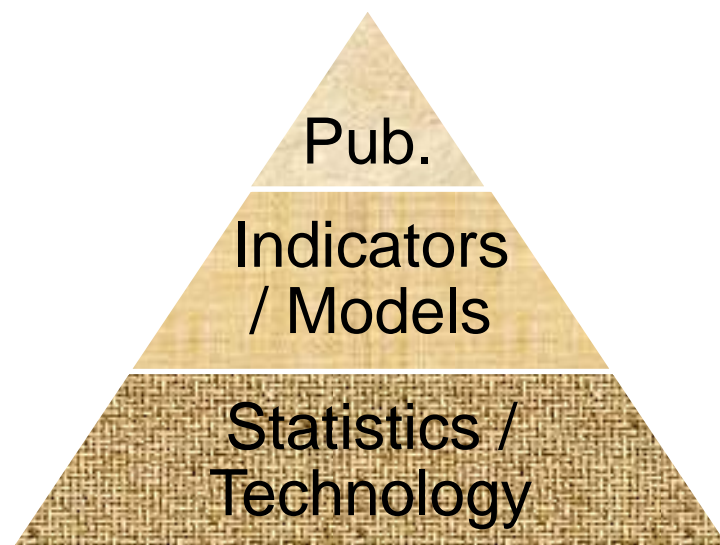
*includes hydrogen.



IEA Research

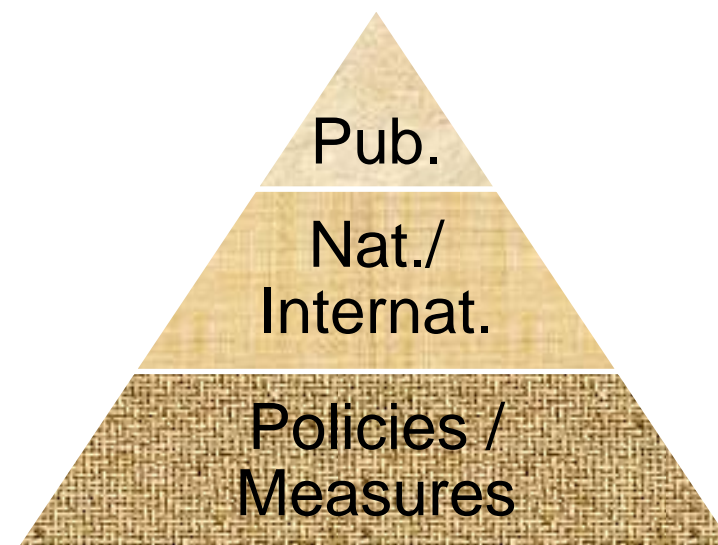


Numeric-based



World Energy Outlook
Energy Technology Perspectives
(Markal, MObility MOdel)
Oil Market Report

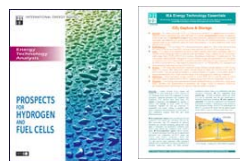
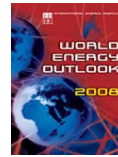
Policy-based



National Policy Reviews
Commodity
Environment/CO2



Sampling





Thematic Events



- ✓ **High-level representation and messages**
 - G8, MEM, COP, WEF

- ✓ **Global outreach**
 - G8 +5, South-east Asia

- ✓ **Emergency exercise**

- ✓ **Workshops that feed into analysis**
 - *CHP, Zero-Energy Buildings, Energy Efficiency Week*



Targeted Events



**THE ROLE OF FRANCE
IN GLOBAL ENERGY R&D CO-OPERATION**

International Energy Agency, 9, rue de la Fédération 75015 Paris
Wednesday, 1 October 2008, 14:30-17:30

<p>14:30 Opening Remarks</p> <p>14:45 Presentation of IEA Activities on Global Energy R&D</p> <p>15:15 Opportunities for International Energy R&D Co-operation in France</p> <p>15:30 High Oil Prices: What are the Alternatives?</p> <p>15:50 Coffee break</p> <p>16:00 Technology Co-operation: Energy Efficiency</p> <p>16:20 Technology Co-operation: Carbon Capture and Storage and Industry</p> <p>16:40 Technology Co-operation: Geothermal Energy in China</p> <p>17:00 Discussion and conclusions</p> <p>17:30 Cocktail</p>	<p>Pierre-Franck CHEVET, Director General for Energy and Climate, MEEDDAT Michèle PAPPALARDO, Commissary General for Sustainable Development, MEEDDAT</p> <p>Neil HIRST, Director for Global Dialogue, IEA Pieter BOOT, Director for Science and Technology Policy, IEA</p> <p>Glaude MANDIL, former IEA Executive Director</p> <p>Jean-François GRUSON, Head of Economics, French Petroleum Institute</p> <p>Daniel CLEMENT, Director for Research, ADEME</p> <p>Kamel BENNACEUR, Principal Analyst, Office of Economy, IEA</p> <p>Fabrice BOISSIER, Director for Geothermal Energy, BRGM</p>
--	---



➤ Existing Links

➤ **Identify Gaps**

➤ Explore Pathways



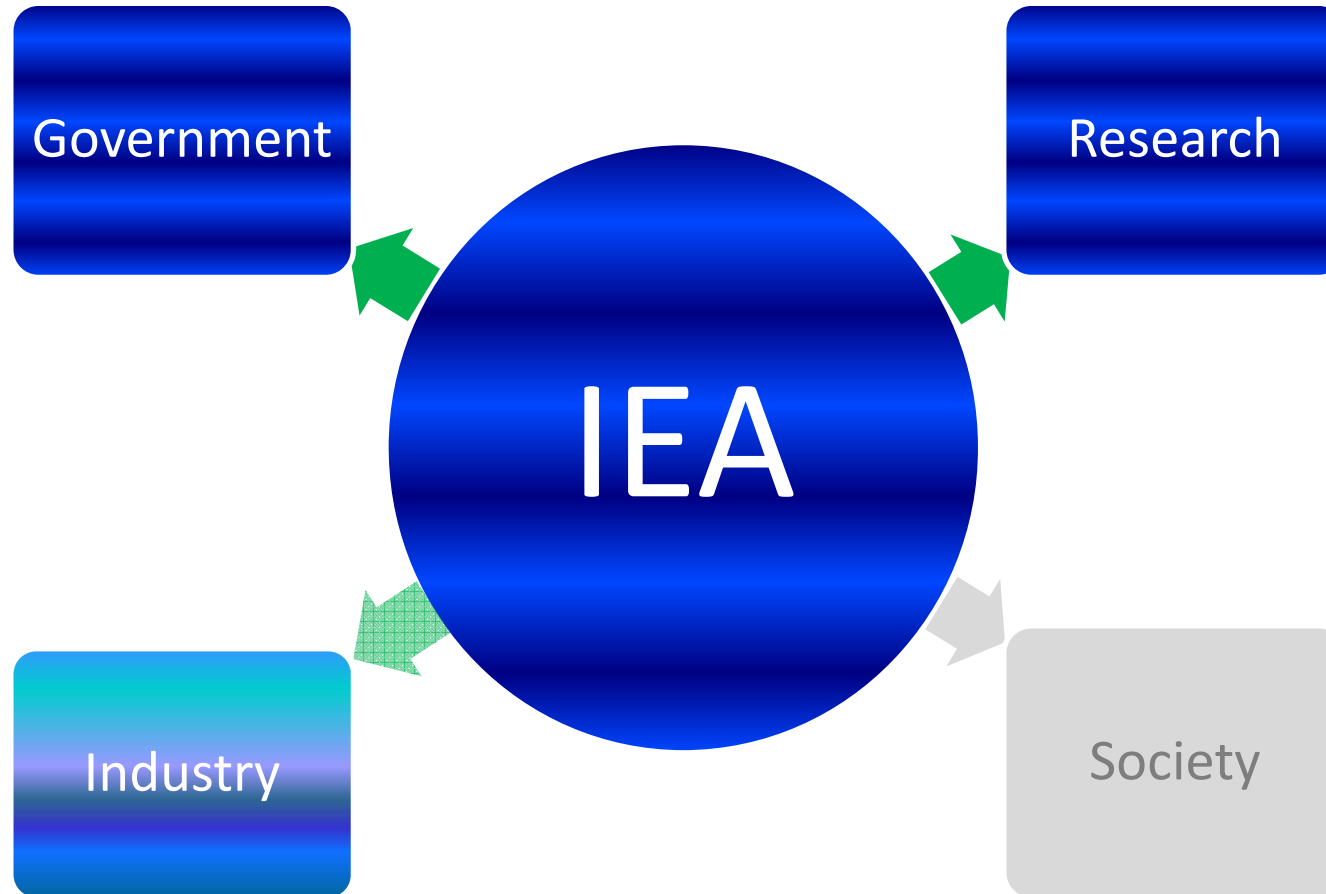
Historical IEA Focus



- ✓ **Responding to government needs**
Oil security, energy policy, research on specific issues, conducting workshops, collecting statistics
- ✓ **Results: first for governments**
Committees report back home
- ✓ **Results: second for general public**
Analysts, universities, companies, consultants

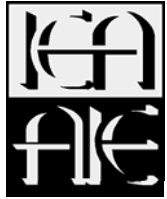


Existing Links





- Existing Links
- Identify Gaps
- **Explore Pathways**



Global Energy Changes



- ✓ **Recent trends require changes in approach**
Climate change, oil supplies, energy security, G8, global economic crisis
- ✓ **The clock is ticking and we're running out of time**
WEO and ETP point to tremendous efforts needed
- ✓ **Traditional avenues of communication are no longer sufficient**
Workshops, publications, press releases important but reach limited audience



Reaching Out and Into



- ✓ **Engaging with key world economies**

Brazil, Russia, India, China, and South Africa
Asia-Pacific, Latin America,

- ✓ **Increasing involvement important stakeholders**

Industry, finance, cities

- ✓ **Enabling policymakers**

Energy technology roadmaps, energy efficiency
recommendations



Enabling Policymakers



➤ **RDD&D mapping**

Identify gaps and opportunities for international collaboration

➤ **Roadmap projects**

Create consensus on key actions needed for RDD&D transition

Supply

- ✓ CCS power generation
- ✓ Coal – IGCC
- ✓ Coal – USCSC
- ✓ Nuclear III + IV
- ✓ Solar – PV
- ✓ Solar – CSP
- ✓ Wind
- ✓ Biomass – IGCC & co-combustion
- ✓ 2nd generation biofuels

Demand

- ✓ Energy efficiency in buildings
- ✓ Energy efficient motor systems
- ✓ Efficient ICEs
- ✓ Heat pumps
- ✓ Plug-ins and electric vehicles
- ✓ Fuel cell vehicles
- ✓ Industrial CCS
- ✓ Solar heating

Too Little Time

The image shows the cover of a report titled "Energy Efficiency Recommendations across 7 Sectors". The cover features a vertical strip on the left with a city skyline at night and a line graph. The main text in the center reads "25 Energy Efficiency Recommendations across 7 Sectors". On the right side, there is a vertical list of seven sectors, each with a large number and a small image: 1 Cross-sectoral, 2 Buildings, 3 Appliances and equipment, 4 Lighting, 5 Transport, 6 Industry, and 7 Energy utilities. At the bottom of the cover, the acronym "W.I.N." is followed by the phrase "Worldwide Implementation Now", which is circled in red. The IEA logo is in the top left corner of the cover, and the text "Energy Efficiency Policy" is on the left side. The bottom left corner of the cover has the text "© OECD/IEA, 2008".

Energy Efficiency Policy

25
Energy Efficiency
Recommendations
across **7** Sectors

W.I.N. Worldwide Implementation Now

© OECD/IEA, 2008

- 1 Cross-sectoral
- 2 Buildings
- 3 Appliances and equipment
- 4 Lighting
- 5 Transport
- 6 Industry
- 7 Energy utilities



New Pathways



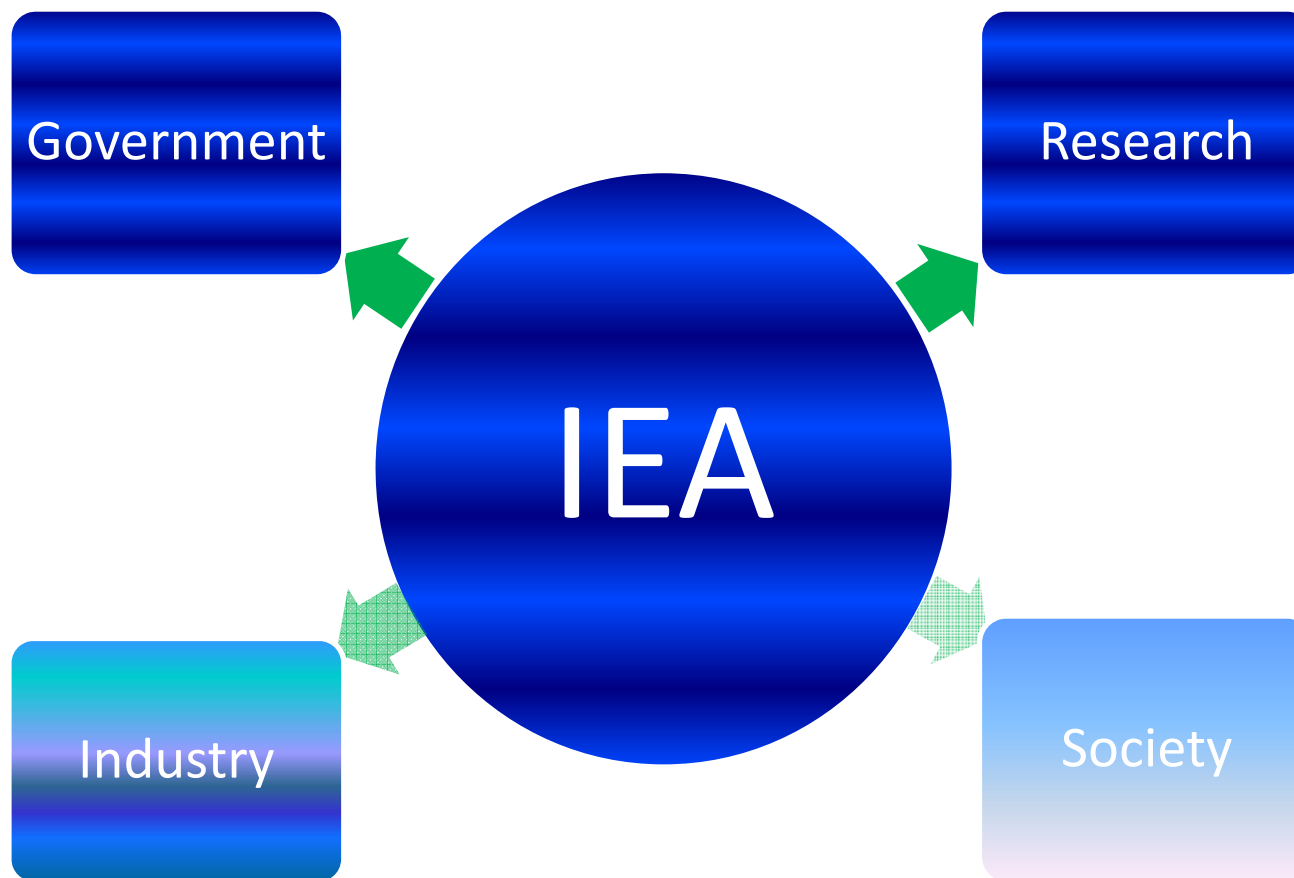
✓ **Media**

✓ **Schools**

✓ **To be defined**



Making Progress



Continued Efforts Needed