

The U.S.-Israel Energy Center

Introduction*

June 2019



*Complete information is provided in www.birdf.com/energycenter-procedure-submission-forms/

- In 2009, the U.S. and Israel initiated BIRD Energy, sponsored by the U.S. Department of Energy (DOE), and by the Israel Ministry of Energy (MOE) jointly with the Israel Innovation Authority (IIA). BIRD Energy has been a successful implementation of U.S.-Israel R&D collaboration in renewable energy and energy efficiency.
- The U.S.-Israel Energy Center (the “Energy Center”) expands significantly the research and development cooperation in energy areas.
- DOE, MOE and IIA appointed the BIRD Foundation as the management and operating arm of the Energy Center.

01

The establishment of a joint U.S.-Israel Energy Center was first authorized by Congress in the U.S.-Israel Strategic Partnership Act of 2014.

02

The U.S. Department of Energy (DOE) and the Israeli Ministry of Energy (MoE) signed an Implementation Agreement on June 25, 2018.

03

Funds in the amount of \$4M were appropriated by Congress for FY18 and FY19.

04

In 2016, the Israeli Government approved the expansion of the U.S.-Israel energy cooperation, providing the equivalent level of funding.

\$40M in grants for 5 years



The goal of the Energy Center is to promote energy security and economic development through R&D of innovative energy technologies, while facilitating cooperation between the U.S. and Israeli companies, research institutes and universities.

- Development, validation and optimization of functionality, durability and cost-effectiveness of new methods and technologies;
- Resource, infrastructure and economic analysis to inform investment decisions, operational strategies and action plans;
- Development and implementation of decision support tools for use by government decision-makers, business and technical partners and other stakeholders; and
- Sharing best practices by facilitating:

01

access to R&D
infrastructure

02

technology transfer
practices from academic
institutions and National
Laboratories for application
by industry in the United
States and Israel,

03

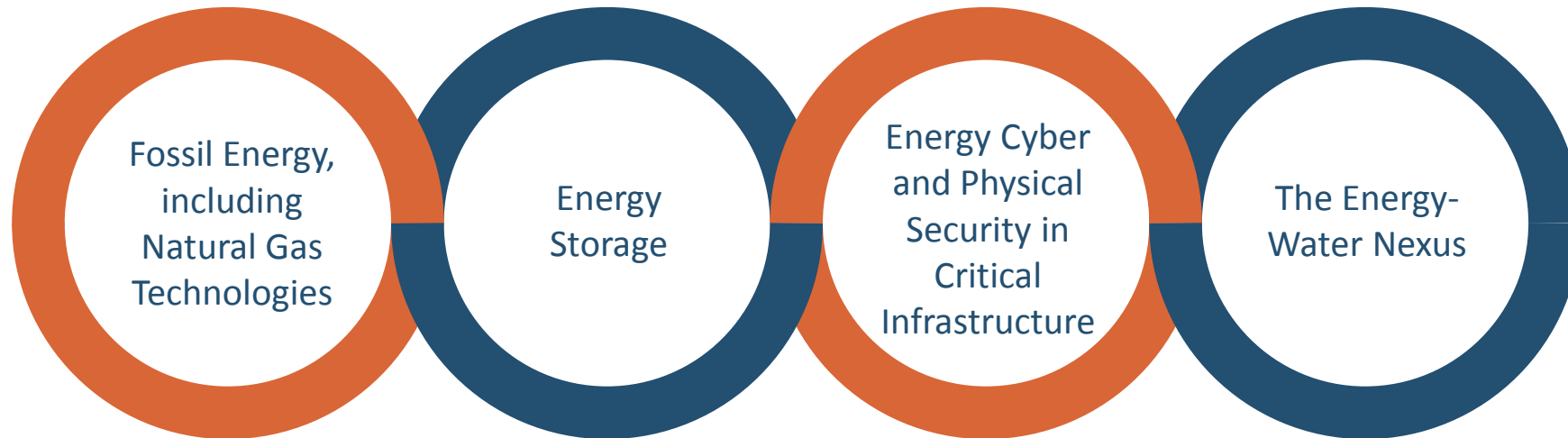
workforce training and
educational programs, and

04

student and postdoctoral
exchange.

The Energy Center will facilitate joint R&D on energy areas by teams of scientists and engineers from the U.S. and Israel and related joint activities in energy R&D.

The (initial) focus on R&D will be in Four Topic Areas:



Further details on each of the areas is provided in www.birdf.com/energycenter

Examples:

- Cross-Cutting Research in advanced materials, computational science/big data learning and advanced analytical tools
- LNG Optimization and Safety
- Basin-Specific Research Strategies / Subsurface Science
- Offshore Safety and Risk Mitigation
- Transportation and Storage
- Eliminate Produced Water Disposal / Water Quality and Availability

Complete information is provided in www.birdf.com/energycenter-procedure-submission-forms/

Examples:

- Innovative Technologies that increase capacity, lengthen storage time, reduce system cost and lower installed cost, improve round-trip efficiency and lifetime
- Energy Storage Analysis
- Energy Storage and Management Hybrid Systems

Complete information is provided in www.birdf.com/energycenter-procedure-submission-forms/

Demonstration of newly developed cybersecurity technology or tool at a relevant end-user site to validate a clear path to industry acceptance.

Examples:

- Development of Tools and Technology
- Use of Tools and Technology
- Emergency Preparedness and Response

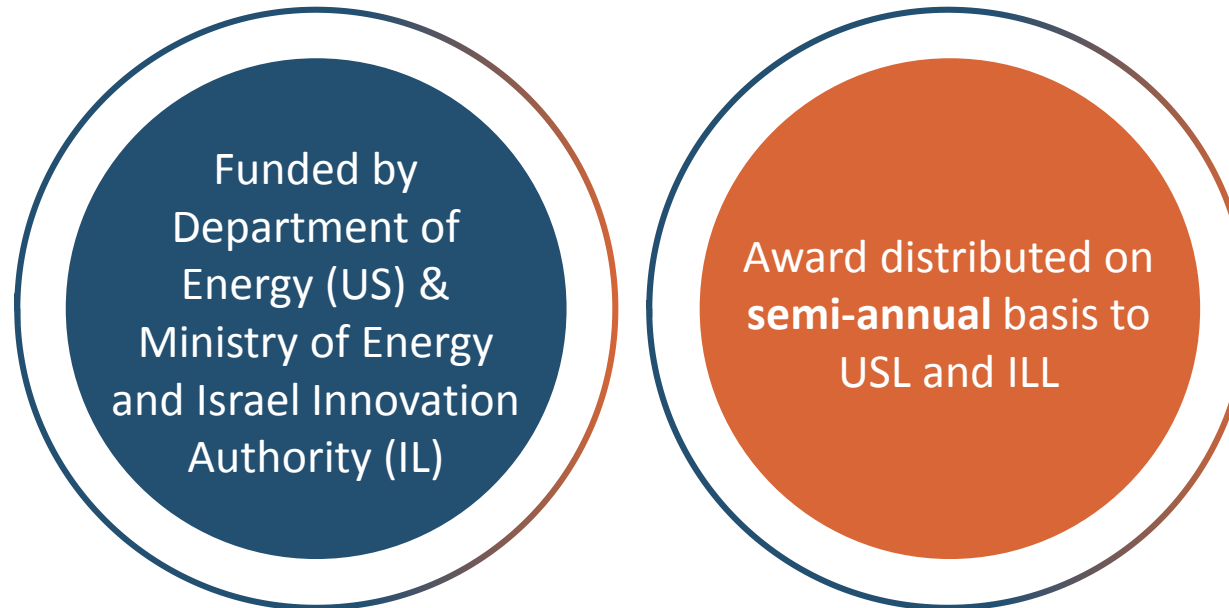
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Feature 3-5 testbeds that take advantage of existing infrastructure. At least one testbed must be in the U.S. and one in Israel.

Examples of domains:

- Drinking Water
- Municipal Wastewater
- Seawater and/or Brackish Water Desalination
- Oil and Gas Operations
- Thermoelectric Power Plant Operations

Complete information is provided in www.birdf.com/energycenter-procedure-submission-forms/



USL = US Lead for Consortium Proposal

ILL = Israeli Lead for Consortium Proposal

There will be four awards, one in each Topic Area.

Each consortium will receive a 5-year award (subject to funding availability and performance)

The maximum award for a consortium is \$10M (\$2M per year, per consortium)

Minimum 50% cost share is required from the awardees.

Complete information is provided in www.birdf.com/energycenter-procedure-submission-forms/

- 2 or more entities from the US **and** 2 or more entities from Israel
 - Commercial, Research Institutions and/or Universities
 - Israeli participants **must** include at least one commercial entity

- 1 US Lead (USL) and 1 Israeli Lead (ILL)
 - Management and reporting of both the technical and fiscal activities

- 1 Proposal per Consortium per topic area (a given consortium can submit several proposals but for different topics)

- Include all development expenses to be incurred during the course of the Program
- Separate consolidated budgets for US (USB) and IL (ILB) members, based on the budgets prepared by each consortium member.
- To receive Maximum award, budget must be Minimum \$20MM (\$4MM/year)

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- The USB should include the minimum 50% cost share from the U.S. Consortium Members (CMs), **in aggregate**. The ILB should include the minimum 50% cost share of the Israel CMs, **in aggregate**.
- Relative workshare expected to be 50%/50% between Israel and US awardees. Well justified exceptions will be considered but **no deviations more than 60%-40%**.

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The BIRD Foundation, as the EC Secretariat, will **sign separate funding contracts / agreements** with the U.S. Lead Awardee and with the Israeli Lead Awardee.

Agreements will include substantive milestones, budget, reporting and other requirements, as well as payments due to the Consortium by the EC.

A Separate Consortium Agreement must be signed by **the consortium members.**

1

The consortium will submit one joint **semi-annual** technical report

2

The US and Israeli Leads will each submit separate **semi-annual** fiscal reports

3

In addition to the above, an **annual** technical and fiscal summary/presentation will be submitted by the consortium

- Should include updated budget for both US and Israel Leads for upcoming year



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50%

1. Merit and Innovation

1. Potential to advance the state of the art
2. Soundness of concept
3. Clarity and Persuasiveness

2. Impact of Advancement

1. Support of objectives and impact on market
2. Contribute to bridging knowledge gap in both countries
3. Contribute to establishment of strong knowledge centers

35%

1. Research Approach and Work Plan

1. Potential of the knowhow transfer from academy to industry
2. Degree to which the proposed activities lead to demonstration of the technologies in relevant environments, and can be later scaled and implemented, when relevant

2. Technical Risks

1. Key technical, process and commercialization risks and the quality of the mitigation strategies to address them, in case relevant.

3. Baseline, Metrics and Deliverables

1. A clearly defined baseline and strength of the quantifiable metrics, milestones and mid-point deliverables defined in the application
2. Progress should be clearly demonstrable

4. Commercialization (when relevant)

1. Identification of: target market, competitors and distribution channels
2. Identification of known or perceived barriers to entry
3. Initial commercialization plan

5. Team

01

Capability to address all aspects of the proposed work with a good chance of success

02

Sufficiency of facilities to support the work

03

Demonstrate the ability to facilitate and expedite further development and commercial deployment of the proposed technologies

04

Consortium Management: demonstrate effective coordination and communication between the project team members and other project participants; prior experience managing similar projects

15%

1

Demonstrate synergies

2

Mutual access to R&D
infrastructure

3

Development of human
resources with expertise
in applications of
innovative technologies
and their industrial
applications

4

Added value of
consortium vs.
independent research of
members

- Think complementary!

Begin process at least 8 weeks prior to deadline!

1

Draft an Executive Summary (optional)

- Recommended to be submitted prior to first meeting of Consortium members
- Template available on BIRD Foundation website: www.birdf.com/EnergyCenter
- This will also help BIRD in attempting to provide entities matchmaking assistance

2

Introductory meeting between US Lead, Israeli Lead and **BIRD representative**

- This meeting should be considered “the kick-off”, at least 8 weeks prior to deadline

Deadline: September 16, 2019 (UPDATED)

EC's upload system will close once deadline has passed

1

Draft of Full Proposal *strongly recommended*

- Draft must be submitted via EC's online upload portal
- Will be reviewed by EC Contact Person

2

Full Proposal must be submitted online *and* sent to the BIRD Foundation in Israel (hard copy, unbound)

Energy Center	Date
Call for Proposals published	April 30, 2019
Information Webinar	May 28, 2019
Executive Summaries (optional, on EC template)	July 26, 2019
Deadline for questions (optional)	August 15, 2019
Proposals submission	September 16, 2019
Selections/Awards	Nov./Dec. 2019