International Engagement

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Science And Innovation Network  Draft as of Oct 2015

- Reports to Foreign Office and Business Innovation and Skills
- Main focus is science and R&D across all disciplines
- Will facilitate any public body’s engagement activities
- >90 people “on the ground”, 4 specialists in energy
- Doing an energy Global Competency Mapping exercise

Has funding in 2015/16 for the Global Energy Programme
CT has been active on behalf of the LCICG: Technology Innovation Needs Assessments. A key input to any strategy.

Now working for FCO/DECC on Global TINAs – soon to be renamed as not really TINAs.

“Global TINA” has 3 strands:
- Survey collaboration initiatives (e.g. IEA Implementing agreements)
- Opportunities and barriers for international collaboration
- Gap analysis

Report in time for COP 21

Solutions to gaps

<table>
<thead>
<tr>
<th>CCS</th>
<th>Mat</th>
<th>R&amp;D</th>
<th>Man</th>
<th>O&amp;M</th>
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</thead>
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<tr>
<td>Egypt</td>
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<td>Haiti</td>
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*Totally random scores for illustration
Innovate UK created Catapults which will engage internationally.

- Innovate UK created Catapults which will engage internationally.
- IUK administer Newton Fund – funds R&D in developing economies.
- Co-funding work in EU, US and Canada.

Survey of Intl contacts and aspirations:

- Co-funding
- Newton Fund

Answer Options:

- UK
- EU
- USA
- China
- India
- Canada
- Japan
- South Africa
- Australia
- Brazil
- Chile
- Singapore
- Malaysia
- South Korea
- Mexico
- Philippines
- Indonesia
- Thailand
- India
- Vietnam
- Egypt

InnovateUK Catapults

11) How likely is your organisation to use the following methods for knowledge transfer and networking:

- National & international trade shows & conferences
- National & international trade press
- General web search
- Other (please specify)
International Engagement Activities

Draft as of Oct 2015

Research & Development

Demonstration

Deployment

LCICG

Research Atlas of UK expertise

Uni’s

UKERC

Survey of Intl contacts and aspirations

SMEs

DECC

Carbon Trust

InnovateUK Catapults

TINAs - UK Innovation needs

DfT

CT Global TINAs

Funding

FCO

BIS

SIN

SMEs

Energy

H2020

IUK

EU

DECC

IUK

EU

UK

Innovation

needs

75% Sales

25% Inward Investment

FCO

BIS

UKTI

SIN

US

SIN

EU

SIN

AP

SIN

SEA

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Energy

H2020

IUK

EU

DECC

IUK

EU

UK

Innovation

needs

75% Sales

25% Inward Investment

FCO

BIS

UKTI

SIN

US

SIN

EU

SIN

AP

SIN

SEA
• Strong involvement in EU, shaping Horizon 2020 and maximising benefit to UK
• Chairs IEA governing board & vice chair to committee

• DECC & IUK have driven activity in LCICG to bring coordination to all of this
• Set up a working group on International Engagement
• 3 workshops aiming to lay down an initial strategy by region
  • EU
  • High value/ high growth
  • Developing (Newton)
Developing a Strategy

1) UK needs help meeting energy objectives

- Identify broad UK energy priorities
- Identify technologies & processes needed
- Identify need for progress
- Identify UK centres of expertise
- Identify countries, institutions or companies

- Offshore wind example

Develop Collaborative programme between these

2) UK leading

- Identify where UK leads innovation
- Identify partners for collaboration or markets for UK expertise
- Identify sources of funding
- Develop engagement to bid for funding or form collaborations

Draft as of Oct 2015
## Example Strategy for Offshore Wind

This is an example of detail required, it is incomplete and not intended to be a final strategy.

Let’s assume Offshore Wind is an important technology for UK. Consider components:
- Identify gaps
- Identify UK expertise
- Identify external expertise

### Offshore Wind Component*

<table>
<thead>
<tr>
<th>Component</th>
<th>Countries / Companies with Expertise</th>
<th>Type of Expertise**</th>
<th>Type of Engagement Opportunity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotor</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Magnets</td>
<td>UK</td>
<td>Research / Development</td>
<td>Leadership Opportunity</td>
<td>Sheffield – eliminating permanent magnet materials</td>
</tr>
<tr>
<td>Floating Foundations</td>
<td>Norway</td>
<td>Development</td>
<td>Learn/ collaborate</td>
<td>Hywind / Statoil developed since 2009</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>UK</td>
<td>Deployment</td>
<td>UK Leadership</td>
<td>Offshore experience from Oil &amp; Gas Industry</td>
</tr>
</tbody>
</table>

*Component names are placeholders and should be replaced with actual offshore wind components.

**Expertise types are examples and should be replaced with actual expertise types.
The strategy may for example say:

- “There’s a need to reduce import dependency on rare earth magnets from China to improve security of supply. To achieve this there will be:
  - Support for world leading work in UK on alternative materials
  - Collaboration with GE on transferring superconducting magnet expertise from medical scanners to generation technology”

- “There’s a need to develop low cost floating platforms for 30-100m depth. To achieve this there will be
  - Strong support for joint development and demonstration of Hywind platform with Statoil
  - Seek to get involved in Alstom 6MW array testing at Cherbourg”
Next steps  Draft as of Oct 2015

• Use **energy storage** as a second example

• Look for more **examples** of how international strategy has been done well e.g. The UKTI Life Sciences Organisation

• **Estimate the resource** required to deliver an engagement strategy and to keep it a ‘live document’

• **Propose how a strategy could be implemented** and state how the strategy may be used

• Continue to **work with and support the LCICIG** and its member organisations, and be a participant on the LCICG’s International Engagement Working Group

• Deliver **final recommendations for approval at the January** 2016 plenary
Too early to be definitive but may include:

- A living strategy document should be produced and maintained
  - to identify engagement priorities *per technology* at component level
  - to locate expertise
  - to identify countries that should be a priority for engagement
- A structure and a funding source should be identified to ensure longevity of this document

*The document may in fact be an interactive website tool or online database (the exact format is unclear at this stage, but the further work should help determine the overall structure.)*