



## EPA Research Programme 2014-2020

### Project Based Awards

#### Activity

**Name:** Technical Progress Report - Technical Progress Report (TPR)

**Status:** Submitted

**Submitted Date:** 14/08/2017

#### Project

**Project Title:** Potential for Negative Emissions Technology in Ireland

**Lead Organisation:** Dublin City University (DCU)

**Project Co-ordinator:** Barry McMullin

**Proposal Reference Number:** 4223

**Project Code:** 2016-CCRP-MS.36

**Technical Progress Report No:** 1

#### Technical Progress Report (TPR)

**From:** 03/01/2017

**To:** 30/06/2017

**Project Start Date :** 03/01/2017

**Projected Completion Date:** 02/01/2019

**Revised Completion Date:**

Please upload the Technical Progress Report Document using the template provided by clicking **here**:

IE-NETS-Technical-Progress-Report-1.pdf

**Please Upload revised Technical Progress Report:**

Overall statement regarding progress vis-a-vis project aims and timeframe:

The main aims for the first six months were to set up project management and communications, to undertake much of Work

Package 1 (the Comprehensive Negative Emissions Technology Literature Review), and to hold a Launch Event to engage with a wide cross-section of interested parties. These activities have all been progressed satisfactorily, and in accordance with the project proposal.

## Communication

Does this project have a dedicated web presence?: Yes

Webpage hosted on organisation website

Project website: <http://ienets.eeng.dcu.ie/>

Please click **here** for Guidance on how to access twitter analytics

Does this project have a dedicated Twitter Account?: Yes

Please provide your @username (Twitter handle): @ie\_nets

Please Indicate the number of followers for this project's Twitter account: 68

Please Indicate the number of Tweets issued in the period: 125

Please Indicate the number of Tweet impressions in the period: 11.1K

Is this project listed on ResearchGate?: Yes

Please provide URL: <https://www.researchgate.net/project/IE-NETs-Potential-for-Negative-Emissions-Technologies-NETs-in-Ireland>

Please indicate the number of ResearchGate followers: 0

Please indicate the number of ResearchGate reads: 0

Do you have a project newsletter?: No

Does this Project have a presence on other social media sites:

Yes

YouTube

Did this project generate any media coverage in the period:

Yes

Print Media

Please provide details in the Physical Indicators section below by clicking on the “Create New” link

Have you carried any outreach activities?:

Yes

Please provide Details:

Project launch event, TCD, May 18th in TCD. Recording disseminated via youtube. Over 40 participants from: government departments, Climate Change Advisory Council, EPA, SEAI, academic researchers, NGOs, and media.

Has the project undertaken any Public Engagement Initiatives?:

Yes

Public Event

Please provide details in the Physical Indicators section below by clicking on the “Create New” link

## Project Team Details

Summary of Project Team Details:

Reporting Period		Employment Period		Full Name:	Email Address:	Category:
From:	To:	From:	To:			
03/01/2017	30/06/2017	06/02/2017	30/06/2017	Mr. Paul Price	paul.price@dcu.ie	Research Assistant
03/01/2017	30/06/2017	01/02/2017	30/06/2017	Dr. Alwynne McGeevea	mcgeevea@tcd.ie	Post Doc (PhD+)
03/01/2017	30/06/2017	03/01/2017	30/06/2017	Prof. Barry McMullin	barry.mcmullin@dcu.ie	Principal Investigator

03/01/2017	30/06/2017	03/01/2017	30/06/2017	Prof. Michael Jones	jonesm@tcd.ie	Principal Investigator
------------	------------	------------	------------	---------------------	---------------	------------------------

## Events/Conferences and Workshops

### Summary of Events Held

## Report on Physical Indicators

I confirm that all publications are compliant with the EPA research Programmes's policy on Open Access and data.

Yes

Papers and Conferences for this Period:

Reporting Period		Details:
From:	To:	
01/01/2017	30/06/2017	<b>Type:</b> Newspaper Article <b>Status:</b> Published <b>Title:</b> Listen: Could energy crops capture greenhouse gases? <b>Authors:</b> Thomas Hubert <b>Details:</b> Irish Farmers' Journal, 26 May 2017 <b>Paper or Presentation:</b> Listen__Could_energy...
01/01/2017	30/06/2017	<b>Type:</b> Presentation <b>Status:</b> Published <b>Title:</b> Negative Emissions Technologies (NETs): Curse or Salvation? <b>Authors:</b> Barry McMullin <b>Details:</b> Presentation at the Irish National Sustainability Summit, Citywest, Dublin, 31st January 2017. <b>Paper or Presentation:</b> NETs-Sustainability-...
01/01/2017	30/06/2017	<b>Type:</b> Presentation <b>Status:</b> Published <b>Title:</b> Negative Emissions Technologies (NETs): A multi-disciplinary, multi-institutional research collaboration <b>Authors:</b> Barry McMullin <b>Details:</b> Presentation at the 4th UNI-SET Energy Clustering Event Imperial College London, 27-28 March 2017 <b>Paper or Presentation:</b> UNI-SET-2017-03-28.p...
03/01/2017	30/06/2017	<b>Type:</b> Other /Project Communication Plan <b>Status:</b> Published <b>Title:</b> IE-NETs Project Communication Plan <b>Authors:</b> Barry McMullin, Mike Jones, Paul Price, Alwynne McGeever <b>Details:</b> Detailed project communication plan, as required to be submitted to the EPA with the first Technical Progress Report. Also available publicly via IE-NETs website: <a href="http://tinyurl.com/y8du74v2">http://tinyurl.com/y8du74v2</a> <b>Paper or Presentation:</b> IE-NETS-Communicatio...

Summary of Research Product Details:

Reporting Period		Type:	Authors:	Title & Details:	Sta tus:	Document:
From:	To:					
				<b>Title:</b> Submission to the consultation on the proposed Irish Renewable Heat Incentive		

2017-01-01	2017-06-30	Other / Consultation submission	Barry McMullin, Mike Jones, Alwynne McGeever, Paul Price	<p>scheme</p> <p><b>Details:</b> A submission to the DCCAE consultation on the Design and Implementation of a Renewable Heat Incentive (RHI) in Ireland, in response to the consultation document issued on 26 January 2017.</p>	RHI-submission-2017-...
2017-01-01	2017-06-30	Other / Consultation submission	Barry McMullin, Mike Jones, Alwynne McGeever, Paul Price	<p><b>Title:</b> Submission to the consultation on the draft Irish National Mitigation Plan</p> <p><b>Details:</b> A submission to the DCCAE consultation on the Draft National Mitigation Plan for Ireland, in response to the consultation opened on 15 March 2017.</p>	NMP-2017-04-26-ie-ne...

## Funding Leverage & Linkages

Since receiving EPA funding, has the project leveraged funding and /or established linkages with other partners in Ireland (e.g. SMEs, MNCs, Local Authorities, Academic Institutions, Agencies?) or internationally?

Yes

### Please provide details:

The project team has established contacted with the EU-funded UNISSET co-ordination action ((UN)iversities in the SET-Plan). The project was presented at the UNISSET Clustering meeting in London, in March 2017. This facilitated significant networking with other European researchers, particularly in the fields of BioEnergy and CCS.

### Progress on Communication Activities:

Launch event held, May 18th. Invite and attendee targets reached. Recordings published. Comments and input incorporated in ongoing project activities. Website, twitter, ResearchGate, youtube accounts all active. Four blogs posts to date in line with target. One significant press article (Irish Farmers' Journal) arising from launch event. Ongoing contributions to EPA Newsletter. Multiple presentations at national and international events. Presentation slides all online. Submissions made to two national consultations.

### SSATTACH SmartField View:



## EPA Research Programme 2014-2020

### Potential for Negative Emissions Technologies in Ireland

Climate Change Research Project **2016-CCRP-MS.36**

### Technical Progress Report 1 28 July 2017

- IE-NETs is the short name for this project.
- IE-NETs website: <http://ienets.eeng.dcu.ie>
- Email: [ienets@dcu.ie](mailto:ienets@dcu.ie)
- Twitter: [@ie\\_nets](https://twitter.com/ie_nets)
- Youtube: [ie\\_nets](https://www.youtube.com/ie_nets)

#### Section A - Description of progress and results to date.

#### WP1 Comprehensive Negative Emissions Technology Literature Review

- A draft WP1 is reaching completion comprising 10 chapters giving an overview of each of the project's focus topics as outlined in the project proposal.
- A large bibliographic database of several hundred NETs-relevant literature references has been set up in the [Zotero](#) online reference management system.
- Preliminary evaluations of EPA emissions inventory and projections, carbon budget and forestry data have been completed.

#### Launch Event

- Held on May 18th in TCD, Botany Building, Dr. Frank McGovern of the EPA introduced the topic putting it in the Irish context. By video livelink, leading international researcher Dr. Sabine Fuss gave a detailed presentation on negative emission technologies and participated in the audience Q&A session. Event included a substantive discussion providing helpful research input. Videos of the launch event are available on the [IE NETS youtube channel](#), including Dr. Fuss' presentation and an outline of the project by the IE-NETs team.



- Over 100 people were invited and over 40 attended. All invitees received a pdf project outline and hardcopy flyer. Attendee backgrounds included: government departments, Climate Change Advisory Council, EPA, SEAI, academic researchers, NGOs, and media.

### Communications

- [Website](#) Sections for home page (project overview), blog posts, documents, project team and contacts. Documents section give direct links to project documents, presentations, audio files and consultation submissions.
- [Twitter](#) Regular tweets on NETs and climate research related topics. 66 followers. Following other global NETs research and research.
- [Youtube Channel](#) 3 part upload of video of the launch event presentations.
- [IE-NETs team email](#) For in/out mail to the project team.

### Policy and Outward Engagement

- Two submissions made to public consultations:
  - [Draft Irish National Mitigation Plan \(26 April 2017\)](#)
  - [Irish Renewable Heat Incentive scheme \(3 March 2017\)](#).
- Meetings with ESB and SEAI toward future possible work package assistance or collaboration.
- As follow-up to Steering Group suggestion by SEAI, EU Renewable Energy Directive assessed and meeting arranged with DCCAE to discuss NETs in future energy policy.
- IE-NETS presentations by Prof. Barry McMullin at [Sustainability Summit in Dublin](#) and [UNI-SET in London](#), and by Prof. Mike Jones at European Biomass Conference and Exhibition, 12-15 June, in Stockholm.
- Attended the Environ 2017 conference in Athlone (abstract submitted) to engage with other researchers and with a view to attending the event in 2018.
- [Irish Farmers Journal article](#) on the IE-NETS launch event and interview with Prof. Mike Jones ([audio](#)).
- Prof. Mike Jones appointed as member of the European Academic Science Advisory Council Expert Group on 'Negative Carbon'.

### Project Management

- A shared Google Drive team folder is organised to enable IE-NETS work.
- Steering Committee: Kick-off meeting was held on May 19th at EPA.
- Two hour team meetings have been held fortnightly alternating between DCU and TCD, each with an agenda and minutes. Detailed discussions of relevant negative emissions research.
- Main management priorities to date have been on progressing WP1, organising the launch event, and setting up group workflow and communications.



**Section B - Description of progress and results for period under review (including an update of the GANNT chart provided in your proposal).**

As this is the first period under review the progress and results are covered as reported above in Section A. The updated GANNT chart is as shown below.

WP Description	2017							2018							2019				
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
WP1 Comprehensive Negative Emissions Technology Literature Review																			
WP2 Modelling of bioenergy resource potential in Ireland																			
Life Cycle Assessment (LCA) of GHG emissions and Techno-economic Analysis of bioenergy production in Ireland																			
WP3 Modelling of the role of NREs in deep decarbonisation pathways for the Irish energy system, infrastructure constraints and requirements																			
WP4 Project Management, Communications and Dissemination																			
WP5 Project Management, Communications and Dissemination																			
<b>Deliverables And Milestones</b>																			
WP1 Comprehensive literature Review (c.40 pages)																			
WP1 Summary Critical Review																			
WP2 Productivity Map																			
WP3 Report on comparisons of LCAs for PRGs and SRF in Ireland																			
WP3 Outputs from TEs																			
WP4 Comprehensive report																			
WP4 Presentation at appropriate national/international conference																			
WP4 Open access journal article summarizing methodology and results																			
WP5 Technical progress reports																			
WP5 Project website, social media																			
WP5 Final Report																			
WP5 Financial report																			
WP5 Coordination meetings																			
WP5 Dissemination events																			





## Section C - Description of Project management issues including staffing and equipment

This is a medium scale study beginning with a literature review in its first six months. The project effective start was delayed by one month due to delays in recruitment of suitable dedicated research staff.

On 17th July 2017, we received notification that, in line with the Public Service Stability Agreement 2013-2018 (Lansdowne Road Agreement) and the Financial Emergency Measures in the Public Interest Act 2015, salary scales for research staff (including the staff already recruited on the IE-NETs project) have been revised with effect from 1st April 2017. This will increase the direct payroll costs for the project by c. €4,800. Discussions are ongoing via the Finance Offices in DCU and TCD to assess the implications. It is understood that the issue is being considered at IUA level, involving high level engagement with all affected research funding agencies.

There have been no other significant project management issues.

## Section D - Milestones for next six months

### WP1:

- Completion of long-form full report as open access project white paper and report made available on EPA-SAFER
- Summary for Policy Makers
- Journal article: write and submit.
- Workshop event preparation.

### WP2:

- Short review of models suitable for predicting Irish yields.
- Finalise model design and list and define all components.

### WP4:

- Detailed list of potential energy modelling approaches for NETs including advantages and limitations.
- Meet with UCC toward better understanding of IrishTIMES model and to identify possible collaboration
- Meet again with ESB and SEAI regarding possible collaboration and assistance with WP4 modelling and input data.



**Section E – Update on Communications Plan**

<p>How did you progress the SMART Objectives detailed in your Communication Plan?</p>	<p>Launch event held, May 18th. Invite and attendee targets reached. Recordings published. Comments and input incorporated in ongoing project activities. Website, twitter, ResearchGate, youtube accounts all active. Four blogs posts to date in line with target. One significant press article (Irish Farmers' Journal) arising from launch event. Ongoing contributions to EPA Newsletter. Multiple presentations at national and international events. Presentation slides all online. Submissions made to two national consultations.</p>
<p>Please provide details of the elements of your plan that worked well?</p>	<p>Launch event worked well technically. Informal feedback from participants was very positive. Recording technology worked (despite complications of remote keynote speaker by skype).</p>
<p>Did any elements not work as well as expected? If yes please provide details and proposed corrective action.</p>	<p>The technical demands of recording are high, and perhaps required disproportionate effort. It did not prove technically feasible to do live streaming of the launch event. Further technical assistance will be sought from support services in TCD/DCU with a view to attempting live streaming again for the final dissemination event.</p>
<p>Are there any additional communication actions that you plan to introduce. Please provide details</p>	<p>No additional actions currently planned.</p>