



E - LAND

D8.5 Second Dissemination and Communication Report



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388.



Integrated multi-vector management system for Energy isLANDs

Deliverable n°:	D8.5
Deliverable name:	Second dissemination and communication report
Version:	1.0
Release date:	27/07/2021
Dissemination level:	Public
Status:	Submitted
Author:	GECO – Ioana Badea & Bonnie Murphy



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388.

The information and views set out in this deliverable are those of the author(s) and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

Document history:

Version	Date of issue	Content and changes	Edited by
0.1	02/07/2021	First draft version	Ioana Badea, Bonnie Murphy/ GECO
0.2	09/07/2021	Reviewed by assigned reviewers	Andreea Baias (CREESC)
0.3	19/07/2021	Review by assigned reviewers	Bjørn Axel Gran (IFE)
0.4	26/07/2021	Peer-reviewed version	Ioana Badea, Bonnie Murphy/ GECO
0.5	27/07/2021	Reviewed by assigned reviewers	Andreea Baias (CREESC), Bjørn Axel Gran (IFE)
1.0	27/07/2021	Final version	Ioana Badea, Bonnie Murphy/ GECO

Peer reviewed by:

Partner	Reviewer
CREESC	Andreea Baias
IFE	Bjørn Axel Gran

Deliverable beneficiaries:

WP / Task
WP2
WP6
WP8

Table of contents

Executive summary	7
1 Introduction	8
2 Dissemination and Communication Activities and Tools	9
2.1 Dissemination and Communication Activities	9
2.1.1 Workshops and Conferences	9
2.1.2 Stakeholder Innovation Group	12
2.1.3 Liaisons with other EU Projects and Programme Meetings	13
2.1.4 Local Meetings	15
2.1.5 Scientific Dissemination Plan and Scientific Papers	16
2.1.6 Reports and Other Documents	18
2.2 Dissemination and Communication Tools	21
2.2.1 Additions to the Stylebook	21
2.2.2 Website	21
2.2.3 Social Networks and Digital Channels	25
2.2.4 Newsletters	28
2.2.5 Press Releases	29
2.2.6 Product Sheets and Pilot Sheets	30
2.2.7 Project Video	36
2.2.8 Conference Posters	37
2.2.9 Webinars	38
3 Update on Effectiveness of Dissemination and Communication Activities	39
3.1 Update on communication and engagement KPIs	39
3.2 KPI Analysis	41

4	COVID-19 and related mitigation actions	42
5	Conclusion.....	43
6	References	44
7	Appendix.....	45
7.1	E-LAND Newsletter #3	45
7.2	E-LAND Mini Newsletter #1	46
7.3	E-LAND Mini Newsletter #2	47

Abbreviations and Acronyms

Acronym	Description
DSO	Distribution System Operators
EC	European Commission
EPA	Energy Processing Application
ESCO	Energy Service Company
ESRA	European Safety and Reliability Association
ESREL	European Safety and Reliability Conference
EU	European Union
eXIT	Interdisciplinary research group of the Institute of Informatics and Applications of the University of Girona
GA	Grant Agreement
ISUW	India Smart Utility Week
KPI	Key Performance Indicator
MVS	Multi-Vector Simulator
PSAM	Probabilistic Safety Assessment and Management Conference
SIG	Stakeholder Innovation Group
WP	Work Package
WPL	Work Package Leader
XRE4S	R+D+I Network Energy for Society

Executive summary

The second Dissemination and Communication report provides an update on all the dissemination and communication activities of the project from M17-32. As part of the D8.3 *Dissemination and Communication Plan*, several strategic and tactical tasks and tools were proposed to support the goal of creating awareness around the project. The impact and effectiveness of these tools have been measured and presented in D8.4 *First Dissemination and Communication Report*.

This second report includes an update on the communication and dissemination strategy and a summary of all the communication and dissemination activities from these tasks and tools: workshop and conferences, liaisons with other EU projects, local meetings, scientific dissemination, reports and deliverables, additions to the stylebook, website, social networks and digital channels, newsletters, press releases, videos, conference posters and webinars.

Mitigation actions due to the COVID-19 pandemic and proposed next steps are also outlined in the report to ensure continuous awareness and engagement in the E-Land project activities and efforts.

1 Introduction

E-LAND offers innovation on three layers: community, business, and technology. The dissemination of project information, work, and results, as well as other means of communication, for each of these layers, is a crucial aspect for all E-LAND work packages. Therefore, the overall communication and dissemination of project outcomes are essential for the effective take-up that is needed for the project’s long-term success.

The communication and activities have therefore been strategically distributed year by year (as outlined in D8.4), with the first focusing on increasing the knowledge about the project, the second year showcasing the project to the external stakeholders, the third one ensuring the continuity of the project in the future and the final year focuses on exploitation efforts to take the E-LAND Toolbox and methodologies to market.

The purpose of this deliverable D8.5 *Second dissemination and communication report* is to provide an update on the communication and dissemination work completed during the period of M17-M32. These updates include participation in events, scientific publications, liaisons with other EU projects as well as new marketing material that was released and the key performance indicators for all these activities. Additionally, the report will give an overview of the KPI progress, with a focus on future suggestions and predictions. For a summary of the communication work completed during M1-M16, refer to D8.4 *First communication and dissemination report*.

Table 1 - E-LAND Consortium Partners and their abbreviations

Partner Name	Abbreviation
Auroville Consulting	Auroville
Borg Havn IKS	Borg Havn
BYPL BSES Yamuna Power Limited	BSES
Centrul de Resurse pentru Eficienta Energetica si Schimbari Climatice	CREESC
GECO Global	GECO
Institute for Energy Technology	IFE
Instrumentación y Componentes	Inycom

Intracom Telecom	ICOM
Reiner Lemoine Institute	RLI
Schneider Electric Norway	Schneider Electric
Smart Innovation Norway	SIN
Universitat de Girona	UdG
University of St. Gallen	USG
Valahia University of Targoviste	UVTgv

2 Dissemination and Communication Activities and Tools

2.1 Dissemination and Communication Activities

The following chapter provides an update on the dissemination and communication work completed from D8.4 that includes results to M32 This includes updates on the activities conducted (e.g., events, publications, liaisons with other EU projects) and the tools that were used to support the activities and the successful delivery of the E-LAND message (e.g., dissemination material, social media).

2.1.1 Workshops and Conferences

Despite the COVID-19 situation the project managed to participate in a number of events in an online format. Table 2 below gives an overview of the events with E-LAND participation.

Table 2 - Reports on Event Participation M17-M32

Partner Name	Date	Event Type	Description	Event Name/ Media	Type of Audience
SIN & USG	02-04-20	Webinar	Business model innovation in ELAND (presentation to webinar)		
SIN	29-04-20	Webinar	Webinar: Business model innovation in energy – the confluence of locality, digitization and sector coupling		Scientific community, Industry
RLI	22-09-20	Participation to a workshop	Investment planning in multi vector energy systems: Definition of key performance indicators		Scientific community, Industry

CREESC	04-10-20	Organizing an event	Dedicated event to mobility and urban sustainability. E-LAND project and tools were disseminated as an innovative project on-going in Romania.	Smart Mobility Cluj	General Public
RLI	06-10-20	Participation to a conference	Introducing an open-source simulation tool for sector-coupled energy system optimization: The Multi-Vector Simulator (MVS)		Scientific community
SIN & USG	27-10-20	Participation to an event other than a conference or workshop	Design of unique business models for low-carbon Communities with Multi-Energy systems of E-LAND project		Industry, General Public
IFE	01-11-20	Conference	Presentation of three papers: "Risk Assessment in the E-LAND Project", "Addressing Cybersecurity in Energy Islands" and "Risk And security Practices: Experiences From The ELAND Project"	ESREL 2020 / PSAM 2020	Research and Industry
IFE	24-11-20	Webinar	Webinar on risk modelling and communication (Presentation of "Risk Communication in E-LAND)	ESRA Norway	Scientific community, Industry
RLI	11-01-21	Participation to a conference	Building on experience: What to take from individual models for the oemof-community (Presentation of MVS)		Scientific community
SIN	15-01-21	Participation to a workshop	Presentation of E-LAND to local utilities and municipalities at a workshop for the Smart Narvik program		Industry
CREESC	18-02-21	Participation to an event	Digitalisation in the energy industry. E-LAND project dissemination during networking sessions	Digital 2021	Industry, General public
SIN	03-03-21	Brokerage event	Presentation of E-LAND at Indian Smart Utility Week (ISUW) 2021	India Smart Utility Week (ISUW) 2021	Other
CREESC & UVTgv	11-03-21	Organisation of a workshop	Stakeholder workshop: E-LAND tools and financial model (Romania)	-	National stakeholders from financial institutions and Energy National Authority
SIN	15-03-21	Participation in activities organised jointly with other H2020 project(s)	Presentation of the project	Flexibility 2.1: Demand response to Renewable Energy Communities	Other
UdG	17-03-21	Webinar	Webinar on data driven solutions for energy management to stakeholders in the Energy value chain.	Webinar: Soluciones energéticas. Soluciones para la digitalización y la gestión eficiente de la energía, organised by the XRE4S	

RLI, ICOM, GECO, Borg Havn	22-03-21	Organization of a workshop	Stakeholder Workshop: E-LAND tools for multi-vector system optimization (Norway)	MVS/EPA community member co-creation workshop	Pilot community members
RLI, ICOM, GECO, INYCOM	24-03-21	Organization of a workshop	Stakeholder Workshop: E-LAND tools for multi-vector system optimization (Spain)	MVS/EPA community member co-creation workshop	Pilot community members
UdG	21-04-21	Participation to an event other than a conference or workshop	Presentation of research activities and projects of the eXIT group to industrial partners	Jornada Patronat EPS -Campus UdG- TECNIO: Tecnologia i Competitivitat	
UdG	29-04-21	Participation to an event other than a conference or workshop	Presentation of research activities and projects of the eXIT group to engineering students for recruiting.	Forum Industrial 2021 (Virtual Edition).	
CREESC	20-05-21	Participation to a conference	Presentation of the E-LAND project – Sustainability through intersectorial synergies	Digitalisation and Energy Efficiency, 5th year, in Cluj-Napoca	Scientific community, Industry, General Public, Policy makers
CREESC	17-06-21	Participation to an event	Decision makers analyzing the national, European and corporate strategies. E-LAND project dissemination during networking sessions.	2021 Energy Strategy Summit	Scientific community, Industry, General Public, Policy makers
UdG	30-06-21	Other	Several meetings with stakeholders presenting UdG DSO Toolbox algorithms inside of a Lab2market programme in which the research group is participating	-	-
CREESC	Various dates	Other	Several meetings with stakeholders presenting the E-LAND project and tools	-	Private financial entities, energy distributor & producer, ESCOs, private businesses, local authorities

Intended participation on future events

Table 3 - Intended participation on Future Events

Event Name	Date	Event Type	Description	Media	Type of Audience
PowerAfrica 2021	23-26 August 2021	Conference	Power systems integrations, business models, technological advances, policies and regulatory frameworks for	https://ieee-powerafrica.org/	Research, engineers, and practitioners

			the African continent		
ESREL 2021	19-23 September 2021	Conference	Conference on Safety and Reliability	http://esrel2021.org	Research and industry
EUSEW 2021	25-29 October 2021	Conference	Conference dedicated to renewables and efficient energy use in Europe	https://www.eusew.eu/	Public authorities, energy agencies, industry associations, businesses, civil society organisations and the media
ENLIT 2021	30 November – 2 December 2021	Exhibition	A series of energy related events intended to create collaborations for solving the most pressing energy-related issues.	https://www.enlit-europe.com/	Energy professionals
Sustainable Places 2021	29 September – 1 October 2021	Conference	The conference is the platform for dissemination or research, conduct of workshops and networking.	https://www.sustainableplaces.eu /	Embassies, policy makers and large industrials, Researchers, Energy Professionals
Ecocity World Summit 2021 USG, GECO	September 29, 2021	Conference	An international conference dedicated to urban transformations for nature based solutions	https://ecocity-summit.com/	innovators, researchers, engineers, designers, policy makers, environmentalists
ISUW 2022	01-05 March 2022	International Conference and Exhibition	International Conference and Exhibition on Smart Energy and Smart Mobility for Smart Cities	https://www.isgw.in/	Electricity, Gas and Water Utilities, Policy Makers, Regulators, Investors, Smart Energy Experts and Researchers

2.1.2 Stakeholder Innovation Group

The E-LAND project currently has 28 members in the SIG coming from 12 European countries, India, and the United Arab Emirates. The SIG members have signed up to be part of the E-LAND Stakeholder Community and expressed interest in interacting with the project. The SIG members

include ESCOs, DSO's, technology providers, research centres, energy companies, engineering companies, universities and associations in the energy sector.

The SIG members have participated in the E-LAND webinar *Business Model Innovation in Energy – The confluence of locality, digitization, and sector coupling*. Additional details about the webinar can be found in chapter 2.2.10.

They were also reached out to through *News from the E-LAND Project #2*, mini-newsletter, sent out in May 2021 (see Appendix 7.3).

2.1.3 Liaisons with other EU Projects and Programme Meetings

Table 4 - BRIDGE representatives from E-LAND

BRIDGE coordination	Regulations WG	Business models WG	Customer Engagement WG	Data Management WG	Communications
Main contact SIN: Heidi Tuiskula	SIN: Sanket Puranik	USG: Merla Kubli	GECO: Thomas Mikkelsen, Bonnie Murphy	ICOM: Kokos Isidoros	GECO: Ioana Badea
Coordinator: UdG: Joan Colomer		SIN: Sanket Puranik	SIN: Heidi Tuiskula		

E-LAND participated in the virtual general assembly 2.-4.3.2021. Though virtual events are never as smooth and effective as meeting in person and some challenges in connecting to sessions occurred, E-LAND had the opportunity to learn about the new projects as well as results from the project in their final steps. Discussions were active in WG sessions and new collaboration plans were made. In addition, WG representatives have contributed to various requests and provided input to the working groups after the Grant Agreement (GA), for example, the questionnaire from Regulations WG was filled by E-LAND. In M29, SIN participated in the BRIDGE Consumer and Citizen working group kick-off meeting, and GECO and SIN have since signed up to participate within the Strategies of Engagement and Group Building and Smart Tools subgroups. E-LAND has been part of the Horizon Booster free additional dissemination support, where E-LAND is supported to get more visibility for our project results. This support is provided

via a project cluster, where E-LAND collaborates with 4 other projects: TDX-ASSIST¹, CROSSBOW², TRINITY³, and X-Flex⁴. The first module (A) of the initiative focused on creating the overview while module (B) focused on concrete dissemination activities, like creating fact sheets (see figure 1), joint video and potentially organising a joint webinar.



Figure 1 - Horizon Booster Fact Sheet

In addition to the wider BRIDGE and Horizon Booster collaboration, E-LAND has initiated specific collaboration with Renaissance project around the Indian pilot in Auroville. Preliminary consultations with Auroville Consulting revealed that as Auroville has recently been active in several research and innovation projects, there was a large 'engagement fatigue risk factor for the community. To mitigate this concern, the E-LAND project has engaged Renaissance – a similar H2020 project currently active in Auroville – to collaborate on community engagement

¹ <http://www.tdx-assist.eu/>

² <http://crossbowproject.eu/>

³ <http://trinityh2020.eu/>

⁴ <http://xflexproject.eu/>

activities to limit potential redundancies and avoid overburdening the community with co-creation requests. During this reporting period, three coordination meetings have been held between the projects (lead by GECO), resulting in the streamlining of several community workshops planned for the fall of 2021 and the sharing of community data previously collected.

In addition to the wider BRIDGE collaboration, E-LAND has initiated specific collaboration with Renaissance project around the Indian pilot in Auroville. Preliminary consultations with Auroville Consulting revealed that as Auroville has recently been active in several research and innovation projects, there was a large ‘engagement fatigue risk factor for the community. Therefore, the E-LAND project has reached out to Renaissance – a similar H2020 project currently active in Auroville – to collaborate on community engagement activities to limit potential redundancies to avoid overburdening the community with co-creation requests. During this reporting period, three coordination have been held between the projects (lead by GECO), resulting in the streamlining of several community workshops planned for the fall of 2021 and the sharing of community data previously collected.

2.1.4 Local Meetings

On May 20th, Ciprian Comsulea (CREESC) was invited to speak at the national event „*Digitalizare și Eficiență energetică – anul 5 – Cluj-Napoca*” (Digitalisation and Energy Efficiency, 5th year) in Cluj-Napoca. The event’s objective was to increase awareness and understanding of energy efficiency and ways to improve it through innovative projects and concepts. There were 11 speakers from both private and public organisations who have discussed the themes below:

- Energy services: Legal provisions and solutions for stimulating the energy services market, balancing and energy flexibility
- Consumer information - a vital aspect in promoting energy efficiency
- Electric mobility - infrastructure, business models, smart city
- Thermal power plants and heating: assessing the potential for increasing efficiency in cogeneration and district heating
- Obligations, audits, and monitoring: implementation options and monitoring issues
- National action plans for energy efficiency - electric mobility, local initiatives



Figure 2 - Digitalisation and Energy Efficiency, 5th year Event

CREESC presented detailed information about the E-LAND project, its timeline, objectives, and toolbox components, highlighting the importance of increasing energy efficiency and relying on renewable energy in order to combat climate change through local and international professional synergies.

There were over 220 professional participants from cities all around the country, from private companies, ESCOs, energy providers, energy distribution companies, NGOs, universities, local and national authorities.

2.1.5 Scientific Dissemination Plan and Scientific Papers

For coordinating paper writing efforts, brainstorming topics, and identifying topic synergies a Scientific Committee has been established. The goal of the committee is to ensure that the project will deliver the 15 papers related to the project. The committee met 4 times in the past 16 months with a frequency of about three months in between. Besides brainstorming paper ideas and updating on paper progress, the committee also agreed to be a part of the Special Issue “Multi-Vector Management Systems for Energy Islands” in the open-access journal *Energies* (ISSN 1996-1073), which will be guest-edited by Joan Colomer from our partners at the University of Girona. It has been decided to send around five papers for the Special Energy Issue. The special issue’s webpage can be found here:

https://www.mdpi.com/journal/energies/special_issues/energy_islands.

A Zenodo repository for E-LAND was also created to host all the publications and datasets from the project. The repository is an open-access platform that allows researchers to deposit their papers, research, and other digital research data. The E-LAND Zenodo repository can be found here: <https://zenodo.org/communities/e-land/?page=1&size=20>.

An overview of all the Scientific publications that were published can be found below in Table 5:

Table 5 - Overview of Scientific Publications for M17-32

Type of paper	Partners involved and date published	Where was it published	Article title	Article keywords	Link
Conference paper	IFE 02-11-20	Proceedings of the 30th European Safety and Reliability Conference and the 15th Probabilistic Safety Assessment and Management Conference	Risk And Security Practices: Experiences From The E-LAND Project	E-LAND, Risk Management, Project Risk, Privacy, Product Reliability, Cybersecurity	https://www.rpsonline.com.sg/proceedings/esrel2020/pdf/5023.pdf
Conference paper	IFE 02-11-20	Proceedings of the 30th European Safety and Reliability Conference and the 15th Probabilistic Safety Assessment and Management Conference	Risk Assessment in the E-LAND Project	E-LAND, Risk assessment, Safety, Privacy and cybersecurity.	https://www.rpsonline.com.sg/proceedings/esrel2020/pdf/5072.pdf
Conference paper	IFE 02-11-20	Proceedings of the 30th European Safety and Reliability	Addressing Cybersecurity in Energy Islands	E-LAND, energy island, cybersecurity, risks, privacy, data	https://www.rpsonline.com.sg/proceedings/esrel2020/pdf/5428.pdf

		Conference and the 15th Probabilistic Safety Assessment and Management Conference		protection, system integrity	
Conference paper	RLI + SIN 15-03-20	CIREC conference proceedings	Investment planning in multi-vector energy systems: Analysis of key performance indicators	Sector coupling, sector-coupled energy systems, energy system simulation, key performance indicators, levelized cost of energy	https://zenodo.org/record/4449969
Journal paper	USG 07-12-20	Energy Research & Social Science	Unlocking the value of digitalization for the European energy transition: A typology of innovative business models	Digitalization, Business model innovation, Sustainable energy transition	https://www.sciencedirect.com/science/article/pii/S2214629620303157?via%3Dihub

2.1.6 Reports and Other Documents

The E-LAND website hosts the public reports and documents that were delivered up to date, as well as a list of all the deliverables in the project. All these can be found on the *Documents* page. Table 6 gives an overview of all the submitted and planned public documents up to date:

The current document is highlighted in red, while the already submitted documents are highlighted in grey.

The E-LAND *Documents* page: <https://elandh2020.eu/documents/>

Legend:  Deliverables that have been already delivered

 Current Deliverable

Table 6: Table of public deliverables

Work Package N°	Public Deliverable N°	Deliverable Name	Delivery Month
WP1	D1.7	Final Project Report	M42
WP2	D2.3	Communications strategy and engagement tools	M7
	D2.4	Sustained engagement plan and impact evaluation	M38
	D2.5	Final Common Impact Model	M42
WP3	D3.2	Functional and operational requirements	M8
WP4	D4.6	Visualisation software prototype	M24
	D4.7	Privacy, security and safety	M24
WP5	D5.1	Pilot and system specifications	M17
	D5.2	System communication plan	M20
	D5.3	Pilot and system implementation plan	M24
	D5.4	Pilot and system integration test plan and test report	M30
WP6	D6.2	Final Pilot Results	M41
	D6.3	Toolbox description and Replication guidelines	M48
WP7	D7.1	Market and stakeholder analysis	M12
	D7.2	Business model innovator framework	M36
	D7.4	Business models, exploitation plan and policy recommendations	M48
WP8	D8.4	First dissemination and communication report	M16
	D8.5	Second dissemination and communication report	M32
	D8.6	Dissemination and communication final report	M48

Reports on articles and other press releases M17-M32

Table 7 - Reports on other articles and press releases M17-M32

Partner Name	Date	Description	Media	Audience
SIN	20-05-20	Market development towards sector coupled energy system	SIN website	all
SIN	05-06-20	Significant E-LAND findings: Market development towards sector coupled energy system	E-LAND website	all
GECO	09-06-20	Reinventing the in-person workshop: Community engagement in the times of COVID-19	E-LAND website, Newsletter	all
CREESC	09-06-20	H2020 – the synergy perspective	E-LAND website, Newsletter	All
UVTgv, USG	09-06-20	University as an Energy Island: Achieving carbon-neutrality with the ELAND Toolbox	E-LAND website, Newsletter	All
GECO	09-06-20	The E-LAND Toolbox: The Common Impact Model	E-LAND website, Newsletter	all
GECO	09-06-20	Building a long-lasting relationship between Europe and India with green energy	E-LAND website, Newsletter	all
GECO, SIN, USG	09-06-20	The E-LAND Toolbox: The Business Model Innovator Tool	E-LAND website, Newsletter	all
SIN	11-08-20	Bryan presented EU project outcomes at Svalbard: “The challenges that are faced by the Longyearbyen community are directly related to many of our projects”	SIN website, E-LAND website	All
IFE	03-09-20	Surfer på batterirevolusjonen	Europower Energi website	all
SIN	15-10-20	Smart Innovation Norway presents E-LAND business model challenge to innovators of the future	SIN website	All
SIN	12-11-20	Post-event: EIT InnoEnergy’s Impact Challenges 2020 “The students demonstrated a strong ability to think out-of-the-box”	SIN website	All
SIN	07-12-20	Blog article: Key performance indicators for investment planning in multi-vector energy systems	SIN website	All
GECO, SIN	16-12-20	E-LAND: Four energy islands – one goal, Interview with Piloting Leader	SIN website, E-LAND website, Newsletter	All
SIN, BIKS	05-01-21	Port of Borg is investing in battery systems to ease transition to zero emissions	SIN website	All
SIN & GECO	23-02-21	The E-LAND Toolbox: Aligning ambitions and expectations in a successful two-day workshop	BRIDGE website & BRIDGE Newsletter	all

2.2 Dissemination and Communication Tools

2.2.1 Additions to the Stylebook

One update has been made to the E-LAND style book during the past 16 months. the E-LAND pilot logo has been redesigned to include an icon for the new Indian partners from Auroville.

SIN and GECO have collaborated on the re-designing and transformation of the initially designed pilot icon for the E-LAND pilots. The initial icon featured four elements, three representing the European pilots and one for the simulated pilots in India. The new icon has been re-designed into five elements to give the two simulated pilots in India their own icon. Figure 3 shows the comparison between the old and the updated pilot icon.

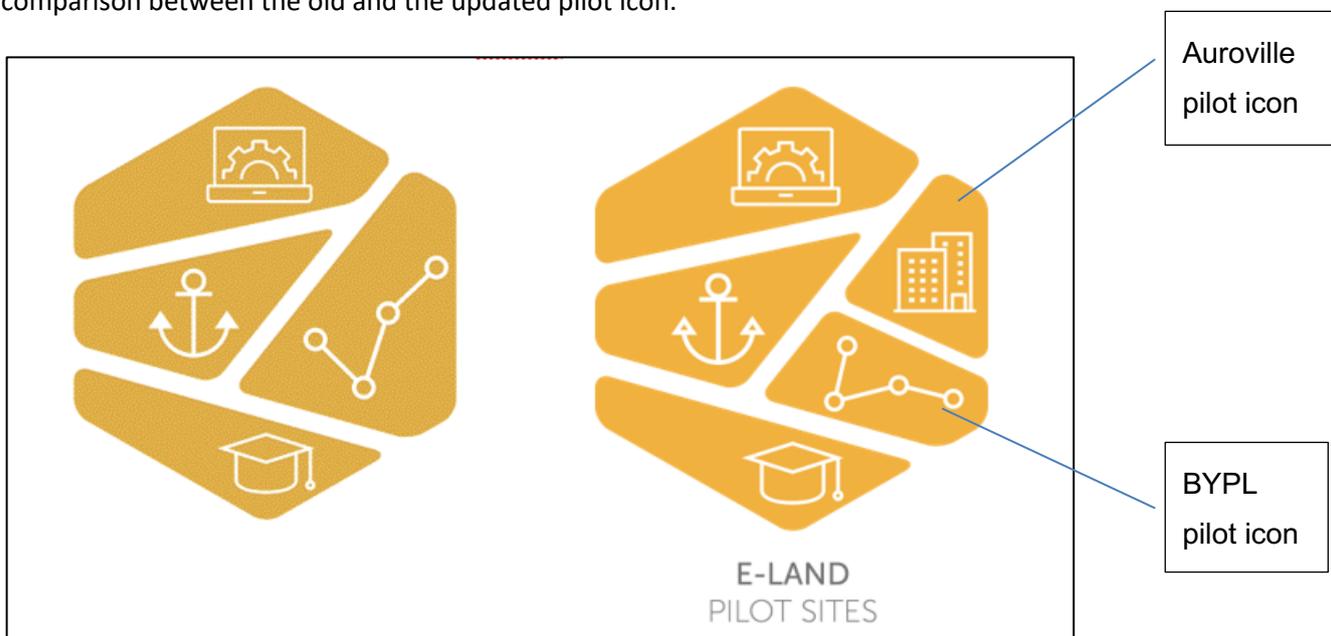


Figure 3 - Old and new pilot icons

2.2.2 Website

The website <https://elandh2020.eu/> has been utilized as a dissemination and communication tool, hosting the project's news and timeline, the deliverables, communication material and videos. Additionally, the website has been used to gather newsletter subscribers and members that want to join the stakeholder community.

The *Documents* page now hosts all the communication material, the pilot sheets and products sheets and it will also host the project sheet. The sheets are available for download on the page.

One additional page was added to the main menu and footer menu, that hosts all the project videos, webinars, and video interviews in one place, as shown below in Figure 4. This should make it easier for visitors to the website to effortlessly find the material.

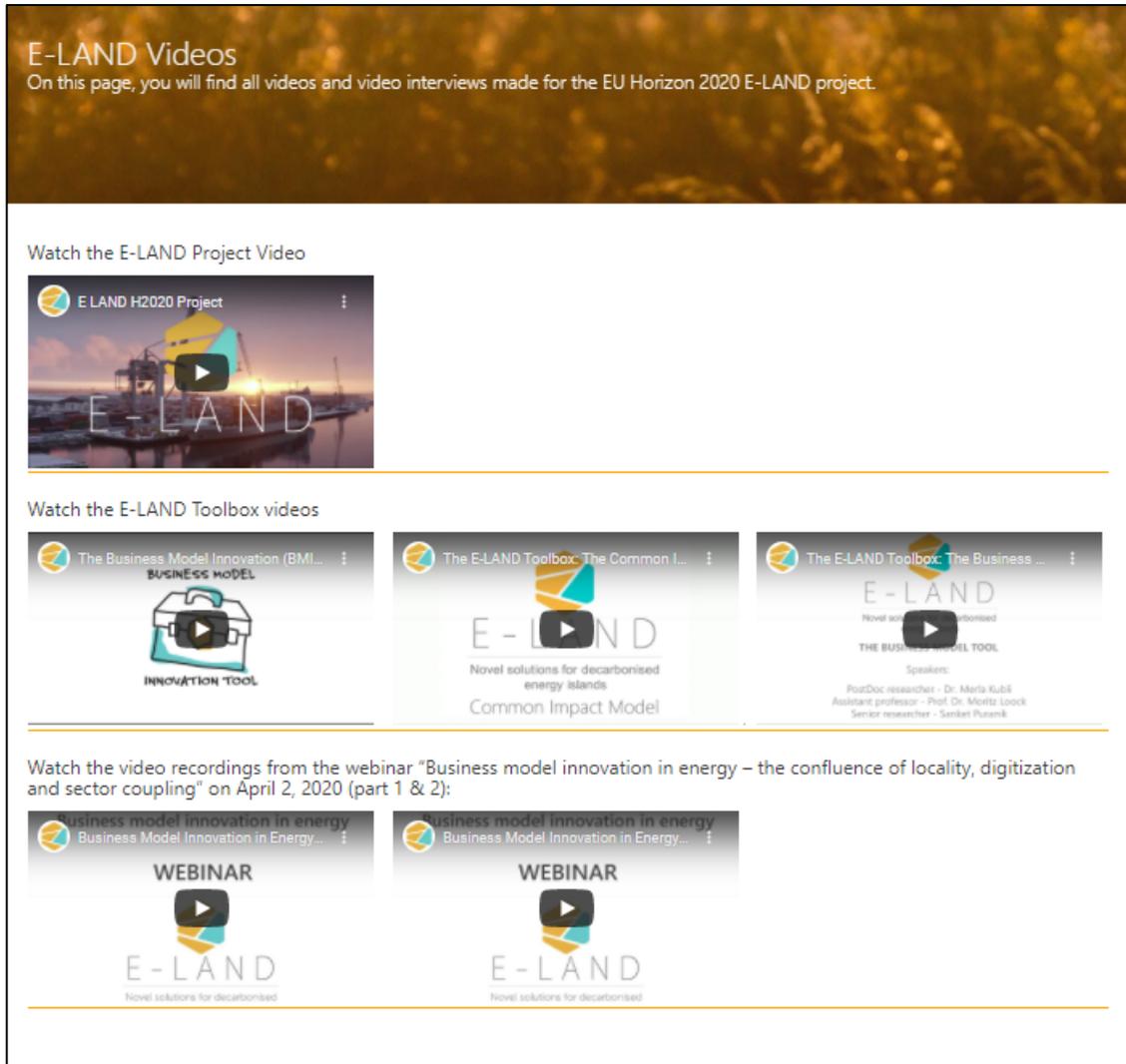


Figure 4 -E-LAND Video Page

Additionally, a community platform has been developed and launched in M31, with the goal of engaging pilot community members by creating a place for networking and knowledge sharing on the topics related to energy islanding, the E-LAND Toolbox, and E-LAND pilot activities. The online community platform has been created using the online tool Tribe and has been launched in June 2021. The platform can be found at <https://e-land-h2020.tribe.so/> and shown below in Figure 5 but the plan is to integrate it as part of the E-LAND website as seen below in Figure 6.

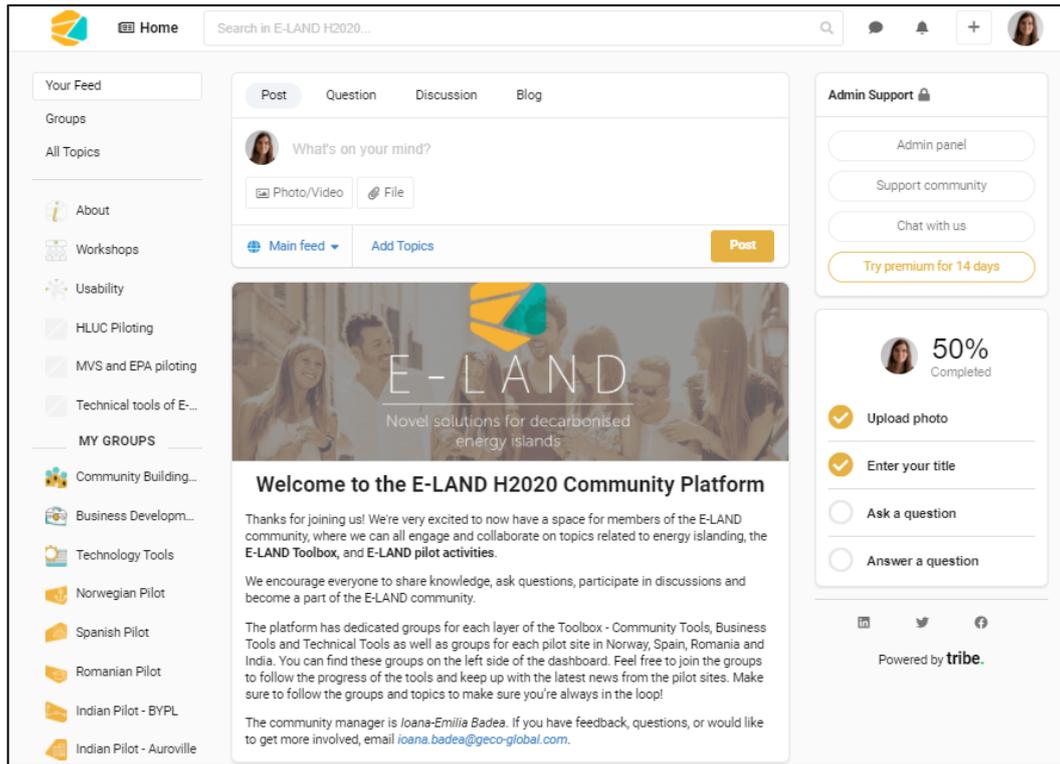


Figure 5 - E-LAND Community Platform

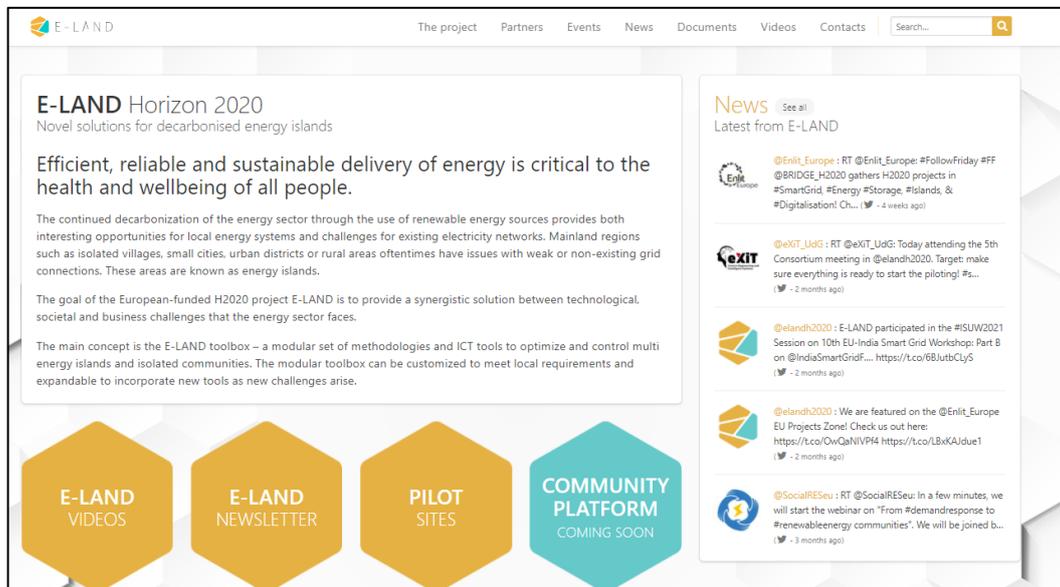


Figure 6 - E-LAND Frontpage

Table 8 below shows website data related to the number of subscribers gathered through the website, the number of SIG members and the number of news and videos hosted on the website up to date.

Table 8 - Project website data

Item	Data
Number of subscribers to the newsletter	77
Number of news items on the website	28
Number of videos on the website	6
Number of SIG members subscribed through the website	28

Additional data was retrieved from Google Analytics on the 29th of June 2021 which gives more insight into the website's performance since the beginning of the project, with a focus on these past 16 months. Website visits are the most important unit of measure and tell us how many visitors the E-LAND website had.



Figure 7 - Overview of the E-LAND website analytics M1-M31

As presented in Figure 7 looking at M1-M32, the total number of visitors to the website was 4,733 with 18,150 pageviews. The pageviews number reflects how many pages have been viewed, loaded, or reloaded in total. The number of sessions tells us how many times a visitor

has visited the website, which includes multiple visits in a period of 30 minutes. There were 7,257 sessions for the E-LAND website.

The average session duration tells us about how long a user visits the website during a session. The average session for the last 32 months was 2 minutes and 9 seconds.

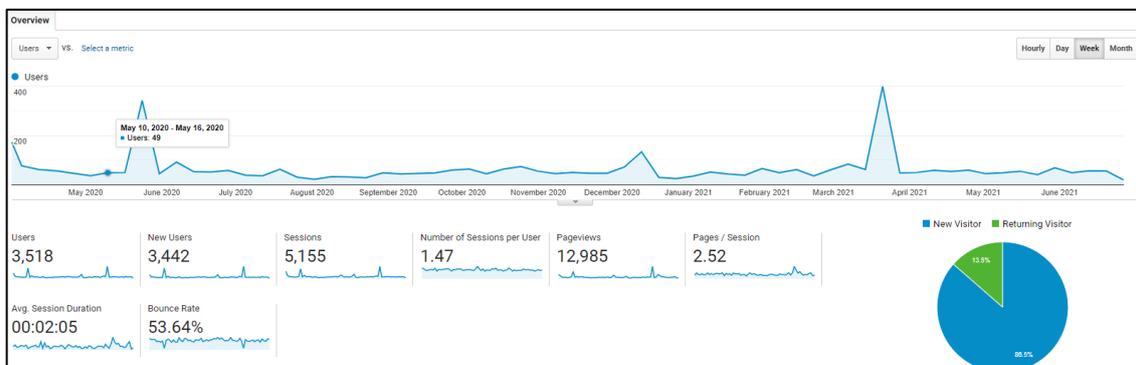


Figure 8 - Overview of the E-LAND website analytics M17-M32

As seen in Figure 8, during M17-M32 there were 3442 visits to the website with 12,985 pageviews. The average session duration was of 2 minutes and 5 seconds.

The acquisition reports in Figure 9 below show where the visitors originated from (e.g., search engines, social media, email) and gives a better overview of the communication efforts attracting visitors to the website. The majority of the visitors find their way to the E-LAND website through unpaid search results on search engines, while 26.88% through direct traffic by typing the website’s URL into a browser. 24.18% were directed to the E-LAND website from other websites and 11.37% came from social media channels.

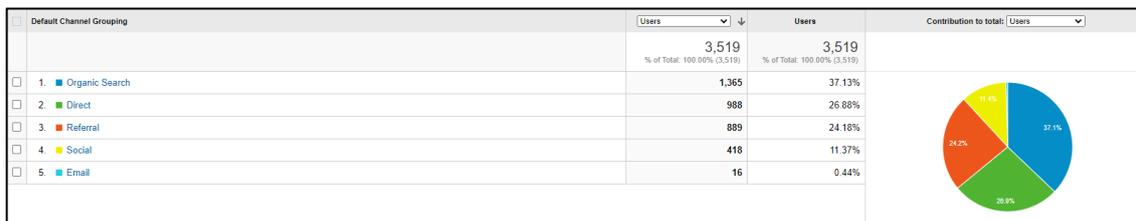


Figure 9 - Acquisition reports M17-M32

2.2.3 Social Networks and Digital Channels

Following the social media strategy established in D8.3 *Dissemination plan* and D8.4 *First dissemination and communication report*, the social media channels focused on disseminating

all the content surrounding the projects related to product updates and milestones, events, workshops and conferences, and community engagement.

The most key performance indicators to be taken into consideration are the followers, the traffic and reach. The latter two are summed up under engagements, which represent the total number of likes, comments and shares on a specific post and they are a good measure for the performance of the post.

The LinkedIn channel has been used as the main social media channel, as it is the channel where most of our target audience can be found. The most important news was highlighted here such as participation in events, news articles, and milestones about the project. The LinkedIn channel has 157 followers and can be found here: <https://www.linkedin.com/company/e-land-h2020-project>. There have been 16 updates posted up to M32.

Figure 10 below gives an overview of the location of where the LinkedIn followers come from, with the primary audience from Europe, followed by India.

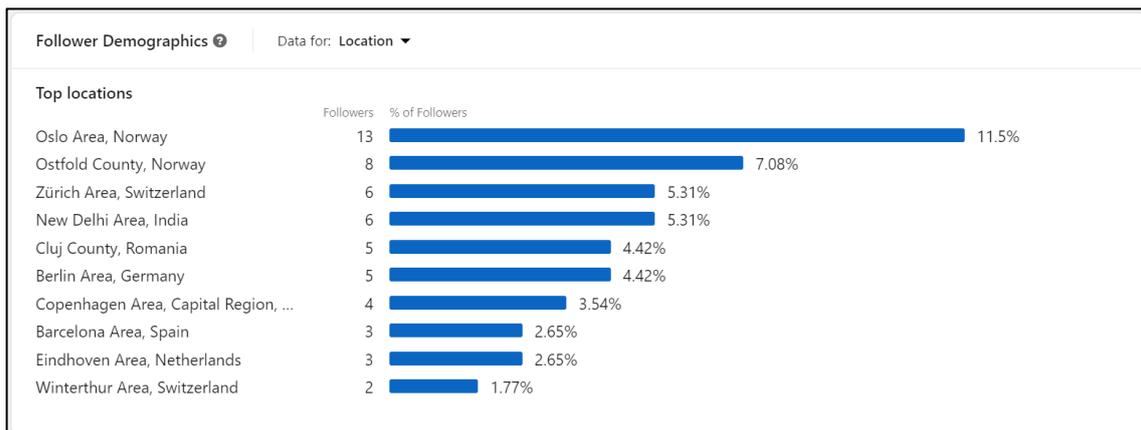


Figure 10 - Follower Demographics LinkedIn

The Facebook page has been used as a support tool for LinkedIn where similar content has been shared, surrounding the projects events and milestones. The Facebook page has 123 followers and 99 page likes. The page can be found here: <https://www.facebook.com/elandh2020/>. The page had 19 posts up to M32, with 401 engagements.

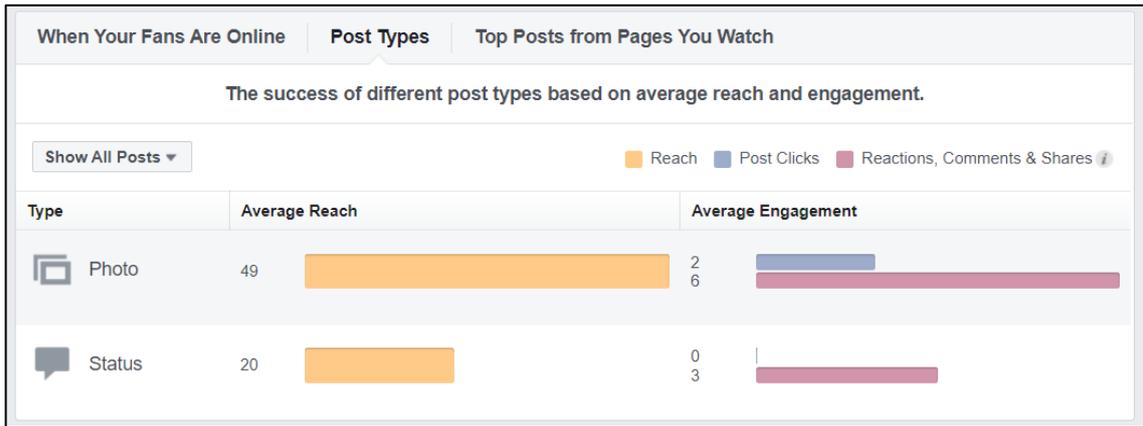


Figure 11 - Post types with the most success on Facebook

Twitter has a limited number of characters as compared to other social media, so this channel has been used to share in real-time, quick updates. One of Twitter’s main functions is to reach a larger number of people in a shorter period. The Twitter page has 178 followers and can be found here: <https://twitter.com/elandh2020>. There have been 27 tweets & re-tweets up to M29 with 292 engagements. The data in Figure 12 below were retrieved using the social media tool TweetStats⁵ and shows an overview of the tweet’s frequency since the beginning of the project. The x-axis shows the months during which the tweets were sent and while the y-axis shows the frequency of tweets. Each month has a different color for better differentiation between each month.

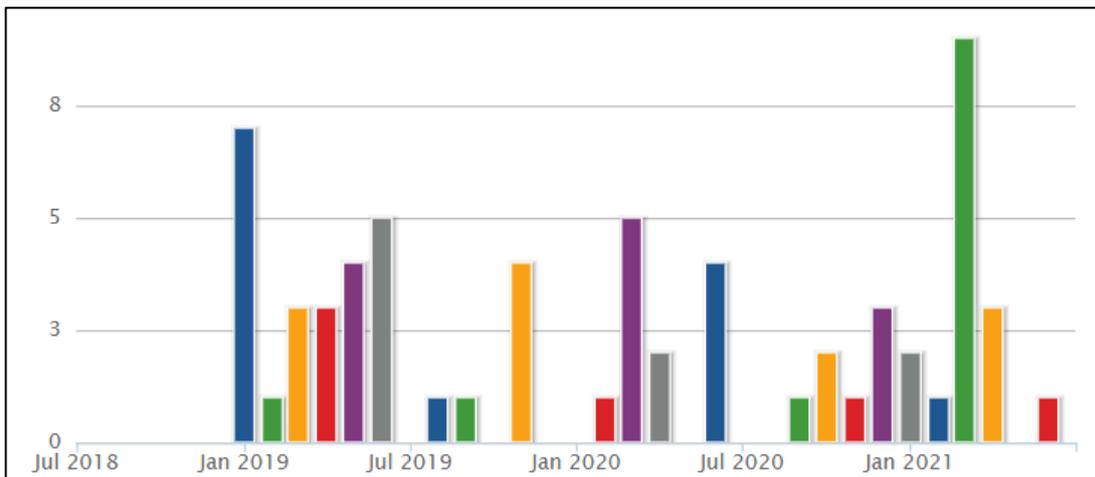


Figure 12 - Overall Frequency of Tweets

⁵ <http://www.tweetstats.com/graphs/elandh2020>

The E-LAND YouTube channel has been used to host the E-LAND video interviews, webinars, project videos and product videos. The YouTube channel has 6 subscribers with and 714 cumulated views to date.

Besides the E-LAND social media channels, it's also worth mentioning the joint effort on the communication and dissemination made by all the project partners on the private or company accounts, by sharing, re-tweeting or interacting with any content on E-LAND social media, which has helped increase the reach and visibility of the project. This also attracted new visitors to the E-LAND website.

An additional digital channel in the form of a community platform has been created and presented in detail in the previous chapter.

2.2.4 Newsletters

The E-LAND e-newsletter has 77 subscribers in total. Two newsletters were sent up to M16, with a third E-LAND newsletter⁶ sent in M19 with a focus on The Community Engagement and Business Modelling Tools. The newsletter had six articles and was sent to 72 recipients with a 97,2% rate of successful deliveries and a total open of 79. Newsletter #3 can be found in Appendix 7.1.

Successful deliveries	70	97.2%	Clicks per unique opens	25.9%	
Total opens	79		Total clicks	14	
Last opened	4/28/21	12:03PM	Last clicked	6/14/20	3:09PM
Forwarded	0		Abuse reports	0	

Figure 13 - Newsletter #3 Overview

A mini newsletter *News from the E-LAND project #1*⁷ was sent out in December 2020 focusing on the piloting to happen in 2021. The newsletter contained one article interview with Farhan Farrukh, the Piloting Leader for the project. The article also shared the visual representation of the E-LAND project, together with the E-LAND Project Video. The mini newsletter #1 can be found in Appendix 7.2.

⁶ <https://us3.campaign-archive.com/?u=939d9fa6e6e6d293ae384da1f&id=91350901b9>

⁷ <https://us3.campaign-archive.com/?u=939d9fa6e6e6d293ae384da1f&id=d5e64bd746>

Successful deliveries	71	95.9%	Clicks per unique opens	12.0%	
Total opens	64		Total clicks	3	
Last opened	3/5/21	4:30AM	Last clicked	12/18/20	4:00PM
Forwarded	0		Abuse reports	0	

Figure 14 - News from the E-LAND project #1

A second mini newsletter *News from the E-LAND project #2*⁸ has been shared with the newsletter recipients and the SIG members in May 2021. The focus was on the Business Model Innovation Tool Product sheet and animated video. The mini-newsletter #2 can be found in Appendix 7.3.

Successful deliveries	70	93.3%	Clicks per unique opens	37.5%	
Total opens	145		Total clicks	28	
Last opened	6/14/21	8:45AM	Last clicked	6/14/21	8:45AM
Forwarded	0		Abuse reports	0	

Figure 15 - News from the E-LAND project #2

2.2.5 Press Releases

Table 9 reports on the press releases produced during the current reporting period. As stated in D8.4, the larger-scale press releases for the project will be aligned with the beginning of the piloting period (M31-M36).

Table 9 - Other press releases

Partner Name	Date	Description	Media	Type of Audience
UVTgv	02-04-20	Website, Twitter and YouTube updates: First meeting of the stakeholder innovation group under E-Land framework	http://www.icstm.ro	Scientific community, Industry, Policymakers, Media, General Public
UVTgv	15-04-20	Website update: Integrated sustainable solutions for energy prosumers	http://www.icstm.ro	Scientific community, Industry, Civil society, Policymakers, Media, General Public, Investors
UVTgv	15-04-20	Website update: Sustainable energy islands - research for innovative solutions in the E-Land projects	http://www.icstm.ro	

⁸ <https://us3.campaign-archive.com/?u=939d9fa6e6e6d293ae384da1f&id=7d2ec75319>

CREESC	09-06-20	H2020 – the synergy perspective (E-LAND Newsletter 3)		Industry, Media, General Public, Other
--------	----------	-------------------------------------------------------	--	----------------------------------------

2.2.6 Product Sheets and Pilot Sheets

To better engage the audience and easily communicate the selling points of the tools in the E-LAND Toolbox we created a series of product sheets for each of the E-LAND tools. The sheets have been developed for the three layers for the Toolbox, the community building tools, the business development tools and the technology tools. The sheets are meant to give a high-level visual presentation of the main selling points of the tools. The sheets can be found below:

Figure 16 - Common Impact Model Product Sheet

Decarbonize your business model and always stay ahead in the energy transition

Future business models in the energy sector revolve around multi-energy systems, use the potential of storage in heating and mobility demand and build on the power of communities. Companies performing innovations in their business models are likely to be the 'game changers' in the future energy systems.

For low-carbon energy communities to spread widely, well-functioning business models are absolutely vital. To support energy community managers in developing business models that are tailored to the local circumstances and un-lock their potential, we offer the E-LAND Business Model Innovation (BMI) tool.

The Business Model Innovation for energy communities
Business model innovation is often supported by a pattern approach. Patterns are key building blocks that can be combined to form a complete business model. The E-LAND BMI tool provides a package of patterns that proved to be successful. The framework provided in the tool guides you to combine the patterns and tailor them to the local context. Insights from the E-LAND pilot sites are incorporated into the tool and offer best-practice for key players.

Key Benefits

- Allows companies to be agile, modify business model rapidly and react to changing local market needs.
- 25 business model patterns dedicated for energy communities under multi-vector setting.
- Manage the value network in the energy community
- Develop strategies to initiate and reinforce network effects
- Supports new market entrants to launch new offers in the energy market with robust business models.

Reasons to get engaged

- Create and test innovative business model for local energy system in a guided process.
- Get inspired from successful business models from pioneers and related domains.
- Un-lock the power of the community to decarbonize your energy needs.
- Learn from the E-LAND pilot sites and their unique set-ups.

Requirements
Access to tool in the form of documents and/or dedicated interactive.

Support
Training to use tool through workshops and webinars

E-LAND

This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388. The information and views set out in this sheet are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting in their behalf may be held responsible for the use which may be made of the information contained therein.

Figure 17 - Business Model Innovation Product Sheet

Forecast your consumption and generation to maximize your benefit

2020
2019

ENERGY FORECASTER

The Energy Forecaster tool provides hourly forecasting of electrical/loads and Photovoltaic/wind generation. Two forecasting horizons are provided: intra-day and day-ahead. Forecasts are based on weather data, characteristics of generation assets, and contextual information. Occupancy also can be considered as an input for forecasting. The application is fully integrable in the Energy Management System.

KEY FEATURES	KEY BENEFITS	REASONS TO GET ENGAGED
<ul style="list-style-type: none"> Production/consumption forecasting Day-ahead forecasting: hourly forecasting of the next day. Intra-day forecasting: hourly forecasting of the remain of the day. 	<ul style="list-style-type: none"> Estimation of the expected generation/consumption in different time horizons. The tool can be exploited separately (for example, detection of faulty/non normal consumption behaviours) or together with Optimal Scheduler tool (provides information needed by OS) 	<ul style="list-style-type: none"> Estimate your costs based on your expected production/consumption. More efficient management of your local energy system.

Renewable sources of energy, such Photovoltaic or wind generation, are intermittent. In order to maximize the use of the energy they can generate, consumed or stored, it is needed to estimate the expected generation and the expected consumption. The Energy Forecaster provides the tool to forecast both generation and consumption.

Target audience: Local energy system operators, aggregators, DSO operators, facility and energy management.

- The tool provides forecasting for different energy vectors: electrical and thermal loads; Photovoltaic and wind generation.
- Data provided to the Energy Forecaster tool are first pre-processed by the Data Pre-Processing Application tool in order to ensure their quality.
- Forecasting results are provided to the Optimal Scheduler tool in order

elandh2020.eu

Interested in our Energy Forecaster Tool?
You can reach out to:
Sergio Herranz
Universitat de Girona
sergio.herranz@udg.edu

UdG

This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388. The information and views set out in this sheet are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting in their behalf may be held responsible for the use which may be made of the information contained therein.

Figure 18 - Energy Forecaster Product Sheet

Optimize the use of your distributed assets to maximize your benefit

The Optimal Scheduler tool provides an hourly scheduling of storage (when store or consume) and controllable assets (when switch on/off) in order to maximize the use of renewable energy resources. It is based on the forecast production/consumption in the Local Energy System (LES). The application is fully integrable in the Energy Management System.

Target audience: Local energy system operators, aggregators, facility and energy management.

OPTIMAL SCHEDULER

The Optimal Scheduler module provides the scheduling of operating points of available storage units and flexible loads (that can be rescheduled) that optimize the use of local renewable energy sources.

Multi-vector energy is considered, including vector energy transformations.

Product Highlights

- Optimal scheduling of multi-vector energy assets
- Day-ahead and intra-day hourly scheduling

Requirements/Expectations

- State of operation (storage, Building Energy Management System, indoor conditions)
- Controlling assets (storage, loads) available
- Energy costs available
- Weather data available

elandh2020.eu

KEY FEATURES	KEY BENEFITS	REASONS TO GET ENGAGED
<ul style="list-style-type: none"> Innovative and intelligent algorithms Optimal Schedule thermal and electrical storage Shift loads Storing excess of generation in thermal network Optimal management of electric vehicles 	<ul style="list-style-type: none"> Balance different forms of supplies (renewables, conventional sources and direct imports from the main grid) Use energy storage devices to temporarily store the surplus energy Take profit of curtailable or reschedulable loads Optimize the time for purchasing electricity from or selling excess electricity back to the eligible energy markets. 	<ul style="list-style-type: none"> Decision tool that improves the use of renewable resources: CO2 reduction, costs reduction.

Interested in our Optimal Scheduler Tool?
 You can reach out to:
 Sergio Herráiz
 Universitat de Girona
 sergio.herraz@udg.edu

This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388

The information and views set out in this sheet are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institution and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

Figure 19 - Optimal Scheduler Product Sheet

Ensure your gathered data have the best quality to take profit of them

Target audience: Local energy system operators and facility/energy management.

Since gathered data in Local Energy System may have some issues related to their quality (such as missing/outliers values) or may exist the necessity to change their granularity depending on the use will be made of them (re-sampling), Data Pre-Processing Application (DPA) performs the needed pre-processing to ensure that measured data may be used by other tools. Additionally, DPA can calculate energy profiles that can may be used for planning.

DATA PRE-PROCESSING APPLICATION

The Data Pre-Processing Application is a tool that detects/corrects missing, corrupt or inaccurate (outliers) data, re-samples them, if needed, and gets energy load profiles (daily, weekly). This is a necessity to exploit these information by other tools (forecasting, optimization, planning).

Product Highlights

- Ensure that gathered data have the best quality detecting and correcting inaccurate/missing records so they can be exploited by the Energy Forecaster tool.
- Energy profiles provided by Data Pre-Processing Application tool may be used by the Multi-Vector Simulator tool.

elandh2020.eu

KEY FEATURES	KEY BENEFITS	REASONS TO BE ENGAGED
<ul style="list-style-type: none"> Outliers detection Missing values/outliers - data imputation Re-sampling Energy profiling 	<p>KEY BENEFITS</p> <p>Guarantee that the metered data in the LES can be used in E-LAND toolbox although there exist some problems with their quality or the metering configuration does not fit with the requirements of other tools.</p>	<p>REASONS TO BE ENGAGED</p> <p>There is not a direct profit from this tool but it guarantees that other tools may work more accurately and final results may be more accurate.</p>

Interested in our Data Pre-Processing Application Tool?
 You can reach out to:
 Sergio Herráiz
 Universitat de Girona
 sergio.herraz@udg.edu

This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388

The information and views set out in this sheet are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institution and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

Figure 20 - Data Pre-processing Application Product Sheet

Multi-vector simulator: Planning the energy supply system of the future

Target group:

- Energy system planners employed at the end-user site
- Energy system planners for consulting
- Research
- NGOs for green transition

Decentral renewable technologies promise sustainable energy supply for local energy system operators. Thus, it becomes increasingly attractive to invest into more **self-supply and autonomy** while reducing the consumption from the central grid. Both can be supported by implementing **sector-coupled energy systems**. To determine **optimal investment options** into power generation and storage assets, a simulation tool is needed to solve complex optimization tasks.

To address these needs, the **Multi-Vector Simulator (MVS)** was developed. It allows users to define their personal multi-vector energy systems with a **couple of input files**, and then performs an optimization of the energy system. This results in the **optimal capacities and dispatch** at that project site as well as other **economical and technical performance evaluation**. The MVS is an **open-source (GPLv2) python tool** based on the Open Energy Modelling Framework (oemof). The Energy Planning Application provides a graphical user interface for the MVS.

Effective Technologies for Business Success:

Investment decisions towards an energy-island

REQUIREMENTS

Basic Energy planning knowledge ✓	Data describing local energy systems Demand profiles Current generation capacities Energy supply costs	Data describing future potential investments Asset Type Technical parameters or expected performance data Investment and operation costs
---------------------------------------------	------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------

The Multi-Vector Simulator

The Multi-Vector Simulator (MVS) is an investment planning tool for the **optimization of multi-vector local energy systems**. The sector-coupled energy systems may include the energy carriers electricity, heat, gas or others. The energy system assets as well as their topology can be defined using a number of csv files, which allows for high adaptability.

Provided with all **simulation inputs**, i.e. technological, cost and timeseries data, the energy system then can be optimized. The objective is to **minimize the annual energy supply costs** of the system with an by optimizing the each asset's capacity and dispatch. Finally, an evaluation of the technical and **economical performance** of the optimal system is performed.

Interested in our Multi-Vector Simulator Tool? You can join our community platform and find out more: <https://e-land-h2020.tribe.so/>

Figure 21 - Multi-vector simulator Product Sheet

Energy Planning Application: Planning the energy supply system of the future

Target group:

- Energy system planners employed at the end user site
- Energy system planners for consulting
- NGOs for green transition

Decentral renewable technologies promise sustainable energy supply for local energy system operators. Thus, it becomes increasingly attractive to invest into more **self-supply and autonomy**, reducing the energy inflows from central grids. Both can be supported by implementing **sector-coupled energy systems**. To determine **optimal investment options** into power generation and storage assets, a tool is needed to guide the user in modelling the future representation of the system, solve complex optimization tasks and facilitate the analysis of different investment scenarios.

To address these needs, the **Energy Planning Application (EPA)** was developed by Intracom Telecom. It allows end-users to define their energy systems via a **graphical user interface**, which guides the user through system design, data input, simulation and analysis of optimization results, which include **optimal capacities and dispatch plan of assets** at that project site, among others **economical and technical information**. The Multi-Vector Simulator (MVS), an open-source optimization tool developed by the Reiner Lemoine Institute, serves as its backbone.

Effective Technologies for Business Success:

Investment decisions towards an efficient energy-island

REQUIREMENTS

Basic Energy planning knowledge ✓	Data describing local energy systems Demand profiles Current generation capacities Energy supply costs	Data describing future potential investments Asset Type Technical parameters or expected performance data Investment and operation costs
---------------------------------------------	------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------

The Energy Planning Application

The Energy Planning Application (EPA) provides an intuitive **user interface** for the **optimization of multi-vector local energy systems**. The sector-coupled energy systems may include the energy carriers electricity, heat, gas or others. The energy system assets as well as their topology can be defined in an interactive **drag-and-drop interface**. Provided with all **simulation inputs**, namely technological, cost and timeseries data, the energy system then can be optimized. The objective is to **minimize the annual energy supply costs** of the system by optimizing each asset's capacity and dispatch. Finally, an evaluation of the technical and **economical performance** of the optimal system is performed and **visualised** in the user interface.

Interested in our Energy Planning Application Tool? You can join our community platform and find out more: <https://e-land-h2020.tribe.so/>

Figure 22 - Energy Planning Application Product Sheet

Four Product Sheets on Privacy, Cyber Security, Risk, and Risk management have also been developed. They are presented below in Figures 23, 24, 25 and 26.

Addressing Privacy Issues

E-LAND

Monitoring energy usage is essential to optimize and plan future usage. However, monitoring may capture information about individuals and impose on their right to privacy. Here are a few things to consider when planning and implementing the E-LAND toolbox.

Data collection: Even if a very few amount of data are collected or used in an area or by an equipment, the combination of this knowledge with energy usage patterns could tell you when someone arrives and which devices they are using. For instance, a specific office or electrical car charger stations.

Anonymization: Consider granularity needed for the purpose. Aggregations and groupings can make it harder to identify individuals. For instance grouping measurements in time intervals instead of timestamps, or group measurements from equipment or assets.

Cyber security: Outsiders could gain access to data and system settings through the network. Even if systems are not connected to the internet, weaknesses in an organization's network can be used as an entry point. Ensure proper security measures are taken to protect the organization's logical infrastructure.

Physical security: The system also need to be protected from physical threats. Ensure that outsiders can not access and manipulate components. Internals may also be a threat by unintentionally moving equipment, changing configurations, etc.

Compliance: Perform the proper assessments to ensure compliance with privacy laws, GDPR being one of the major policies in EU. Reassess the privacy. Changes are made both in systems and in organization. Consider if these changes require reassessments.

What is personal data?
Personal data are any information relating to an individual or that make identification of an individual possible by combining several sources.

More information on our websites: <https://elandh2020.eu> and <https://ife.no/prosjekt/e-land-horizon-2020-2/>

This project have received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388.
The information and views set out in this sheet are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institution and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

Figure 23 - Privacy Sheet

Addressing Cybersecurity in E-LAND

E-LAND

Cybersecurity is about balancing technical infrastructure and assets risks with business needs and protecting data from information disclosure.

The need to better understand the impact of choices and solutions with regards to digital risks has become more and more important. Addressing cybersecurity risks in energy islands is about balancing technical infrastructure and assets risks with business needs and protecting data from information disclosure and intentional harm.

Introducing new functionality, like the E-LAND toolbox to existing systems may introduce new vulnerabilities or weaknesses. Therefore risk assessment is performed to eliminate or reduce these risks. How have cyber risks been assessed in E-LAND?

First, an asset identification is performed: the information and assets are listed and analyzed for their confidentiality, integrity and accessibility.

Risk evaluation identifies the assets that are the most critical and provides priority for which cyber risks should be addressed first. In the E-Land project we started addressing cyber risks as early as in the conceptual stage by systematically evaluation high-level use cases.

The results of the analysis is a list of mitigations that propose solutions to reduce the risk and make the solution safer and reliable.

Communicating these aspects early is enabling all partners to have a focus on cyber risks throughout the E-LAND delivery product.

How to be sure that cyber risks are addressed in the E-LAND solution?
Addressing cybersecurity from the very beginning of a project is important to ensure that security be at the center of considerations. By addressing cyber risks from the design phase of the project, high-level requirements can be identified early and be used to involve all partners to ensure that cyber security is given a high priority throughout the project.

More information on our websites: <https://elandh2020.eu> and <https://ife.no/prosjekt/e-land-horizon-2020-2/>

This project have received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388.
The information and views set out in this sheet are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institution and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

Figure 24 - CyberSecurity Sheet



An overview of our energy toolbox

E-LAND is developing a toolbox that provides an optimized schedule that enables the users to manage their energy needs in the most efficient way, at the lowest costs and with the least possible risks. This is what you need to know to connect the E-LAND toolbox to your existing infrastructure.

Risk management has been performed from the early stages of the project. The risk assessment has studied High Level uses cases defined by the project, to cover the maximum possibility and interaction within the toolbox and with the connected environment.

The risk assessment has identified risks pertaining to the solution and issued a risk register. This document is listing risks relevant to security, safety and data privacy, and evaluates the probability and the frequency for each risk.

To help the future users doing through the risk study, the project has assigned three pilot sites, where the toolbox will be implemented and tested into different business environments, climate, European legislations, to cover most of concerns and the users' possibilities.

The experience from the pilot site will guide future users through potential risk faced during toolbox implementation.

Documentation regarding the risk assessment, the risk register and the implementation test will describe different process for each risk and step to ensure that the solution is secure, safe, and reliable for your site.

What type of information is available for the future users to assess the risk?
 A technical description of the solution, comprehensive business cases and the risk management have been described in several reports publicly available. Additionally, several flyers are available describing the overall risk assessment process and activities to communicate how to better understand and how to best inform on Data privacy or warn Cyber risks.

More information on our websites: <https://elandh2020.eu> and <https://ife.no/prosjekt/e-land-horizon-2020-2/>

This project have received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388.
 The information and views set out in this sheet are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institution and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

Figure 25 - Risk Sheet



Risk Management in E-LAND

Efficient, reliable and sustainable delivery of energy is critical to the health and well being of all people.

E-LAND delivers an optimized schedule that allows the energy islands to manage energy according to their need. The energy islands are thus responsible for equipment and infrastructures. How can the Risk Management help them?

Internal and external factors that can impact the quality of the project and the final product are specifically addressed.

The project defines risk management as the process of identifying, analyzing, and then responding to any risk that arises over the life cycle of a project. These requirements may not cover all scenarios caused by unwanted and unexpected incidents. These gaps are addressed through the technical risk assessment.

The Risk Management handles risks for the project and the final product. The risk regarding safety, security and privacy as well as cyber risks have been assessed through the following steps:

- Studying high-level Use Cases and business model,
- Knowledge on relevant standards and guidelines,
- Providing a list of mitigations and technical specifications,
- Support in analysis and decisions making,
- Following the implementation of the solution.

Why risk management is achieved?
 Risk management is important to ensure that the concept, the solution, and the application to be delivered in E-LAND are safe, secure, and reliable for the users.

More information on our websites: <https://elandh2020.eu> and <https://ife.no/prosjekt/e-land-horizon-2020-2/>

This project have received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388.
 The information and views set out in this sheet are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institution and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

Figure 26 - Risk Management Sheet

Additionally, a series of Pilot Sheets were created for the European Pilots, with a focus on their goals, vision, and impact. The sheets are intended to be shared digitally and when possible, in print. Two additional sheets are in the work for the Indian simulated pilots. The Pilot Sheet for Norway can be seen below in Figure 27.



Figure 27 - Norway Pilot Sheet

One project sheet that covers the entire project is in the works. The project sheet will give a general idea of the project's goals and pilots together with an overview of the E-LAND toolbox.

2.2.7 Project Video

Due to the travel and in-person meeting restrictions related to COVID-19, the original E-LAND video plan of three modular videos with a (1) project teaser, a (2) pilot show and tell, and (3) project results, outlook and impact, has evolved into one singular E-LAND trailer video presenting the project and the three European pilots and the two simulated Indian pilots. The video has a duration of 2 minutes and 57 seconds and 283 views on the E-LAND YouTube channel.

The E-LAND video trailer will be accompanied by a series of additional videos focusing on each of the E-LAND Tools. Two video interviews on the Common Impact Model tool and Business Model Innovation tool have been created by GECO. The videos were shared on the YouTube channel and accumulated 61 and 58 views. An animated video focusing on the Business Model Innovation tool was created by SIN and shared on our channels in M27. The video is uploaded on the E-LAND YouTube channel and has accumulated 126 views so far.

2.2.8 Conference Posters

On 22-23rd of September RLI, SIN and Inycom, have presented the poster *Investment planning in multi-vector energy systems: Definition of key performance indicators* at CIRED 2020, the International Conference and Exhibition on Electricity Distribution.

The poster can be seen below in Figure 28 and also on the E-LAND open access repository Zenodo:

https://zenodo.org/record/4449969/files/2020_08_24_Hoffmann_ELAND_CIRED_2020_poster.pdf?download=1

Additionally, RLI has recorded a video on the poster that can be viewed here:

https://www.youtube.com/watch?v=bUS97mPK1Dk&ab_channel=ReinerLemoineInstitut



Investment planning in multi-vector energy systems: Definition of key performance indicators

(0335)

Martha M. Hoffmann RLI, Germany **Sanket Puranik** SIN, Norway **Marc Juanpera** UPC, Spain **José M Martín-Rapún** Inycom, Spain **Heidi Tuiskula** SIN, Norway **Philipp Blechinger** RLI, Germany

Introduction

The concept of sector coupling promises to provide flexibility for rising renewable shares. A strong metric is needed to determine the viability and economic feasibility of different sector-coupled energy systems. A direct translation of key performance indicators (KPI) commonly used for single-vector systems is not always possible. The KPI proposed have been developed based on a stakeholder workshop within the H2020 research project E-Land.

Stakeholder questions

How high are the upfront investment costs of the energy system?

$$NPC = \sum c_i + \sum \frac{CF_i(t)}{CRF(t)}$$

How much CO2 does our company emit with the new system?

$$CO2\ Emissions = \sum E_{generation}(i) \cdot CO2_{eq}(i)$$

How costly is the energy system per energy unit (electricity, heat, etc)?

$$LCOEnergy = \frac{NPC \cdot CRF(T)}{\sum_i E_{demand}(i) \cdot w_i} \text{ with } i \in \{Electricity, H2, \dots\}$$

Proposal: Weighting of energy carriers

A multi-vector energy system can have energy carriers of different usable potential, e.g. electricity and H2. To be able to derive KPI that use the whole system as a reference (LCOE, renewable share...), we propose a weighting of the energy carriers by their energy content. The reference unit is defined as *Electricity Equivalent* (EIEq), in reference to the commonly used of gasoline gallon equivalent (GGE).

How high is the renewable share of the system?

$$REF = \frac{\sum_i E_{RES,generation}(i) \cdot w_i}{\sum_j E_{generation}(j) \cdot w_j + \sum_k E_{grid}(k) \cdot w_k}$$

How independent can the system operate from the DSO?

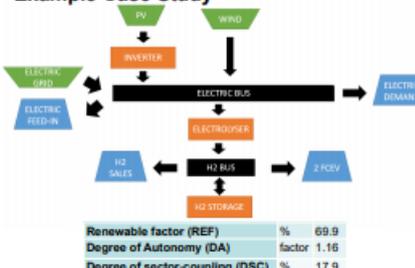
$$DA = \frac{\sum_i E_{generation}(i) \cdot w_i}{\sum_i E_{demand}(i) \cdot w_i} \text{ with } i \in \{Electricity, H2, \dots\}$$

How much is sector coupling integrated into the system?

$$DSC = \frac{\sum_{i,j} E_{conversion}(i,j) \cdot w_i}{\sum_i E_{demand}(i) \cdot w_i}$$

Existing KPI Adapted to sector-coupled systems

Example Case Study



Renewable factor (REF)	%	69.9
Degree of Autonomy (DA)	factor	1.16
Degree of sector-coupling (DSC)	%	17.9

Acknowledgment: This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388. Disclaimer: The information and views set out in this poster are those of the author(s) and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained herein.

CIRED 2020 Berlin Workshop Poster Session – paper no. 0335 – session no. 1

Figure 28 - CIRED 2020 Poster Presentation

2.2.9 Webinars

Due to the ongoing COVID-19 pandemic, what was originally planned as the REMforum conference turned into an online webinar on *Business Model Innovation in Energy – The confluence of locality, digitization, and sector coupling*. The webinar focused on the

interconnectedness of energy sectors, technology solutions, and energy communities, as well as how these dynamics influence the development of sustainable business models.

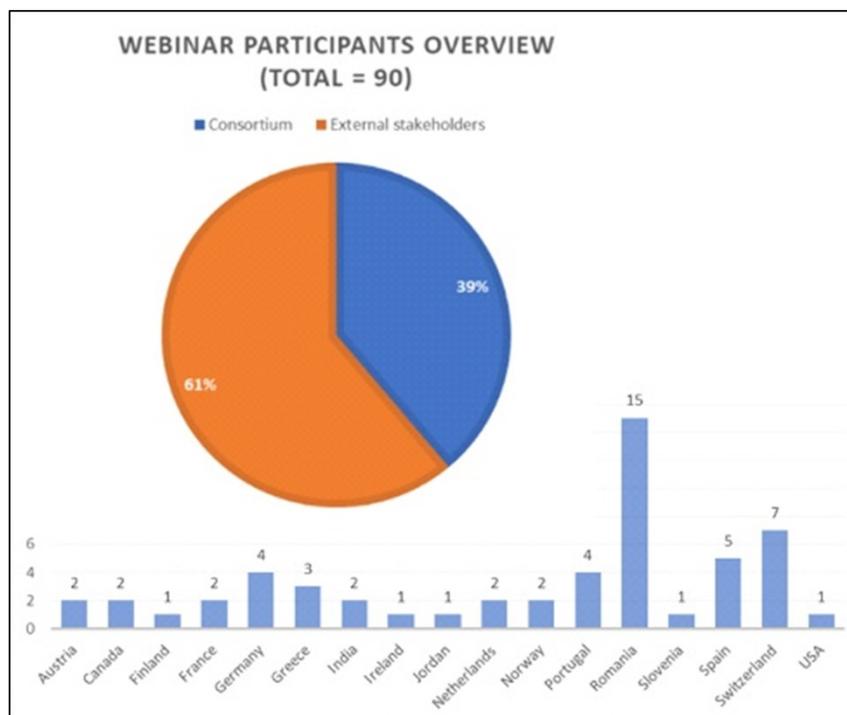


Figure 29 - Webinar Participants Overview

The webinar had 90 participants from different countries around Europe and some participants from India. The webinar was recorded and can be found here:

<https://elandh2020.eu/videos/>.

3 Update on Effectiveness of Dissemination and Communication Activities

3.1 Update on communication and engagement KPIs

Table 10 - Project dissemination targets

Target description	Target goal	Target value as of M29
--------------------	-------------	------------------------

Number of stakeholders engaged in collaboration actions	30	101
Percentage of community members involved (bringing together stakeholders from different areas to collaborate)	70 %	92 %
Number of stakeholders reached	200	6005
Number of people reached through social media	2000	2958

In order to find out the number of stakeholders engaged, we tallied the number of stakeholders that were met and interacted with during site visits. During the last period, it wasn't possible to meet with anyone face to face, but we managed to meet with community members (remotely) during the MVS/EPA workshops. It is important to mention that the overall goal for this target has been already met.

The percentage of community members involved was calculated by comparing the number of stakeholders described in D8.3 to the number that were engaged by M32.

The number of stakeholders reached was calculated by summing up all the numbers from all the communication channels used to reach the stakeholders (N° of unique users on the website, N° of eNewsletter subscribers, N° of Twitter followers, N° of Facebook subscribers, N° of LinkedIn subscribers, and the N° of stakeholders engaged in collaboration actions) together with the number of stakeholders reached via events and publications. This target has been reached.

The result of the number of people reached through social media comes from summing up the subscribers of LinkedIn and Facebook together with the number of engagements on the channels. It is safe to say that this target has been met.

3.2 KPI Analysis

The table below has been developed in D8.3 and updated in D8.4. Below there is an update from D8.4 and a comparison to the new reporting period for M17-M32.

Table 11 - Dissemination KPI's

Dissemination activities	KPI	Status period M32	Shift since last period
Project website	N° of sessions	6736	+5571
	N° of unique users	4369	+3559
	N° of pageviews	16,857	+13747
eNewsletter	N° of newsletter subscriptions through the website	77	+8
	N° of eNewsletters sent	5	+3
	N° of subscribers (outside consortium)	28	+19
	Open-rate	52,1%	+2,75%
Events	N° of events with the E-LAND active presence	28	+23
	N° of events with E-LAND presentations	17	+14
Technical publications	N° of press releases and or articles published in the local, national or EU level journals	21	-7
	N° of scientific papers published in international conferences and journals	7	+6
	Estimated numbers of readers of the article and/or media releases	208	+208
Interaction with H2020 projects / initiatives	N° of project synergies developed	4	+3
	N° of joint workshops	6	0

Dissemination activities	KPI	Status period M32	Shift since last period
Twitter community	N° of followers	178	+103
	N° of tweets published	60	+30
	Total N° of tweet impressions	221,892	+24703
	N° of engagements (retweet, like, link click)	1344	+531
Facebook community	N° of subscribers	123	+42
	N° of post published	37	+8
	N° of posts reached	12,083	+5256
LinkedIn community	N° of subscribers	157	+82
	N° of news published	34	+16
YouTube community	N° of views	714	+714
	N° of videos published	6	+6
Stakeholder involvement	Percentage of community members involved	92%	+4%
	N° of stakeholders engaged in collaboration actions	101	+5
	N° of stakeholders reached	6005	+4839

4 COVID-19 and related mitigation actions

As the situation with COVID-19 changed the narrative of the way we do dissemination and communication activities a number of mitigation actions have been implemented since D8.4 and they were touched upon, earlier in the report.

For paper writing and brainstorming a Scientific committee was formed in order to have an overview on where and about what we can write papers.

The initial video plan was changed as travel was not possible, so the E-LAND video was created with video footages from the pilot sites, without the need for travelling.

There was a focus on digital dissemination materials, with a series of Pilot Sheets, Product Sheets rolled out. An additional Product Sheet is currently being developed.

In-person meetings, workshops, and conferences were modified to be held remotely online. As a result, few events actually had to be cancelled, but rather, were adjusted or slightly delayed to accommodate the digital format. Moving on, the project still has a strategy focused on online meetings and events, also taking into account the growth of online fatigue. With many countries lifting up some of the COVID restrictions the hopes are that we can soon go back to meet each other in person.

The scope online community platform was expanded and prioritized to help facilitate the community engagement work related to WP2. As the dynamic, two-way interaction achieved with in-person meetings is more difficult to achieve via online meetings, it is hoped that the chat and discussion forum functionalities of the platform will serve as an additional tool to involve community members in the co-creation process. Pilot partners and tool developers have been assigned moderator roles to ensure all aspects of the E-LAND project are given a voice on the platform.

5 Conclusion

From M17 to M32 the dissemination and communication have continued to successfully facilitate both internal and external interactions that have helped to increase the visibility and knowledge of the E-LAND project and the E-LAND Toolbox. The results of the dissemination and communication activities show progress with many of the targets already met. The collective dissemination and communication efforts managed to increase the number of social media followers, e-newsletter subscribers, and the number of SIG members. Additionally, with the new Communication Platform set up for networking and interaction, the hopes are that the E-LAND community is set to grow even more. Despite the COVID-19 obstacle to travelling, E-LAND has participated in many online events, where the project was showcased. The focus of the

communication and dissemination shifted more on the digital side, which nevertheless proved to be successful. Great progress has been made on the scientific publications published. E-LAND also managed to be part of one additional dissemination initiative, the Horizon Booster Results that help the project get more visibility. Finally, the project continued to be part of the BRIDGE initiative and foster collaboration with other projects.

6 References

E-LAND. (2019). *D8.3 Dissemination Plan*.

E-LAND. (2020). *D8.4 First Dissemination and Communication Report*.

E-LAND. (2021). *E-LAND Community Platform*. Retrieved from Tribe: <https://e-land-h2020.tribe.so/>

E-LAND. (2021). *E-LAND Integrated multi-vector management system for Energy isLANDs*. Retrieved from Zenodo: <https://zenodo.org/communities/e-land/>

Special Issue "Multi-Vector Management Systems for Energy Islands". (2021). Retrieved from MDPI: https://www.mdpi.com/journal/energies/special_issues/energy_islands

Tweet statistics for E-LAND Page. (2021). Retrieved from TweetStats: <http://www.tweetstats.com/graphs/elandh2020>

7 Appendix

7.1 E-LAND Newsletter #3

[View this email in your browser](#)



Welcome to Newsletter #3 of the E-LAND project

In this newsletter, we will take a closer look at the topics of community engagement and business modeling. A few highlights include an interview with GEO Global's Thomas Mikvelien on the journey towards building the Common Impact Model, a report on the Business Model Innovation in Energy webinar, and a discussion with the project's business model experts on their proposed approach to building labor business models for energy islands. Additionally, we explore potential partnerships the project can build with other countries based on the E-LAND Toolbox's applications.



E-LAND
Novel solutions for decarbonised energy islands

Reinventing the in-person workshop: Community engagement in the times of COVID-19

Ninety stakeholders from different countries across Europe and some participants from India have joined together for a day of discussions and interactions during the Business Model Innovation in Energy – The confluence of locality, digitization, and sector coupling webinar.

More specifically, the webinar explored the interconnection between energy sectors, technology solutions, and energy communities, and how these dynamics affect the development of sustainable business models. Linking to the E-LAND pilot in UVTgv Romania, a special focus was given to what these dynamics mean for renewable energy planning at university campuses. [Read More](#)



E-LAND
Business model innovation in energy – the confluence of locality, digitization and sector coupling
WEBINAR

H2020 – the synergy perspective

Creating synergies and complementarities between Horizon 2020 projects is a current priority for European authorities and communities.

In this context, [Smart Innovation Norway](#) was a key player in organizing a workshop regarding business development based on the Horizon 2020 INVADE project with a focus on takeaways and how they can be exploited and used to create a future for businesses, citizens and other stakeholders. The workshop was in Barcelona within the Smart City Expo World Congress 2019. [Read More](#)



HORIZON 2020

University as an Energy Island: Achieving carbon-neutrality with the ELAND toolbox

"The urgentization to combat climate change and its impacts" is one of the Sustainable Development Goals of the United Nations. To contribute to this goal, the ELAND project develops a toolbox that helps to set-up low-carbon Energy Islands.

Energy islands access and coordinate renewable energy sources in the sea effectively, so that nearly all energy demand can be covered locally, avoiding the need for energy from carbon-intensive sources. The Energy Islands approach can be particularly interesting for universities that intend to have a green campus and aim to be carbon neutral. [Read More](#)



The E-LAND Toolbox: The Business Model Innovator Tool

"What is the Business Model Innovator important because there is no one-fit-all business model for different energy islands" says Prof. Moritz Loeck from St. Gallen University. The Business Model Innovator is one of the [tools](#) in the E-LAND project aimed to create during the project.

Prof. Dr. Moritz Loeck, in a discussion together with Dr. Maria Kuhl from St. Gallen University, and Senior Researcher Sankar Parulekar from Smart Innovation Norway, has explained the concept behind the Business Model Innovator Tool that they are working to create in for E-LAND. [Read More](#)



Building a long-lasting relationship between Europe and India with green energy

The Indian partnership is a collaboration with huge potential and has contributed to the E-LAND project with opportunities for data simulations for understanding the technology impact to store energy.

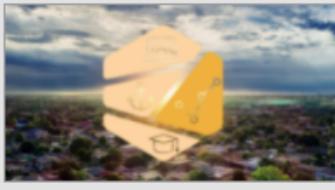
As part of E-LAND's commitment to innovative energy solutions, the project has built partnerships with many stakeholders. One of them is BSEC, which is the pilot partner in India. [Read More](#)



The E-LAND Toolbox: The Common Impact Model

In the E-LAND Toolbox, the Common Impact Model is the core community engagement tool. The tool aims to understand what it takes to achieve and manage social acceptance and behavioral change in energy projects.

Thomas Mikvelien, CEO and founder of GEO Global has shared his view on how the model came together, the development process of the tool, to support customer engagement as well as how he sees the impact of the model and what are the learnings from the first implementations. [Read More](#)



[Read more about here...](#)

7.2 E-LAND Mini Newsletter #1

[View this email in your browser](#)



News from the E-LAND H2020 project

As the pilot sites in Europe are currently preparing to start the piloting in early 2021, we are happy to share with you some more new insights into the projects' goals and the projects' pilots. In this article, we are taking a closer look at the pilot sites and what they will help to achieve in the long run - to get one step closer to the goal.



Four energy islands – one goal

The innovation of E-LAND in Societal, Technological, and Business framework

Interview with Farhan Farrukh (Piloting Leader E-LAND H2020 and Researcher at Smart Innovation Norway)

Why is this important and what it is that we want to achieve? What will these pilots help achieve in the long run – to get one step closer to the goal?

The base of the E-LAND project is to attack the global challenges regarding the continuous decarbonization of the energy sector. The E-LAND project collects and combines different energy vectors, supported by the developed E-LAND Toolbox. This is facilitated by exploiting the opportunities related to renewable energy sources, energy storage, flexible loads, and develops existing electricity networks in local energy systems (LES). The piloting period of the project will ensure that the innovative E-LAND toolbox is validated on different pilot sites. In turn, this will create a strong foundation for the market uptake of E-LAND innovation globally.

[Read More](#)

[Read more news here](#) ...

[Website](#)
[Facebook](#)
[Twitter](#)
[LinkedIn](#)
[YouTube](#)


 This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 824388.

Want to change how you receive these emails?
 You can [update your preferences](#) or [unsubscribe from this list](#)

7.3 E-LAND Mini Newsletter #2

[View this email in your browser](#)



News from the E-LAND H2020 project

The E-LAND toolbox brings together a modular set of methodologies and ICT tools designed to explore and control multi-energy islands and isolated communities.

In this newsletter, we are showcasing the first of these E-LAND tools - the Business Model Innovation. Read on to learn how this tool uses a pattern-based approach to successfully tailor business models to the local context.



Business Model Innovation Tool for Energy Communities

Decarbonize your business model and always stay ahead in the energy transition

Future business models in the energy sector revolve around multi-energy systems, use the potential of storage in heating and mobility demand and build on the power of communities.

Stakeholders need business model innovation capabilities to co-create future multi-energy systems together with procurers. The E-LAND business model innovation tool supports stakeholders to transform into coordinators of low-carbon energy communities and provides a tool to manage business model innovation.

Business model innovation is often supported by a pattern-based approach. Patterns are key building blocks that can be combined to form a complete business model. The E-LAND business model innovation tool provides a package of 25 business model patterns for energy communities that proved to be successful for early-mover companies and projects. The tool provides implementation references to business models of energy communities, system operators and seasonal storage for inspiration. In a framework, the pattern can be combined and tailored to the local context.

[Get to know the E-LAND Business Innovation tool and download the Product Sheet here](#)



The Business Model Innovation tool for Energy Communities

[Read more news here](#)

[Website](#)
[Facebook](#)
[Twitter](#)
[LinkedIn](#)
[YouTube](#)



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No. 824388.

Want to change how you receive these emails?
[You can update your preferences or unsubscribe from this list.](#)