The Added Value of Seasonal Climate Forecasts for Integrated Risk Management Decisions (SECLI-FIRM)

EU H2020 Project (ref. n. 776868)

D5.1: Kick-off meeting report

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Internal Review Table

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C Goodess (UEA)	Review/Edits of content	28/03/18

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1 Introduction

This report documents the discussion at the Kick Off meeting of the EU H2020 project *The Added Value of Seasonal Climate Forecasts for Integrated Risk Management Decisions* (SECLI-FIRM, Feb 2018 – July 2021). The Kick Off meeting was in Rome (Italy) over two days, Tuesday 6th February – Wednesday 7th February 2018. The meeting agenda is provided in Appendix A.

1.1 Brief Overview of SECLI-FIRM

The aim of SECLI-FIRM is to demonstrate how the use of improved climate forecasts, out to several months ahead, can add practical and economic value to decision-making processes and outcomes, primarily in the energy sector, but also in the water sector. Specifically, for the energy sector, SECLI-FIRM will assess the impact on operational planning and portfolio management, such as hedging and asset optimization, thus enabling quantification of the value-add provided by seasonal forecasts which have been calibrated, evaluated and tailored for each specific application. Improvements in management decisions will ultimately lead to an improved supply-demand balance and therefore to a more efficient energy system, particularly with respect to renewable energy, with corresponding benefits for climate change mitigation.

A simple, but effective, methodology will be used to assess value added. A control case will only utilise climatological conditions based on historical averaged values – currently the most common approach – while a test case will also consider individually optimised and tailored state-of-the-art probabilistic seasonal forecasts. This will be done for nine case studies for Europe and South America: recent seasons with anomalous/extreme climate conditions leading to problematic and quantifiable impacts for the energy and/or water industry. Crucially for success, the case studies will be co-designed by industrial and research partners. Further information about the project is available from the project website: www.secli-firm.eu

1.2 Attendance

The meeting was attended in person by 23 people representing all nine SECLI-FIRM partners as well as the Project Adviser, Ms Mirjam Witschke, of the Executive Agency for Small and Medium-sized Enterprises (EASME) on the first day and 20 people on the second day. The complete list of attendees is: Caroline Acton (MO), Andrea Alessandri (KNMI), Claudio Baldini (ENEL), Giorgio Battisti (Alperia), Elena Calcagni (ENEL), Mattia Callegari (EURAC), Franco Catalano (ENEA), Valentina Cavedon (Alperia), Ellen Coquio (WEMC), Alessandro Delle Fratte (ENEL), Marco Formenton (ENEL), Gertie Geertsema (KNMI), Clare Goodess (UEA), Felix Greifeneder (EURAC), Malcolm Lee (MO), Claudia Notarnicola (EURAC), Marcello Petitta (ENEA), Anna Riverola (UL), Karen Stocker (Alperia), Dieter Theiner (Alperia), Alberto Troccoli (UEA), José Vidal (UL), Mirjam Witschke (EASME), Mark Zebisch (EURAC).

The meeting was also broadcast as a telecon to those who were unable to attend.

1.3 Kick-Off Meeting Minutes

On the first day the meeting started at 9:00 and ended 18.15. The following sections are structured based on the agenda, available in Appendix A.

1.3.1 Introductions

Alberto Troccoli welcomed all to the meeting and thanked everyone for their attendance. He followed with a summary of the two day proceedings. Each team member gave a brief introduction with their name and affiliation. Alberto followed the introductions with a presentation setting the scene with regard to project motivation, targets and methodology.

- **Motivation** – why?
  - Climatic factors play an increasing key role in portfolio management of energy and water industries due to changes in both the climate and industry (particularly energy)
  - A lot of changes coming in the energy sector
  - Energy mix predictions changing annually
- **Target** – what?
  - Communicate
  - Disseminate
  - Exploit
  - How the use of improved seasonal forecasts can add practical and economic value (and in other applications) to the decision-making process and outcomes, primarily in the energy sector (also in water sector)
- **Methodology** – how?
  1. Quantify the added value of seasonal forecasts (a simple methodology to assess the value). A control case and test case will be used.
  2. 9 case studies for Europe and South America
  3. Tailoring of seasonal climate forecast for decision making (process chain for seasonal forecasting

1.3.2 Goals and work plan

With regard to the project goals and more specifically the work plan, Alberto addressed governance, stakeholder engagement, the need to connect with relevant projects, communication, dissemination, exploitation and project outcomes with exploitation opportunities. Project partners contributed to the discussions with regard to their specific project deliverables.

Governance – Alberto explained the purpose and composition of the steering committee and the advisory board as well as the expectations of the six work package leaders.

- Project leader
- Steering committee (a representative for each partner)
- Advisory board (industry SECLI-FIRM co-designers plus WP leaders)
- WP1 – 6 leaders

Stakeholder engagement and interaction – This was briefly outlined by Alberto and he reminded the team it would be covered in more detail by Krishani Ranaweera's presentation.

- Interacting with a wide range of stakeholders, maintaining focus on close circle
- Ensure shared information is not confidential

It is important to connect with relevant projects (e.g. H2020, C3S):

- C3S ECEM
- C3S CLIM4ENERGY
- C3S SWICCA
- C3S EDGE
- EUPORIAS
- CIREG
- VISCA
- SPECS
- CRESCENDO
- PROCEED
- CLIM2POWER
- PRIMAVERA
- CLISWELN
- MED-GOLD
- IMPREX
- INDECIS
- S24SE

Communication – not just social media, also strategic and targeted measures

Dissemination (comes later in the project execution) – public disclosure of results by any appropriate means

Exploitation – utilisation of results in further research activities (translation of what we learnt and conversion into something that is usable and replicable).

Project outputs with key exploitation opportunities

- The discoveries of those multi-model combinations of seasonal climate forecasts which provide skill and enhanced performance in application to specific geographical areas when applied to particular industry user-defined questions
- The case study examples of quantified economic benefits which have value for use in training materials and that partners develop during or after the project (what is the added value to the decision making?)
- The proof of concept of demonstrator - to be disseminated to energy stakeholders and to other climate services

1.3.3 Call contexts and implementation aspects

Mirjam Witschke highlighted important aspects of project implementation nicely clarifying EU's expectations. Her presentation set the scene for the call context and continued with a clear overview of the implementation plan and key implementation features in H2020. EASME is in charge of the whole cycle of project implementation:

- Evaluation of proposals
- Grant Agreement Preparation
- Project follow-up
- Supporting exploitation and dissemination of project results – policy results

Key expectations for SECLI FIRM

- Providing added value for the decision-making process addressed by the project
    - End users are key actors in all project phases
- Ensuring the replicability of the methodological frameworks for value added climate services in potential end-user markets

Key Implementation features in H2020

Innovation – the successful exploitation of new ideas to produce tangible benefits, satisfy needs and wants

Innovation management – managing the process from invention to innovation

- Identifying high impact novelties produced
- Capturing and documenting these inventions
- Dissemination and support exploitation of the novelty

H2020 IPR helpdesk: https://www.iprhelpdesk.eu

Support structures – Common Exploitation Booster

Communication

- Beneficiaries must promote the action and its results, targeted information to multiple audiences
- Before engaging in a communication activity expected to have a **major media impact**, the beneficiaries must inform the Agency (see article 52)

Acknowledgement of EU funding

- Use EU emblem (available: http://eurpoa.eu/about-eu/basic-information/symbols/flag/
- Use text as indicated in GA "*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No … "*
- Use hashtag: #investEUresearch
- Inform the Agency about news and communication activities, they can help to spread the word
- Communication Toolkit
- Regularly evaluate impact received from communications
- Communication in H2020 – CORDIS (magazines, inclusion of public deliverables)
- Informing about project → informing about its results → making the results available for use → facilitating further use of results → making use of project results
- Project website, brochure, social media, press releases, poster, newsletter, conference presentation, interviews, user stories, scientific publication, training/workshops, user and stakeholder engagement.

Open Access – what is the data that needs to be exploited, what needs to be protected?

- Each beneficiary must ensure open access to all peer-reviewed scientific publications relating to its results by
  - Self-archiving in online repository
  - Open access publishing
- Open access to research data (GA Article 29.3)
- "as open as possible, as closed as necessary" principle
- Types of data covered in GA Art 29.3: digital research data generated and/or collected during the action:
  - Underlying data
  - Other data (including metadata)
- **FAIR** data principles:
  - Findable
  - Accessible
  - Interpretable
  - Re-usable

Data management plan – describe the data management lifecycle (needs to be updated throughout course)

- What data will be generated, collected and processed?
- Which data will be shared and not (why)?
- How will data be curated and preserved?
- Template available on the participant portal

Obligation to comply with ethical principles

Climate friendly climate research – sustainable travel to meetings, organising "green meetings"

Periodic and continuous reporting/monitoring – deliverables template and plan

1.3.4 Communication and dissemination plan

The SECLI-FIRM Communication & Dissemination Plan was presented by Krishani Ranaweera from WEMC. Krishani started by explaining the characteristics of the various target audience categories and how different communication channels will be used both for these different categories and at the various stages of the project. The project logo, distribution lists and exploitation plan were also discussed in an interactive manner with team members offering their comments and views. Information and further views were asked of the team members and are highlighted below

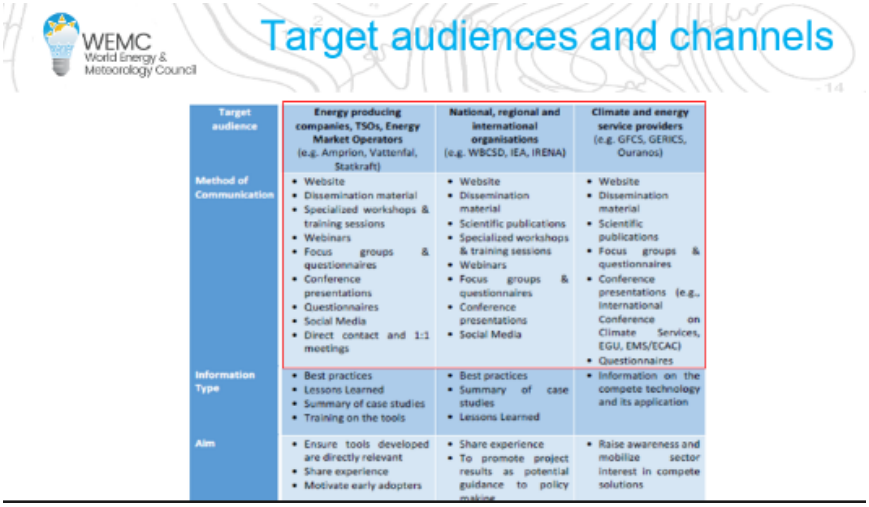
Target audiences and channels

- Energy producing cos
- National/regional/international organisations
- Climate and energy service providers

Advisory board – next step: nominate members, set terms, frequency and dates

Communications channels:

- Events and conferences
- Infographics
- Slideshare.net
- QR code to offer more info
- Podcasts with key players
- Publishing milestones and ongoing content using scoop.it and Google Scholar
- Traditional media, reports and papers, journals, and Cordis/Europa
- Website



Exploitation plan - concrete actions related to the protection, dissemination and exploitation of the project

Stakeholder Engagement

- A series of workshops (25-35 participants) in months 4, 12, 20, 28 and 36
- 3 exploitation workshops month 4, 20, 36

How would participants like to store and share information and communicate? (to be discussed on Day 2)

Industry events planner – please send us events you will be attending this year

Publication contacts – please send information about where you would like information to be shared

Distribution list – please send us your contacts to put on the stakeholder list

Photographs – please send us 2/3 high resolution images for use on the SECLI-FIRM website and other marketing materials

Vote on Logos

- Option 1: 0
- Option 2: all

Comments

- May want to stress added value – make E euro symbol? – project going beyond monetary value, however.
- Colour of logo 2 and extent of use – printing in black and white?
- Logo 2 – graph looks a little medical? Smoother lines?
- Colour of graph on logo 2 too harsh – more positive colour than red

1.3.5 Initial thoughts on exploitation plan

Alberto led a discussion on the team's thoughts regarding the exploitation plan, drawing on their individual expertise and sector knowledge

Discussion:

- Water – would look to exploit this throughout the UK and generate awareness. To what extent can this benefit other countries?
- Ideas for broadening applications – who do we want to bring in for stakeholder events?
- Workshop during first week in June in Brussels – EU Sustainable Energy Week 2018
- Marine case study – speaking to decommissioning organisations who would be using outputs from case study to help support decommissioning actions (offshore oil and gas, offshore wind) – identifying calm weather windows to operate in
- Also, HyWind (Statoil investment in the UK) – floating farm
- Demand for water for agricultural irrigation? BISCA project

1.3.6 WP1 – How do we capture the value-add of seasonal forecasts?

After lunch, Elena Calcagni addressed the above question and presented an overview to the team, initially explaining weather risk management and citing examples of weather scenarios Weather Risk Management – the margin variability depends on a price effect, a quantity effect, and a price-quantity joint effect.

More renewable production leads to lower electricity prices

How many euros will I lose for each degree the temperature is above or below?

Weather data (Statistical analysis)→ Link functions (relationship between weather and energy variables) → fundamental power models (impact on generation volumes and market price) → weather risk exposure (weather drive impact on Enel margin)

July heatwave 2015 – lost large sums of money on margin → better knowledge between weather variables and climate forecasting aids ENEL in knowledge of potential losses, etc.

Function Link: Hydro vs Rainfall and Temperature

For forecasts shorter than 90 days one can make use of snow cover as it is closely related to river runoff and inflow, depending on the season however. This approach works best in winter/spring. One can also use remotely sensed snow observations which are much more certain than forecast at that point in time. In SECLI-FIRM we are however looking at forecasts out to several months and satellite data is less relevant at these lead times.

Measuring the value-add of seasonal forecasts

Current → ENEL's models → Market Scenarios A → Decision A (margin, risk, reward, ratio.)

Current method PLUS tailored climate model forecasts → Enel's models → Market Scenarios B → Decision B

Validation with real market data of Market Scenarios

1.3.7 WP2 – The underlying science of seasonal forecasts and how we can extract the most value out of them

Andrea Alessandri addressed the above issue and presented to the team. The following issues were explained and particular attention was drawn to the tasks in work package 2.

- Atmosphere, ocean, ice, etc. systems all have their own inertia of different lengths
- Seasonal forecasts are not deterministic in their nature but probabilistic since atmospheric evolution cannot be predicted behind a few weeks
- Predictability of climate at seasonal and longer time scales stems from the interaction of the atmosphere with slowly varying components of the climate system such as ocean and land surface. And there are limits to predictability.
- Skill is not the same as value
- Cost-Loss decision model; Richardson, 2003
- The 'Grand' MME which be used in SECLI-FIRM: model independence is a good thing; danger of overconfidence otherwise

1.3.8 Testing seasonal forecasts on case studies (WP3)

Alberto concluded the agenda items for day 1 and invited the team to discuss any other issues. The following was offered and noted.

Specific events to target

- WMO/WCRP "Sub-seasonal to decadal (S2D)" conference 17-21 September 2018, Boulder, CO, USA
- ICEM China 2018, Denmark 2019

Proposed sessions at EGU, AOGS

- EGU, Earth System Prediction and Applications
- AOGS, Earth System Prediction Predictability and Applications

Internal Communications

Intranet/password protected area in website for discussion – Slack?

Other Comments

- For Alperia a key question is when will the water for hydro come – i.e. timing of the spring peak.
- Colombia is currently very dependent on hydro – but is looking to diversify into wind and solar.
- One of the conclusions from the case study discussion was that some case studies will use the same climate inputs – but the assessment of added value will be different.

Alberto thanked the team for their attendance and participation and reminded all about the arrangements for the dinner that evening and the museum trip the following day.

1.3.9 Discussion on organisational matters

On Day 2, after a very enjoyable and successful guided tour of Rome in the morning, with a visit to the Vatican museums and Sistine chapel, aimed at creating a team spirit, the meeting continued at the ENEL offices. The main discussion focused around the most effective way for the SECLI-FIRM team to remotely interact with each other.

It was agreed that SECLI-FIRM to hold the following project meetings:

- **All-WP internal project meetings**, held every three weeks, on Wednesdays at 11:00 Central European Time, and 10:00 UK time;
- **Executive/Steering Committee meetings**, held every nine weeks, on Wednesdays at 10:00 Central European Time, and 9:00 UK time; these are held on the same day as the All-WP project meetings.

These meetings are carried out via teleconference, currently using the GoToMeeting software application. Agenda to these meetings is circulated a few days before the meetings, and the team is encouraged to provide their input, but up to 24 hours before the meeting to allow people to be prepared for any possible additional/amended agenda item.

Additional meetings, such as for specific WP or Task discussions, or even all-WP meetings, can be organised on a case-by-case basis, normally in coordination with the relevant WP/Task leader(s).

It was recommended that all emails are accompanied in their subject by a clear identifier of the project, and preferably '[SECLI-FIRM]', to be put at the start of the subject.

Dedicated and moderated mailing lists will be set up to support the project internal communication.

In terms of storing and exchanging documents, it was decided to use email communications together with the SECLI-FIRM Google Drive folder. The latter would substitute for the time being the use of an intranet on the SECLI-FIRM web pages.

In addition, it was decided that for quick turn-around in communication, particularly when specific discussions involving several SECLI-FIRM team members are involved a Slack account will be set up. Slack allows to exchange messages, images, and also chat.

1.3.10 Plans for a SECLI-FIRM demonstrator

Caroline Acton concluded the presentations of the Kick-off meeting by exploring how the work of WP4 could be organised. Although premature as WP4 doesn't start until many months into the project, the team had a nice discussion around ways:

- To determine how the output designed for case studies in WP3 would be best produced in an operational setting
- To produce a co-designed non-operational product that could be delivered in real time
- To determine, document and share delivery approaches with wider stakeholder group.

Caroline stressed the importance of defining a robust Data Management Plan to improve harmonization of all nine case studies so that the final Demonstrator can be built in a more efficient and effective way. She also emphasised the importance of engaging with case study co-designers.

Alberto wrapped up the kick-off meeting by thanking the SECLI-FIRM team and pointing to the next steps in the implementation of the project, starting from the more imminent deliverables (at month 2) and the regular 3-weekly project teleconferences.

2 Appendix A – Meeting Agenda

Day 1 – 6 February 2018 (venue: Hotel Beverly Hills)

Time	Title	Who
Session 1 – Achieving SECLI-FIRM objectives within the EU H2020 context		
9:00–9:30	Welcome and introductions	All
9:30–10:30	Goals and a walk through the plan of SECLI-FIRM	Alberto Troccoli (UEA)
10:30–11:00	Call context and implementation aspects (Part 1)	Mirjam Witschke (EASME)
11:00–11:30	*Coffee Break*	
11:30–12:00	Call context and implementation aspects (Part 2)	Mirjam Witschke (EASME)
12:00–12:30	Communication & Dissemination Plan	Krishani Ranaweera (WEMC)
12:30–13:00	Initial thoughts on Exploitation Plan	Alberto Troccoli (UEA)
13:00–14:15	*Lunch*	
Session 2 – How the SECLI-FIRM components come, and will work, together		
14:15–15:15	How do we capture the value-add of seasonal forecasts (WP1)	Elena Calcagni (ENEL)
15:15–16:15	The underlying science of seasonal forecasts and how we can extract the most value out of them (WP2)	Andrea Alessandri (KNMI)
16:15–16:45	*Coffee Break*	
16:45–18:00	Testing seasonal forecasts on case studies (WP3)	All
18:00–18:15	Discussion and summary day 1	Alberto Troccoli (UEA)
Session 3 – Getting to know each other better through social/cultural activities		
19:45–22:00	Dinner together at La Gattabuia (via del Porto 1, Trastevere, Roma, http://www.lagattabuia.it/en/)	

Day 2 – 7 February 2018 (venue: ENEL Building, Viale Regina Margherita 125)

Time	Title	Who
Session 3 (ctd) – Getting to know each other better through social/cultural activities		
9:00–12:30	Guided tour of Rome – Vatican museums and Sistine chapel	All
12:30–13:30	*Lunch*	
Session 4 – How the SECLI-FIRM will interact with each other		
13:45–14:45	Discussion on organisational matters – including data management, use of Google Drive, Slack, …	All
15:15–16:15	Plans for a SECLI-FIRM demonstrator	Caroline Acton (MO)
15:30–16:00	Next steps and goodbyes	All

3 Appendix B – Link to Presentations and Group Photo

The presentation given at the SECLI-FIRM Kick-off meeting can be downloaded from:

1. Troccoli – http://www.wemcouncil.org/Projects/SECLI-FIRM/KO_Meeting/SECLI-FIRM_KO_Feb2018_1.pdf
2. Witschke – http://www.wemcouncil.org/Projects/SECLI-FIRM/KO_Meeting/SECLI-FIRM_KO_Feb2018_2.pdf
3. Ranaweera – http://www.wemcouncil.org/Projects/SECLI-FIRM/KO_Meeting/SECLI-FIRM_KO_Feb2018_3.pdf
4. Calcagni/Formenton – http://www.wemcouncil.org/Projects/SECLI-FIRM/KO_Meeting/SECLI-FIRM_KO_Feb2018_4.pdf
5. Alessandri – http://www.wemcouncil.org/Projects/SECLI-FIRM/KO_Meeting/SECLI-FIRM_KO_Feb2018_5.pdf
6. Acton – http://www.wemcouncil.org/Projects/SECLI-FIRM/KO_Meeting/SECLI-FIRM_KO_Feb2018_6.pdf

SECLI-FIRM Group Photo during visit at the Vatican museums (Day 2)

The Added Value of Seasonal Climate Forecasting for Integrated Risk Management (SECLI-FIRM)

For more information visit

www.secli-firm.eu

or contact the SECLI-FIRM team at

info@secli-firm.eu

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