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## **Milestone 4.2- Assessment of Current Approaches to Alignment:**

**Case Study No. 9- JPI Climate's Strategic Research and Innovation Agenda (SRIA)**

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## ABSTRACT

This case study examines the key features, methodology and overall strengths and difficulties in implementing an essential step of the Joint Programming Process, namely the **elaboration of a common Strategic Research (and Innovation) Agenda** (SRA or SRIA) in a specific area of research. The case focuses on the **SRA updating exercise conducted in the context of the Joint Programming Initiative “Connecting Climate Knowledge for Europe” (JPI Climate)**, which led to the development of a new Strategic Research and Innovation Agenda for 2016-2025. The adoption of a common vision and agenda in a specific field of research is a pre-requisite for effective joint programming and for fostering alignment at the strategic/policy level. The SRA/SRIA is the **common base required to allow countries to collectively agree on areas of cooperation and on joint research actions to be carried out forward**. While focusing on the specific experience of JPI Climate, the case study also provides lessons for other JPis and public-to-public research partnerships (P2Ps) wishing to develop a similar approach. The case study does however not aim to provide an in-depth assessment of JPI Climate’s SRIA elaboration.

The study highlights the benefits of this SRA updating exercise. The process relied on an **inclusive approach that aimed to foster high involvement and leadership of JPI member countries and strong ownership of achieved outcomes** (i.e. content of the new SRIA) in order to ensure their long-term engagement in and support of JPI activities. This was greatly supported thanks to the **establishment of a Task Force** in charge of steering the SRA updating process and writing the document, which only consisted of Governing Board members, hence **giving the leadership on the SRIA’s content to research funders**. Moreover, JPI members aimed to develop a **long-term vision** that implicitly integrates JPI Climate’s past and future activities and that **focuses on more strategic objectives** in order to effectively support alignment at the policy level. For this purpose, the new SRIA is much shorter compared to the first one and can be disseminated more easily. Lastly, the updating of JPI Climate’s SRA allowed to **integrate strategic research and innovation objectives** by relying on a cross-cutting and challenge-driven approach, which was not the case for the first SRA as the latter was more discipline-oriented. It required a **collaborative process that enabled high involvement of academic and non-academic stakeholders**, by engaging with related JPI governing bodies and directly seeking the feedback of stakeholders via a public consultation. As a result, the new SRIA is more stakeholder-oriented than the previous one and expresses the desire to have a better outreach to stakeholders, particularly to relevant research communities.

Yet, JPI Climate also encountered several challenges that it managed to address successfully. In particular, it was confronted with: (i) the time-consuming effort and complexity of the SRIA elaboration process; (ii) the challenge to optimally integrate all key players in the elaboration process of a Strategic Research Agenda; and (iii) the need to secure appropriate resources in order to effectively support the elaboration of the SRIA.

The case study builds on the ERA-LEARN 2020 Task 4.1 (“Definition and Typology of Alignment”), and relies on a review of existing literature and a targeted interview with a member of the JPI Climate Secretariat who was involved in JPI Climate’s SRIA elaboration and the coordinator of JPI Climate. The case is part of a series of nine short case studies that form the basis of the ERA-LEARN 2020 Task 4.2 “Assessment of Current Approaches to Alignment”. The nine case studies that have been selected for this Task each rely on a different instrument (Member-State instrument or EC instrument, e.g. ERA-NET), cooperation mode (e.g. networking amongst researchers, programme integration, institutional cooperation, etc.) and approach (strategic, operational and/or financial) that promote alignment, and that are often put in place at different stages of the research programming cycle (planning, strategy, implementation, etc.). The focus of the following case study (i.e. SRIA elaboration) can also be considered as part of the Framework Conditions of Joint Programming, several of which are also analysed in the ERA-LEARN 2020 Task 2.2 (“Support for implementation of Framework Conditions for the JPI community”).

## ACKNOWLEDGEMENTS

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## 1. Introduction

This case study examines the key features, methodology and overall strengths and difficulties in implementing an essential step of the Joint Programming process, namely the **elaboration of a common Strategic Research (and Innovation) Agenda (SRA or SRIA)**. The case focuses in particular on the SRIA developed by the *Joint Programming Initiative “Connecting Climate Knowledge for Europe”* (JPI Climate) thanks to an updating process of its first SRA.

The adoption of a common vision and agenda in a specific field of research is a **pre-requisite for effective joint programming** and for fostering **alignment amongst research activities at the strategic/policy level**. The Strategic Research Agenda is the common base required to allow countries to collectively agree on areas of cooperation and on joint research actions to be carried out forward.

The study assesses how such an approach is best used for promoting greater alignment of national research strategies and activities. While focussing on the specific experience of JPI Climate, the case also provides **lessons for other JPIs and public-to-public research networks (P2Ps) wishing to develop a similar approach**.

According to the Typology of Alignment (ERA-LEARN 2020 Task 4.1), the identification and adoption of common strategic research priorities by member countries of a JPI takes place during the research strategy phase. It relies on joint foresight and mapping of national and transnational research activities, as well as on the identification of national and European research priorities. The elaboration of a Strategic Research (and Innovation) Agenda mainly involves national representatives of ministries and research funding organisations.

## 2. Key features of JPI Climate’s approach for the elaboration of a Strategic Research and Innovation Agenda

### 2.1 Overview

The Joint Programming Initiative “Connecting Climate Knowledge for Europe” (JPI Climate) was launched in 2011. It brings together 17 countries<sup>1</sup> and provides a transnational research programming and coordinating platform for research performers and funders across Europe in the field of climate research (see Annex 3). In the face of climate change, JPI Climate aims to contribute to the transition to a low-carbon and climate-resilient society in line with national, European and international long-term climate policy objectives (e.g. Paris Agreement, United Nations Framework Convention on Climate Change, EU climate targets for 2020, 2030 and 2050).

In order to align national strategies and programmes for climate research and hence contribute to the European Research Area, JPI Climate members jointly elaborated and adopted a Strategic Research Agenda in 2011. The latter highlights common policy-relevant research priorities that were identified collectively by academic and non-academic stakeholders from partner countries (see Annex 2). These research areas are being addressed jointly through the implementation of transnational research activities.

**JPI Climate members have recently updated their joint SRA and as such adopted a new SRIA<sup>2</sup>** for the timeframe 2016-2025 in order to (i) reflect the evolved landscape of climate research, (ii) further showcase JPI Climate’s level of ambition in facilitating the delivery of required climate knowledge and services, and (iii) explicitly highlight the strategic focus of JPI Climate on innovation, as the new title indicates. Compared to the previous SRA, JPI Climate’s new SRIA has been improved mainly regarding the following two aspects:

- The developed SRIA is a much more **strategic and challenge-driven document** than the first SRA, which was discipline-oriented and did not sufficiently express the strategic vision of JPI Climate;
- Its content is also more **stakeholder- and innovation-oriented**, which is the result of a large consultation process with relevant academic and non-academic stakeholder communities that had not been put in place for the elaboration of the first SRA.

<sup>1</sup> Member countries are Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Spain, Sweden and The Netherlands; Denmark, Estonia, Romania, Slovenia and Turkey are associated members.

<sup>2</sup> JPI Climate’s updated SRIA 2016-2025 is available online:

[http://www.jpi-climate.eu/media/default.aspx/emma/org/10871632/JPI\\_Climate\\_SRIA.pdf](http://www.jpi-climate.eu/media/default.aspx/emma/org/10871632/JPI_Climate_SRIA.pdf)

The SRIA elaboration process has led to the collective agreement amongst JPI Climate partners on strategic objectives (see Annex 3). In particular, the updated SRIA identifies three overarching challenges that are connected and can be addressed through the strategic mechanism of “connecting people, problems and solutions in a systemic approach”:

- 1) Understanding the processes and consequences of climate change;
- 2) Improving knowledge on climate-related decision-making processes and measures;
- 3) Researching sustainable societal transformation in the context of climate change.<sup>3</sup>

## 2.2 Methodology

JPI Climate’s overall approach to update its Strategic Research and Innovation Agenda relied on collaborative tools such as workshops, surveys and consultations. This enabled the engagement of all relevant scientific communities as well as of a large number of stakeholders and experts. Through the elaboration of JPI Climate’s first Strategic Research Agenda in 2010-2011, JPI member countries sought to identify and agree on research areas that required a transnational approach for research implementation and the alignment of national research strategies. The main goal of the recent update of JPI Climate’s SRA conducted in 2015-2016 was to elaborate a more visionary and more *strategic* document.<sup>4</sup> Key steps included:

- 1) Establishment of a Task Force in charge of steering the updating process;
- 2) Internal consultation among members of main JPI Climate governing bodies (see Governance Structure in Section 2.3);
- 3) Stocktaking event involving stakeholders in order to have their point of view on the updated SRIA;
- 4) Final public consultation;
- 5) Validation and adoption of the updated SRIA during the 11<sup>th</sup> Governing Board Meeting.

Through this updating procedure, JPI Climate members revised research priorities thanks to the inputs of the broader stakeholder community involved in climate research and services. As stated above (see Section 2.1), research priorities were designed to be *challenge*-driven instead of *discipline*-oriented, as it was the case of the first SRA, and to promote a more integrative and user-oriented research approach.

### 1) Formation of a Task Force in charge of steering the updating process

During JPI Climate’s ninth Governing Board meeting, Governing Board members mandated the revision of JPI Climate’s Strategic Research Agenda and approved the formation of a Task Force in charge of facilitating this process. The Task Force consisted of six Governing Board members and was the temporary decision-making body regarding the definition of the SRA updating methodology, process and timeframe.<sup>5</sup> It was supported by JPI Climate’s Central Secretariat.

### 2) Internal consultation among members of main JPI Climate governing bodies

A first Kick-Off Meeting was organised by the Task Force for the SRA update with the Transdisciplinary Advisory Board, which involves academics and representatives of relevant stakeholder groups. This meeting allowed to discuss how the Transdisciplinary Advisory Board should be involved in the updating process and to make initial decisions on the latter.<sup>6</sup>

A first draft of the revised SRA was elaborated by the Task Force by extracting the strategic elements of JPI Climate’s first SRA. It was then submitted to members of various JPI Climate bodies, i.e. Working Groups, the Management Committee, the Transdisciplinary Advisory Board and the Governing Board. The comments provided through this initial internal consultation were collected by the Central Secretariat and discussed during a workshop that brought together all governing bodies mentioned above. Comments were integrated by a Writing

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<sup>3</sup> JPI Climate – Strategic Research & Innovation Agenda, 2016-2025

<sup>4</sup> Presentation of the draft updated SRA (JPI Climate Symposium November 2015)

<sup>5</sup> JPI Climate Newsletter Issue 5 (September 2015)

<sup>6</sup> Kick-off Meeting of the Task Force for the update of the Strategic Research Agenda (SRA), July 8th and 9<sup>th</sup>, 2015, Paris

Group consisting of three GB members of the Task Force into a second draft, which was then submitted once more to the same bodies that had commented on the first draft. The third draft reflected these last inputs.<sup>7</sup>

### 3) Stocktaking event involving stakeholders in order to have their point of view on the updated SRIA

The JPI Climate Symposium “Taking stock and inspiring the future” provided the opportunity to present and discuss the future of JPI Climate’s strategy orientation and implementation with participating stakeholders. In particular, the four research challenges listed in the third draft of JPI Climate’s SRIA were each discussed in four separate discussion groups. Main results were collected on flip charts and a voting system was put in place in order to obtain a representative view of the participants’ inputs.<sup>8</sup>

After the stocktaking event, the third draft of the Strategic Research and Innovation Agenda was presented during the 10<sup>th</sup> Governing Board Meeting and contributions provided thanks to the JPI Climate Symposium were discussed. A fourth draft was then elaborated in order to integrate the recommendations of Governing Board members.<sup>9</sup>

### 4) Final public consultation

The Task Force in charge of the SRA updating launched a public consultation in order to seek the feedback of the broader JPI Climate community on the fourth draft, including relevant research and stakeholder communities (e.g. Research Performing Organisations involved in JPI Climate activities, other related JPIs, European non-member countries, international programmes, etc.). A targeted approach was adopted by (i) clearly defining the requested input through a questionnaire and (ii) identifying and reaching out to a relevant audience by sending out invitations to specific stakeholders and experts. In addition, the SRA draft was publically available for consultation on the JPI Climate website.<sup>10</sup>

The Central Secretariat was in charge of collecting and clustering received inputs into a response database. After the closing of the consultation, a two-day “Digestion Session” took place in order to discuss the 47 responses received. This session brought together the Task Force, including the Chair of the Transdisciplinary Advisory Board, the Management Committee and the Central Secretariat. The nature of participants of the consultation was considered as inclusive, as it involved a wide range of organisations and initiatives in addition to individual responses, thus ensuring a good balance in terms of sectors, country location and knowledge area.<sup>11</sup> The analysis of received contributions enabled to categorise the latter into three different groups and discuss how to address them: 1) Suggestions on specific topics, research needs and actions that could be included under the proposed strategic objectives, 2) Comments that call for clarification of the content (or structure), and 3) Suggestions related to further development of the strategic directions of JPI Climate. The Digestion Session was completed with a meeting involving the Task Force only, during which decisions were made on the SRA update and particularly on the integration of categorised contributions in the SRA. In particular, it is at this stage that the Task Force decided to integrate the strategic focus on innovation into the title of the document and hence to propose the adoption of a “Strategic Research and Innovation Agenda” (i.e. not only a “Strategic Research Agenda”). Overall modifications of the new SRIA in relationship to the answers received were presented and explained in writing to participants of the consultation.<sup>12</sup>

### 5) Validation and adoption of the updated SRIA during 11th Governing Board Meeting

The final step of this updating process consisted in the elaboration of a fifth draft resulting from the analysis of the public consultation inputs. This last draft was then presented and approved by all JPI Climate Governing Board members during the 11<sup>th</sup> Governing Board Meeting.<sup>13</sup>

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<sup>7</sup> Strategic Research Agenda (SRA) update – Proposed Roadmap (2015)

<sup>8</sup> Short report on JPI Symposium “Taking stock and inspiring the future” (November 2015)

<sup>9</sup> JPI Climate Newsletter Issue 6 (December 2015)

<sup>10</sup> JPI Climate Strategic Research Agenda – Consultations: A Concept Note (2015)

<sup>11</sup> SRA Consultation - digestion of the inputs received by the Central Secretariat (2016)

<sup>12</sup> Updated Strategic Research Agenda, 2016-2025: Response to the public consultation (April 2016)

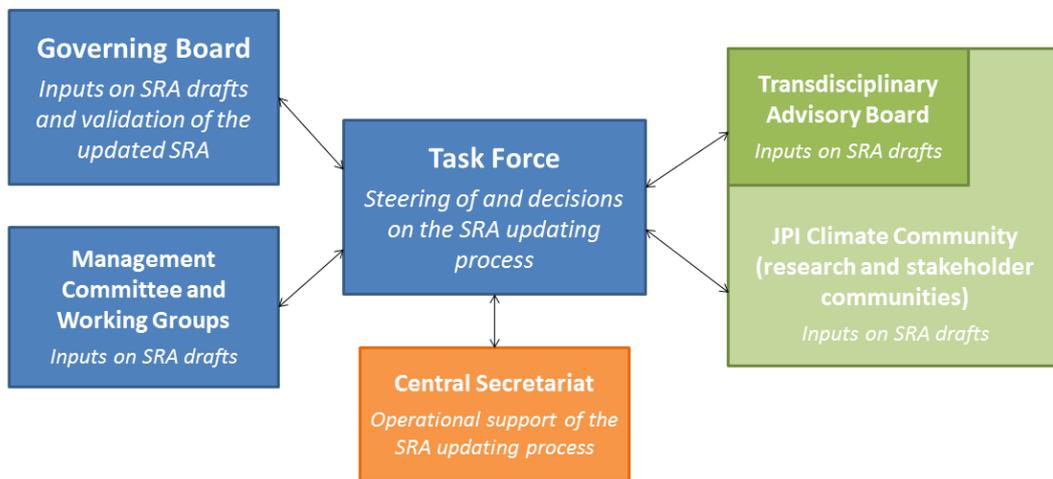
<sup>13</sup> State of play of consultation process – next steps (2016)

### 2.3 Governance structure

The governance model that had been initially adopted by JPI Climate members relies on the definition of several governing bodies that interact with each other. In particular, the Governing Board (GB) is the main decision-making body regarding strategic orientations and consists of representatives of participating national funding organisations. Governing Board members can be appointed to jointly implement JPI Climate activities within Working Groups (WGs) and can also mandate national researchers to participate in these working groups. The Management Committee (MC) oversees the coordination and operational management of Working Groups and is in charge of maintaining the information flow between Working Groups and the Governing Board. It consists of spokespersons from each Working Group. The Transdisciplinary Advisory Board (TAB) advises the Governing Board and consists of relevant academic and non-academic stakeholders and experts. Lastly, the Central Secretariat (CS) provides support in the day-to-day coordination and management of all governing bodies mentioned above.<sup>14</sup>

As explained in Section 2.2, a dedicated Task Force (TF) was established temporarily in order to steer the SRA updating process. The distribution of related responsibilities was clearly defined among JPI Climate’s governing bodies (see Fig. 1 below).

**Figure 1. Allocation of responsibilities for the updating of JPI Climate’s Strategic Research Agenda**



Source: Own compilation

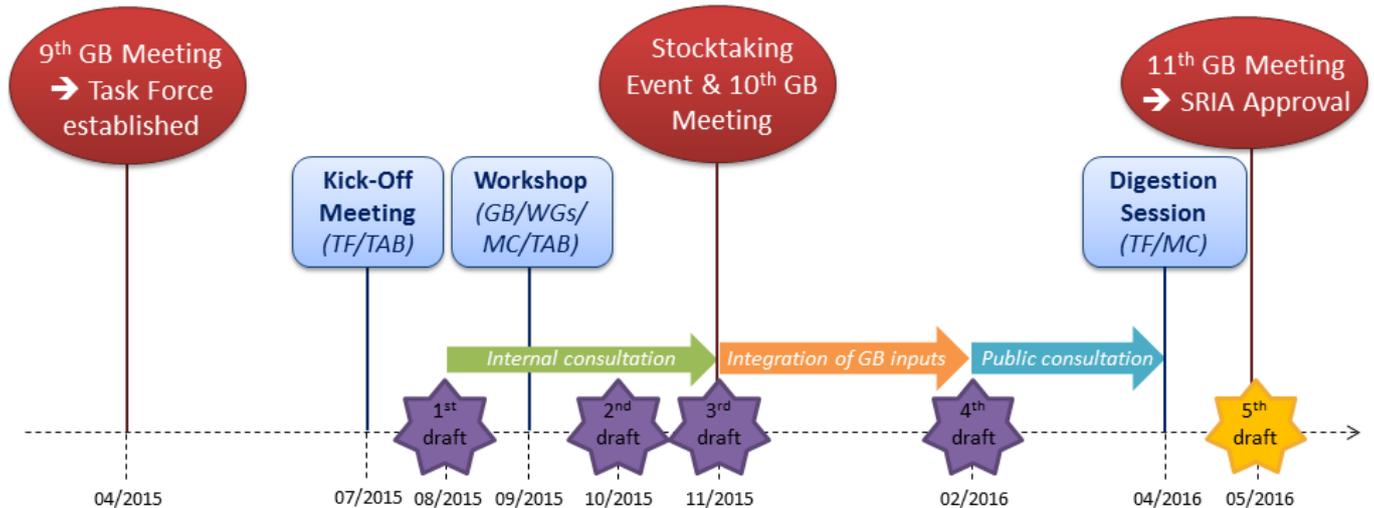
The adoption of a new SRIA has triggered the revision of JPI Climate’s governance model in order to effectively implement this SRIA. The new governance model is in the process of being approved and will be made official in the near future.

### 2.4 Approximate resources and time needed for implementation

Required human resources were provided both by the Task Force and the Central Secretariat. The Task Force was composed of six GB members as well as the TAB Chair and a member of a JPI Working Group (see Section 2.3), amounting to an equivalent of 8 Person-Months. The operational support provided by the Central Secretariat represented a total of 4 PM. The revision of JPI Climate’s SRA was **entirely funded by JPI member countries**. Indeed, the participation of GB members in the Task Force represented a direct in-kind contribution while the Central Secretariat was financed via the latter’s own budget, which consists of JPI full members’ fees that feed into a real common pot. The timeline presented in Figure 2 below indicates that approximately 12 months were required in order to carry out the updating process of JPI Climate’s SRIA.

<sup>14</sup> <http://www.jpi-climate.eu/programme/governance>

**Figure 2. Allocation of responsibilities for the updating of JPI Climate’s Strategic Research Agenda**



Source: Own compilation

### 3. Overall strengths of this approach, including key achievements

The revision of JPI Climate’s Strategic Research Agenda was conducted in order to enhance strategic alignment among the research strategies and activities of JPI member countries, and particularly to integrate lessons learned from the first SRA and take account of recent societal changes related to climate change issues. It relied on an inclusive approach that aimed to foster ownership by Governing Board members, prioritise strategic objectives, and provide an integrative document that supports better outreach to stakeholder communities.

#### 3.1 Strong member-country ownership and leadership for enhanced strategic alignment

A Strategic Research (and Innovation) Agenda is an essential joint output that expresses the collective agreement between involved countries on future transnational research strategies. Its elaboration addresses the major challenge of delimiting the scope for transnational research cooperation, aligning national research priorities within that scope at strategic/policy level in order to develop common ones, and prioritising the latter. The SRA/SRIA is the required base for further cooperation and alignment at operational and financial levels (i.e. through the joint implementation of transnational research activities).

Therefore, JPI Climate’s coordination team aimed to foster high involvement and leadership of member countries in the SRIA elaboration process and strong ownership of its outcomes (i.e. content of the SRIA) in order to ensure their long-term engagement in and support of JPI activities. This was greatly supported thanks to the formation of a Task Force in charge of steering the SRA updating process and writing the document (see Section 2.2). Indeed, **this Task Force mainly consisted of Governing Board members**, which gave the leadership on the new SRIA’s content to funders and not to researchers. Moreover, this ensured an efficient communication loop in between Governing Board meetings between Task Force members and other GB members that were not part of the Task Force, which fostered **trust-building amongst and ownership by all GB members**. In particular, close interaction with the Governing Board was especially valuable in order to collectively discuss and validate SRIA drafts. The efficient operation of the Task Force hence required competent, reliable, open-minded people with a strong sense of **leadership and inclusiveness**.

As a result, JPI Climate’s approach allowed to produce a bold document that strongly engages all members and that they can all identify with (see Section 3.2). In addition, this process not only facilitated the joint elaboration of a Strategic Research and Innovation Agenda, but also **contributed to strengthening the JPI main decision-making body (i.e. Governing Board) as a whole**.

### 3.2 Common prioritised strategic objectives

Through their new SRIA, JPI Climate members have aimed to **demonstrate a strong continuity** between what has been achieved by JPI Climate and in the climate research area in general and what will be supported in the future, and more broadly to take account of past and potential future evolutions of society at large. This is why they strongly built upon the first SRA, which they considered as still relevant and of high value, and **developed a long-term vision** (i.e. over 10 years) that implicitly integrates JPI Climate's past and future activities.

However, in contrast to JPI Climate's first SRA, JPI members sought a more **strategic document** that would effectively support their visionary approach. Indeed, the first SRA consisted in a mix between strategic and implementation aspects, hence missing a strong strategic focus and a prioritisation of objectives. Thus, the first step of the SRA revision consisted in filtering the strategic elements of the first SRA and leaving out all implementation issues. This allowed member countries to then elaborate on the rationale for the existence of JPI Climate, their common vision, the overall mission of JPI Climate and related strategic objectives, and its added value at European and international level. As a result, the updated SRIA does not refer to specific research fields and potential joint research actions, as opposed to the first SRA. Indeed, this will be the focus of more operational documents (e.g. Implementation Plan).

In addition, the **format of the new SRIA** is much shorter (i.e. around ten pages long) compared to the first one and is similar to a narrative. Hence, the resulting SRIA can be disseminated more easily and its key messages have a more effective impact on readers.

### 3.3 An integrative and collaborative approach and agenda

The elaboration of JPI Climate's first SRA was affected by low interaction between the different Working Groups (see Section 2.3), which were each responsible for the development of joint research activities on a specific research question that had been identified in the SRA. This was mainly due to the latter's discipline-oriented content, which was divided into research modules and sub-research topics. Thus, the updating of JPI Climate's SRA allowed an **integration of strategic objectives** by going beyond a disciplinary approach and relying on a cross-cutting and challenge-driven one. In particular, JPI Climate members consciously avoided strict scientific scoping of objectives in order to contribute to reducing fragmentation of a systemic issue such as climate change. This was reflected in the **writing process** as a small group of funders (i.e. Task Force) was drafting the document as a whole, as opposed to the elaboration of the first SRA where several groups of researchers were each in charge of writing a specific section.

Moreover, in order to achieve the desired integrated nature of JPI Climate's SRIA, the latter's elaboration required a **collaborative approach** that enabled the involvement of academic and non-academic stakeholders. This was for instance facilitated through the participation of the Chair of the Transdisciplinary Advisory Board (see Section 2.3) in the Task Force. Indeed, he ensured the link between TAB and TF/GB members. In addition, the stocktaking event and the final public consultation (see Section 2.2) also gave stakeholders the opportunity to give their feedback on earlier drafts of the updated SRIA. As a result, the latter is more **stakeholder-oriented** than the previous one and expresses the desire to have a better outreach to stakeholder communities related to JPI Climate, particularly as interactions between funders and researchers had been limited so far. Thanks to the collaborative nature of the SRIA elaboration process, JPI Climate has already benefited from strengthened relations with stakeholder communities. This goal is to be further developed through the **revision of the JPI governance model** in line with the new SRIA for the latter's effective implementation (see Section 2.3). In particular, the revised governance structure will seek to better connect JPI Climate to related research communities.

#### **4. Overall limitations with this approach, including difficulties encountered during implementation**

Several challenges can be encountered while elaborating or updating a Strategic Research and Innovation Agenda, in particular regarding the operation of the procedure and the involvement of key players. JPI Climate's approach has allowed to address these potential difficulties successfully.

##### **4.1 Time-consuming and complex procedure**

The elaboration of JPI Climate's SRIA was a long procedure which involved a large number of people and aimed to identify joint research strategies related to the broad and interdisciplinary issue of climate change. In order to effectively facilitate this procedure, Task Force members have ensured the **manageability of its operation**.

In particular, they elaborated a well-defined roadmap and timeframe, which was revised when needed and then communicated to all involved key players. Also, relying on a small group of persons in charge of actually writing the SRIA revealed itself as very time-efficient and fruitful, as opposed to the first SRA writing process which had involved approximately 50 people. The writing approach adopted for the SRA revision hence allowed for efficient decision-making and improved prioritisation and integration of members' joint strategic objectives (see Sections 3.2 and 3.3). The Task Force benefited from a significant day-to-day operational support of the Central Secretariat. In general, the distribution of roles amongst governing bodies was clearly defined and the facilitated interaction between the latter (e.g. via the Kick-Off Meeting, the workshop and Digestion Session) ensured an effective information flow, also contributing to enhancing the collaborative nature of the process as explained above (see Section 3.3). Lastly, efficient outreach to stakeholder communities and integration of their inputs required a targeted approach, especially when conducting the final public consultation (see Section 2.2).

##### **4.2 Challenge to optimally involve all key players in the elaboration process**

When developing a stakeholder-oriented SRIA, ensuring that all relevant stakeholder communities feel integrated in the process and taking into account their various requirements and points of views on future transnational research strategies is a significant challenge. In JPI Climate's case, some researchers had for instance difficulties in understanding how they could provide relevant feedback on the content of the SRIA during the final public consultation. Indeed, scientists are specialised in a specific field of research, which is why some initially may have assumed they would be asked to contribute to a particular section of the SRIA that related to their discipline. As JPI members aimed to avoid a disciplinary approach and to elaborate a very strategic document with integrated broad goals, the public consultation was conducted in order to seek feedback on the strategy as a whole. Specific disciplinary issues are to be addressed when designing and implementing targeted joint research actions.

##### **4.3 Appropriate resources needed to effectively support the elaboration process**

As indicated in Section 2.4, appropriate human and financial resources were provided by member countries for the elaboration of JPI Climate's new SRIA. In particular, the support from the Central Secretariat allowed to formalise and facilitate the design of the updating process as well as to monitor its operation. In contrast, the initial set-up of JPI Climate in 2010-2011 did not rely on such a formalised approach. Indeed, the development of the JPI's membership and governance and the elaboration of its first SRA consisted in an informal process that relied on in-kind resources from potential JPI members based on the latter's voluntary engagement. The set-up of a real common pot to fund a supporting structure (i.e. Central Secretariat) that facilitated the revision of JPI Climate's SRA was hence beneficial for this process. However, the direct involvement of partner countries through strong participation of national representatives is of course at the core of the joint elaboration of common strategic research priorities.

## 5. Conclusions: Suitability and key factors of success

The Strategic Research (and Innovation) Agenda is the output that expresses the collective agreement between countries involved in a P2P initiative (e.g. JPI) on future long-term transnational research priorities and strategies. Its elaboration is therefore **key for the alignment of national research programmes at strategic level**, which is why it is especially **required at the beginning of any type of joint programming initiative** that focuses on a **broad interdisciplinary research area** for which transnational cooperation is relevant. Moreover, updating an SRA/SRIA can be required, particularly in order to take account of major societal or policy shifts. Developing an SRA usually relies on outcomes from previous foresight and mapping activities, and/or on the content of a former SRA in the case of an update. The resulting Strategic Research (and Innovation) Agenda is essential to influence the level of associated financial and operational alignment amongst JPI/P2P member countries, if subsequently accompanied by an ambitious Implementation Plan.

*Key factors of success:*

*1) At strategic level:*

- **Jointly develop a common long-term vision that relies on a strong sense of trust, inclusiveness of and ownership by all members** by empowering them in leading the SRA elaboration process: this greatly contributes to ensuring long-term involvement in and financial/operational support of implemented joint research activities and of the initiative as a whole.
- **Collectively agree on joint strategic objectives that rely on an integrative approach, especially** if dealing with a research area that focuses on a broad systemic issue: this allows to avoid further fragmentation of research activities, which can especially hinder progress in addressing grand societal challenges, and it does not cut out the possibility of carrying out research activities related to a specific discipline if the latter is required.
- **Jointly build a governance model that can effectively support the implementation of SRA objectives:** if possible, this should be carried out in parallel with or right after the SRA elaboration in order to start the implementation process as soon as the SRA is adopted. The development of SRA should ideally be followed by the elaboration of a more practical joint Implementation Plan that would help translate some of the SRA's ambitions in practice by outlining joint research and innovation actions to be carried forward.

*2) At financial level:*

- **Secure sufficient resources** in terms of funding support (i.e. at national levels and/or via EC co-funding) and time required from members to effectively design and steer the SRA elaboration process: this can also include funding for pre-requisite activities such as joint mapping and foresight.

*3) At operational level:*

- **Collectively agree on a relevant SRA format** in terms of content and nature (strategic vs. research-related) as well as style of writing and length: for instance, elaborating a short SRA allows to disseminate it more easily and ensure a more effective impact of its content.
- **Jointly agree on responsibilities among P2P governing bodies and ensure an effective communication flow between them** in order to involve the P2P structure as a whole: in particular, appointing a small group of members in charge of leading the SRA elaboration process ensures efficient writing of the SRA and relying on a team responsible for the day-to-day monitoring of the process (e.g. JPI Secretariat) is required.
- **Collaborate with relevant stakeholders and seek their inputs in a targeted way** in order to efficiently integrate the contributions of diverse stakeholder communities and provide a stakeholder-oriented SRA that stakeholders can identify with.

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- EU Climate Policies: [http://ec.europa.eu/clima/index\\_en.htm](http://ec.europa.eu/clima/index_en.htm)
- JPI Climate: <http://www.jpi-climate.eu/home>

UN 2030 Sustainable Development Goal on Climate:

<http://www.un.org/sustainabledevelopment/climate-change-2/>

**Interview**

Alexandre Fernandes: JPI Climate Secretariat

Petra Manderscheid: Executive Director, JPI Climate Secretariat

## **ANNEX 1. JOINT PROGRAMMING INITIATIVE “CONNECTING CLIMATE KNOWLEDGE FOR EUROPE”**

JPI Climate is a European Joint Programming Initiative of EU Member States and Associated Countries, in cooperation with the European Commission. JPI Climate, comprised of representatives of ministries and organisations for research funding, aims through its programme of activities to connect research, performers and funders across Europe to promote the creation of new knowledge in the natural and anthropogenic climate change domain that is fundamental and relevant for decision support.<sup>15</sup>

Overall, JPI Climate:

- aims to respond to the knowledge needs of policy and the European society at large to address climate change;
- provides a platform to align national research priorities according to a jointly agreed Strategic Research and Innovation Agenda (SRIA) with the aim of complementing and supporting initiatives at the European level (ERA-NETs, Horizon 2020, Climate KIC, ESFRI Projects, Copernicus);
- facilitates the coordination, collaboration and exploitation of synergies in climate change research, learning and innovation while working against fragmentation and duplication of efforts;
- connects different disciplinary approaches in natural and social sciences leading to interdisciplinary research efforts of higher quality and relevance;
- connects top researchers and research groups from different European countries, leading to high quality and efficient research efforts, long term collaborations and a stronger global position;
- connects scientific insights with the demands of policy makers, decision makers and other stakeholders from local to international levels, leading to more effective policies.<sup>16</sup>

***JPI CLIMATE VISION:*** *To actively inform and enable the transition to a low emission, climate resilient economy, society and environment that is aligned with Europe’s long-term climate policy objectives; To develop and coordinate a pan-European research programming platform to provide useful climate knowledge and services for European and national climate strategies and plans and contributions to the UNFCCC and the UN Sustainable Development Goals.*

***JPI CLIMATE MISSION:*** *To align and inform strategies, instruments, resources and actors at national and European levels by connecting the various research communities with research funders and performing organisations, within and across European countries, and beyond Europe.*<sup>17</sup>

### ***JPI CLIMATE IMPLEMENTATION PROCESS:***

As a tool for alignment of research between the member countries, JPI Climate has implemented some of the priorities identified in its Strategic Research and Innovation Agenda through a set of Joint Transnational Calls. To-date, there have been three calls:

- 1) 2013 - Call for Transnational Collaborative Research Projects;
- 2) 2015 - Call for Climate Services Collaborative Research action on Climate Predictability and Inter-regional Linkages (together with the Belmont Forum);
- 3) 2016 - ERA4CS Joint Call on Researching and Advancing Climate Services Development.<sup>18</sup>

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<sup>15</sup> JPI Climate SRIA 2016-2025

<sup>16</sup> <http://www.jpi-climate.eu/programme/about-JPI-Climate>

<sup>17</sup> JPI Climate SRIA 2016-2025

<sup>18</sup> <http://www.jpi-climate.eu/joint-activities/joint-calls>

**ANNEX 2. JPI CLIMATE’S FIRST STRATEGIC RESEARCH AGENDA (2011-2015)<sup>19</sup>**

JPI Climate’s first SRA sets out policy-relevant research priorities for the short, medium and long-term on climate in Europe. This dynamic and flexible agenda (2011-2015) focuses on four interconnected work modules. Taken together, the modules represent the priority research areas identified by academics and stakeholders in participating countries where evidence and knowledge is needed to respond to current practitioner needs.

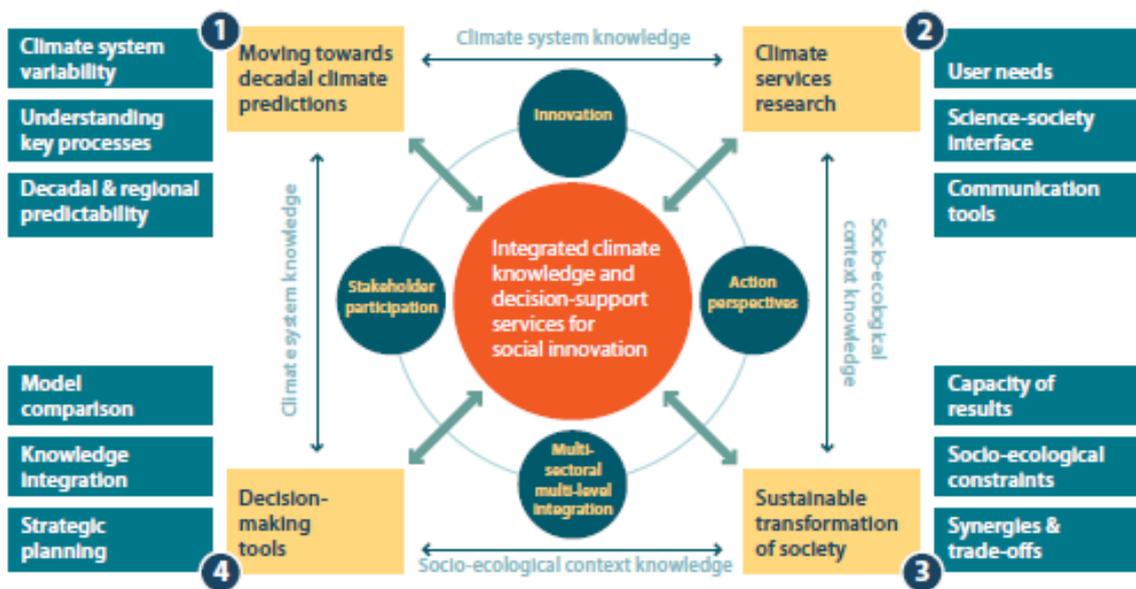
The four modules are complementary and synergistic, with established connections to other areas of research delivered by national and international programmes. By aligning with external activities in both the short-term and longer-term, JPI Climate adds value to total investments and helps deliver the integrated decision support needed by policy and practice.

**Module 1. Moving towards reliable decadal climate predictions:** this first module focuses on the implementation and coordination of climate modelling and observation activities across Europe in order to advance scientific knowledge on the climate system and provide reliable climate predictions through enhanced research capacity building and easier access to models and data.

**Module 2. Researching and advancing climate services development:** this second module describes JPI Climate’s aim to facilitate the dissemination of climate knowledge and services among end-users such as policy-makers and businesses, and to develop their application to local needs.

**Module 3. Sustainable transformations of society in the face of climate change:** the SRA’s third module focuses on the need to develop potential socio-economic responses to climate change, identify the drivers of these changes and facilitate their implementation.

**Module 4. Improving tools for decision-making under climate change:** the last module focuses on JPI Climate’s aim to facilitate the integration of climate change risks and uncertainties in socio-economic scenarios and decision-making tools, especially regarding strategic, policy and investment decisions.



<sup>19</sup> JPI Climate Strategic Research Agenda 2011-2015 (Summary)

### ANNEX 3. JPI CLIMATE'S UPDATED STRATEGIC RESEARCH AND INNOVATION AGENDA (2016-2025)<sup>20</sup>

JPI Climate's updated Strategic Research and Innovation Agenda (SRIA) sets out three overarching challenges and one strategic mechanism that together are intended to develop and support excellent, innovative, relevant and informative climate research. The framing – especially the emphasis on connectivity and synergy - reflects the priorities and approaches of researchers, funders and practitioners in the countries participating in JPI Climate.

*The three overarching challenges are:*

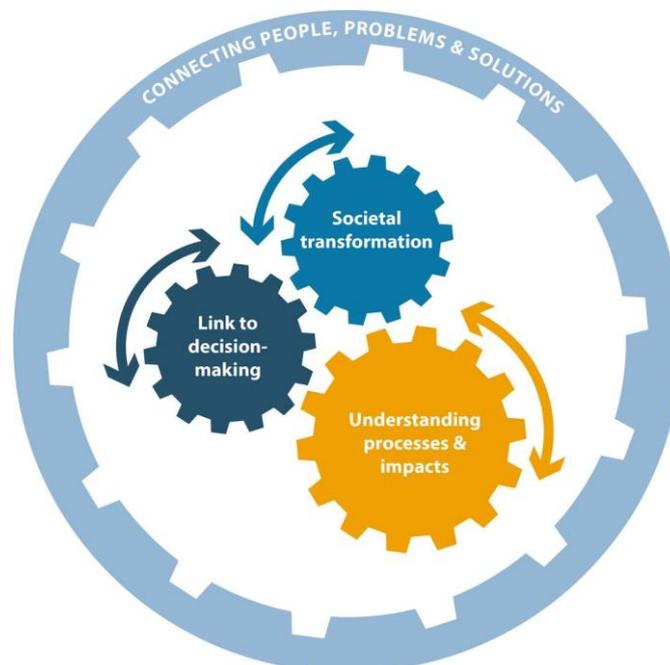
- 1. Understanding the processes and consequences of climate change**
- 2. Improving knowledge on climate-related decision-making processes and measures**
- 3. Researching sustainable societal transformation in the context of climate change**

*and the Strategic Mechanism is:*

#### **Connecting people, problems and solutions in a systemic approach**

The first challenge deals with building the knowledge base on the climate system and climate impacts that is relevant for strategic planning. While the second challenge deals with the short-term/incremental decisions and understanding decision making processes themselves, the third challenge deals with decisions in a wider and more holistic perspective, in terms of the long-term transition and development of society. Together these three challenges deal with linking research and innovation to decisions at different scales.

The strategic mechanism frames the task of JPI Climate of enhancing connections as a research topic in itself. JPI Climate aims to work in an international context for all of these three challenges and strategic mechanism that comprise its SRIA, with a user-oriented approach and with a focus on integrating research and decision making.



In addition, the SRIA highlights how JPI climate can effectively contribute to the European Research Area. Indeed, JPI Climate aims to foster the development of coherent research activities across its membership whilst maintaining creative diversity. It aims to facilitate cross-border interactions and enable a broader level of research and innovation. JPI Climate will help ensure maximum impact from European research efforts to respond to information and analysis needs that arise from the challenge of climate variability and change. In terms of process it will specifically contribute to:

<sup>20</sup> JPI Climate Strategic Research Agenda 2016-2025

**1. Enhanced societal relevance.** JPI Climate's multi-, inter-, and trans-disciplinary nature will consolidate, strengthen and amplify current climate research and its impacts, delivering usable knowledge for decision support at all levels across public, private or community sectors.

**2. Enhanced cooperation and alignment of research.** Intensified cooperation between researchers from different countries, scientific traditions, disciplines and perspectives enhances innovation and scientific quality. Enhanced alignment of research should improve the efficiency and utility of research investments, including human resources and capacity.

**3. Long-term continuity.** An international collaborative joint programming initiative over decades can transcend the limitations of short-term research programmes and projects, and provide more stability and continuity in research collaboration, essential considering the challenges society is facing.

**4. Higher effectiveness.** Transnational research collaboration avoids fragmentation and duplication of research, takes advantage of diversity and cultures, and can use resources more effectively, through national alignment or transnational support, by sharing and jointly developing new data from observational networks and modelling, experiments, tools, methods and research infrastructures.

**5. Stronger global position.** A well-coordinated JPI Climate will provide a competitive edge in the global climate change science arena. By providing strong science support, it can also foster Europe's role in international climate policy development and enhance North-South research collaboration.