



Knowledge
for Climate

ON THE CONTRIBUTION OF KNOWLEDGE FOR CLIMATE TO THE DEVELOPMENT OF JPI CLIMATE IN 2012



KfC 91/2013

(1)

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Frans Berkhout and Asuncion Lera St.Clair



1 Abstract

From 2008 to 2012, Knowledge for Climate contributed to the development of the Joint Programming Initiative “Connecting Climate Knowledge for Europe” (JPI Climate). In 2010, a proposal was developed and accepted, followed in 2011 by the development and adoption of a governance structure and a strategic research agenda. The Initiative is now supported by 13 member and 2 observer countries as well as the European Commission and 4 other observer institutions. In 2012, JPI Climate was formally launched in Brussels, financial support was obtained for the Commission in the form of a Coordination and Support Action (CSA), new steps were taken towards the alignment of climate research programmes in the participating countries, and first steps were taken towards the development of a first joint call, planned to be launched in 2013. This report summarizes the Dutch involvement in the programme in 2012, including the organization of meetings of the Governing and Transdisciplinary Advisory Boards, workshops and chairmanship of Working Group 4 on Decision-Support Methods and Tools. Because of strongly decreased priority of climate research in The Netherlands, no successful connection was yet made with NWO top sector research policy or other Dutch funding sources. The report discusses the future plans and collaborations.





2 Background

The European Council of March 2008 called on the Commission and Member States to explore the potential of Joint Programming, asking for joint activities to be launched by 2010 (EC, 2008). The overall aim of Joint Programming is to pool national research efforts in order to make better use of Europe's precious public R&D resources and to tackle common European challenges more effectively in a few key areas. In 2009, Germany took the initiative to develop a Joint Programming Initiative in the area of climate change research. In April 2010, this led to a proposal called "Connecting Climate Knowledge for Europe" (Clik'EU) that was developed by six core countries (Austria, Finland, France, Germany, Italy, the Netherlands) with the support of another (Belgium, Denmark, Ireland, Norway, Portugal, Sweden, Turkey, and United Kingdom). After a number of preparatory workshops, inter alia in Vienna in January 2011, a preliminary research agenda was prepared and a governance structure agreed (see section 2 and Figure 1 for more detail). In 2012, two meetings of the Governing Board were held (May, Brussels; November, Brussels) and the first meeting of the Transdisciplinary Advisory Board, which selected Prof. Hans von Storch as chairman, was also held in Amsterdam in May. On 7 November, JPI Climate was formally launched in Brussels, with Climate Action Commissioner Connie Hedegaard as one of the prominent speakers.





3 Governance

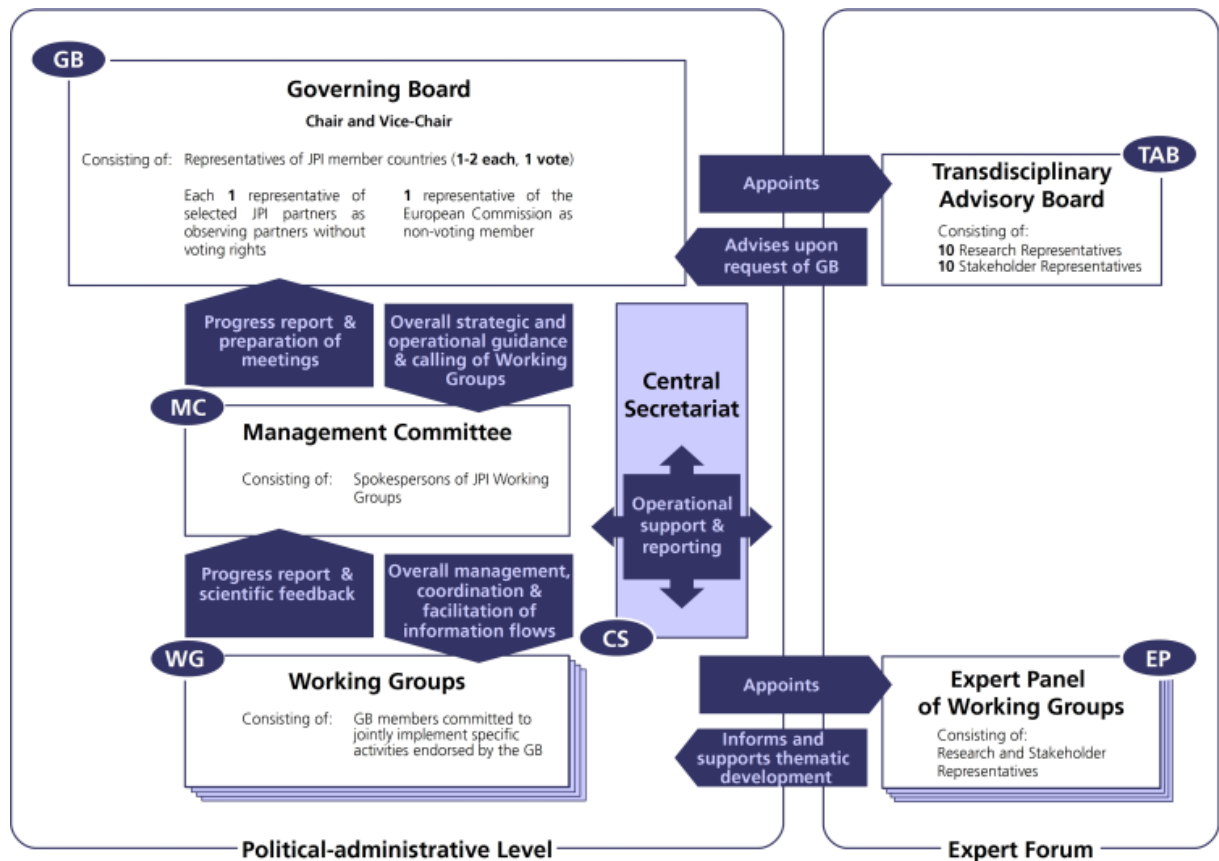
The principal JPI Climate governance bodies are (Figure 1):

- ✓ *Governing Board:* Guidance on overall strategic orientation and structure of the initiative will be provided by the Governing Board. All partner countries will be represented by the relevant funding organisations for JPI-related climate research. A Management Committee of that board will be responsible for overseeing the operational management of the JPI including its coordination units.
- ✓ *Working Groups:* The operational and programmatic activities of the JPI will be conducted by Working Groups, appointed by the GB and headed by up to two members. Members of the Working Groups will be the representatives of the JPI members and observers. The Working Groups prepare working papers on the operational and programmatic activities of the JPI that are to be adopted by the GB. Each Working Group has a spokesperson to the GB to represent the Working Group in the Management Committee. The Working Group spokespersons are recommended to be appointed in consideration of national representation within the Management Committee.
- ✓ *Central Secretariat:* The overall coordination and day-to-day management of the initiative shall be supported by a Central Secretariat. The office will report to the Governing Board via the Management Committee. Specific parts of the JPI could be managed by separate programme nodes.
- ✓ *Transdisciplinary Advisory Board:* An overall Transdisciplinary Advisory Board (TAB), consisting of national and international members from academia and from relevant stakeholder groups, will advise the Governing Board on specific issues on request. This overall Advisory Board is an important instrument to involve relevant stakeholder groups.
- ✓ *Expert Panels:* Expert Panels of Working Groups (EP), consisting of scientists as well as representatives of central stakeholder organizations, will be established temporarily on the level of the Working Groups (WG) to be consulted by the WGs regarding scientific orientation and revision of the prevailing sub-process steered by the WG. The chair of the EP in each specific WG can be invited by the Governing Board to report on the proceedings in the WG.



Figure 1: Governance structure of JPI Climate (for details, see Annex 1)

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4 Developments in 2012

At the time of writing of this report, after the accession of Spain, 15 countries were involved (13 member countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Norway, Sweden, Spain, The Netherlands, United Kingdom, 2 with observing status: Slovenia and Turkey). NordForsk, the European Environment Agency (EEA), the ERA-Net CIRCLE 2, and the European Climate Research Alliance (ECRA) are involved as observers. The European Commission is represented as a non-voting member. The Commission's participation facilitates the coordination between JP Climate, FP7 and the future Horizon 2020 research programme.

Coordination and Support Action

In 2012, a proposal for financial support from the FP7 programme was developed as a Coordination and Support Action, submitted, and approved (see Box 1). With 18 partners (including Alterra, VU Amsterdam and KNMI) and a budget of 2MEuro, the project will start as off 1 January 2013, with a kick-off meeting in February 2013. Alterra will lead the Work Package of Dissemination and Outreach (together with UKCIP) and the task on developing the strategic research agenda for Working Group 4 on Decision-Support Methods and Tools, KNMI will contribute to the tasks on developing the strategic research agendas for Working Groups 1 (seasonal and decadal predictins) and 2 (climate services), while VU will contribute to the Work Package on setting up a JPI Climate Platform (networking).

Meetings: Governing Board, Transdisciplinary Advisory Board, JPI Launch and joint Call Scoping meeting

From 10-11 May, the Dutch Ministry of Infrastructure and Environment in collaboration with the Knowledge for Climate research programme, organized the 1st meeting of the Transdisciplinary Advisory Board and the 3rd meeting of the Governing Board in Amsterdam (see annexes 1 and 2 for the minutes). On 7 November, the formal launch of the JPI Climate took place, chaired by JPI Climate chair Wilfried Kraus. Connie Hedegaard, European Commissioner for Climate Action, Anneli Pauli, Deputy Director-General, Research & Innovation DG, Katherine Richardson (University of Copenhagen), Asuncion Lera St. Clair (CICERO, University of Oslo), Antonio Navarra (Director of Euro-Mediterranean Centre on Climate Change, Italy), Frans Berkhout (Director of the Institute for Environmental Studies (IVM) and the Amsterdam Global Change Institute) and Andrea Tilche (EC - DG Research and Innovation) played an active role during the launch. On 8 November, the Governing Board met for the 4th time (see Annex 3 for the minutes). On 9 June, France organized a first scoping meeting on a possible joint call, focusing on the possible process and modalities rather than the content of a call. Apart from France, no other countries were ready to commit resources, and a 2nd scoping meeting will be held in early 2013, in which more emphasis will be paid to content. The minutes drafted by the French chairman, are formulated more positively than justified by the discussions.



Management Committee

In 2012, the JPI Climate Management Committee, composed of the chair persons of the four Working Groups, when required supported by the co-chairs, served as the main body supporting the German coordinator of the programme. The MC had face-to-face meetings in conjunction with the two meetings of the Governing Board in Amsterdam (May) and November (Brussels) and with the 1st scoping meeting on a joint call in Paris. In between, 5 teleconferences were held to discuss progress and prepare for the GB and TB meetings. JPI's Norwegian co-chair Norway, Kirsten Broch-Mathisen, participated in several MC teleconferences as observer. Rob Swart, chair of WG4, chaired the MC in the 2nd half of 2012. The MC took the initiative to organize and chair a meeting on 28 September 2012 in Brussels with 5 other JPIs (Oceans; Urban Europe; Water Challenges; Food, Agriculture and Climate Change; and Cultural Heritage) about joint activities and exchange of procedural experiences (see for more detail Annex 5). A follow-up meeting was held on 10 December, to prepare for the JPI Conference organized by the Irish Presidency in Dublin in March 2013, and to discuss potential joint activities, e.g. in the areas of Integrated Coastal Zone Management and linkages with Maritime Spatial Planning, the water-climate-food-energy-nexus, inland-coastal relations, methods for science-practice interactions, and coordination of socio-economic scenario development at the European level. Rob Swart as MC chair also developed 2 alternatives for the focus for a first Joint Call, reflecting the arguably opposed priorities of Working Group 1 (research coordination) and the other Working Groups (integrated themes). Also ECCRA and Denmark submitted proposals (see annex 6).



Box 1: Abstract JPI Climate CSA

The overall objective of this Coordination and Support Action is to coordinate and support the development and the implementation plans of the Joint Programming Initiative 'Connecting Climate Knowledge for Europe' (JPI Climate). The CSA will serve as a tool integrated in JPI Climate to enable it to address the challenges of climate change. Hence, it will contribute to the EU objective of building the European Research Area through enhanced cooperation and coordination of national research programmes. The CSA will coordinate preparatory activities within JPI Climate and will support the capacity-building process, with the aim of shortening the time required to reach the implementation phase. This will be done by further developing the common strategic research agenda and by refining the mapping exercise. With regard to the implementation a general concept for JPI Climate as a whole will be developed with preparing a catalogue of possible joint activities, developing and revising implementation schemes. Another main task of the CSA will be developing of a network strategy and the establishment of JPI Climate as the leading European platform to align policies in the area of climate research. This includes the coordination and development of synergies with the existing research and innovation schemes in the EU. The development of a strategy how to engage with member states not yet involved in JPI Climate and involve international institutions outside of Europe will complement this task. Further, the adaptation of the Framework Conditions will be an important step towards the implementation of JPI Climate. An appropriate use of the research findings requires effective communication strategies (web-sites, conferences, brochures). Therefore, the development of an optimized dissemination strategy will be part of the CSA as well.





5 Dutch interest and participation

The Netherlands have been involved in the development of JPI Climate from the beginning in 2008, where the possibilities for international climate research collaboration were discussed in Bonn between representatives of the Knowledge for Climate (KvK) programme and the German Air and Space Agency (DLR), responsible for the management of the German climate adaptation research programmes KlimaZwei and Klimzug. With the Dutch national climate research programmes Climate changes Spatial Planning and Knowledge for Climate coming to an end in 2011, and 2014, respectively, JPI offers an opportunity to organize potential follow-up research in an internationally coordinated fashion to spend research funds more effectively and efficiently. The similarities between the hotspot-oriented programmes KvK and Klimzug demonstrate that exchange of experiences and joint activities offer opportunities for mutual learning that could be strengthened further in the future. A number of aspects make collaboration within JPI Climate attractive for The Netherlands, including the initiative's trans-disciplinary nature, the coupling with priority societal challenges, and the promise of sustained collaborative networks. Nevertheless, because of the overall decrease in research funds in general and funding for climate-related research in particular, attempts to embed JPI Climate in national funding programmes did not succeed, even if NWO mentions JPI Climate (with other JPIs) as important for international collaboration.

In 2012, the following Dutch persons/institutions played the most active role in JPI Climate.

- ✓ Frans Berkhout (VU/IVM) and Vincent van den Bergen (Ministry I&M) were members of the Governing Board, while the former co-authored a note on framing issues .
- ✓ Pier Vellinga (KvK/WUR) was a member of the TAB – TAB member Maarten Hajer (PBL) was not active in 2012.
- ✓ Rob Swart (Alterra) was chairman of Working Group 4 and member and chairman (in the 2nd half of 2012) of the MC.
- ✓ Janette Bessembinder (KNMI) was lead author of a paper on guidance for user needs articulation in Working Group 2 on Climate Services.
- ✓ Peter Driessen (University of Utrecht) was active in Working Group 3 on Societal Transformations, including the organization of a workshop.

WG1 Decadal and Seasonal Predictions

Wilco Hazeleger and Bart van den Hurk (KNMI) contributed to the development of WG1's Strategic Research Agenda and associated fast Track Activities.

WG 2 Climate Services

Janette Bessembinder (KNMI) and Kees van Deelen (TNO) were active in Working Group 2 on Climate Services. Working group, chaired officially by



Reimund Schwarze (CSC; but supported by Roger Street and Janette Bessembinder), had several teleconferences and face-to-face meetings (Specific for WP2: Vienna January 24-25 2011 together with WP3; Bologna November 7-9 2011, including workshop with CIRCLE2; Hamburg April 19-20 2012; Bonn June 15 2012; General for JPI-Climate: Brussels October 5-6 2010; Helsinki May 30-31 2011; Amsterdam May 10 2012; JPI-launch Brussels November 6 2012). The following activities were developed including 2 approved Fast Track Activities (FTAs):

- ✓ *WG2 FTA Mapping users' requirements*: What do we know and what not?. (project leader Janette Bessembinder) In all European countries some information is available on users' requirements, from practise or from targeted inventories. However, relatively little of this information is documented and the information is scattered. Besides this, users' requirements can be very diverse (users are very divers) and requirements may change over time. For a good design of Climate Services (relevant information, logical structure to find data and information, etc.) it would be useful to take into account users' requirements from the early phases of development of climate (change) services. Expected result of this FTA is an overview of similarities and differences in requirements between sectors and countries, and an overview of knowledge gaps (+ suggestions for further research). Until now a guidance document (first version) is produced, based on best practice examples, and it is distributed to a large number of persons working on users' requirements within Europe for additional experiences/comments. This should support and encourage other JPI and non-JPI members to undertake similar national dialogues and inventories. A considerable number of documents on users' requirements was collected and contacts with several European projects were established.
- ✓ *WG2 FTA Mapping Climate Services in Europe* (project leader Reimund Schwarze). Many countries in the world are currently developing their own climate services, sometimes with multiple providers per country. Each provider is using its own methods and approaches to deliver data and information. In each European country the climate services are also defined somewhat differently. The principal guiding question is: "Why are the climate service providers doing what they are doing?" Expected result of this FTA is an overview of institutional structures as well as their portfolio of services of Climate Services in Europe. Overview of barriers and potential of collaboration between Climate Services in Europe (+ suggestions for further research). From the Netherlands some contributions were made for the guidance document that will also be produced for his FTA (which should support and encourage other JPI and non-JPI members to undertake similar national dialogues and inventories) and a first overview of climate services in the Netherlands was made.
- ✓ Contribution to the *International Conference on Climate Services* in Brussels (September 5-7, 2012): Dagmar Bley presented JPI-Climate



and in particular the work of Working Group 2 (with contributions of all members of the Working Group).

- ✓ Abstract submitted for the Impacts World 2013 conference in May 2013 on the FTAs of Working Group 2.

WG3 Societal Transformations

Working Group 3, chaired by Sebastian Helgenberger (BOKU, Vienna) had five teleconferences and three face-to-face meetings (Vienna, Utrecht and Brussels). WP3 focuses on 'the understanding of sustainable transformations of societies under climate change'. In order to develop a research agenda, on 18 and 19 October 2012 a workshop was organised with 20 European research leaders in social science climate research with the aim to identify important knowledge needs and to formulate the most pressing topics and questions for the next decade. The workshop was sponsored by KfC (NL), Formas (Sweden) and DLR (Germany). The working group aims to publish the results of this workshop in a scientific journal.

Furthermore, WG3 prepared three other fast track activities:

- ✓ A contribution to the World Social Science Report 2013 (coordinated by Ulrich Brand, University of Vienna);
- ✓ A Stakeholder Workshop in Venice, autumn 2013;
- ✓ A workshop for Future Research Leaders in Oslo, Spring 2013.

WG 4 Decision Support Methods and Tools

Working Group 4, chaired by Rob Swart, had x teleconferences and one face-to-face meeting (5 October, Amsterdam). Six activities were developed in 2012, including 4 approved Fast Track Activities (FTAs), notably:

- ✓ *WG4 FTA1 Science-practice labs*. This concept was very positively received by both GB and TAB, but remains to be made more concrete. Two science-practice sessions were proposed for the 1st European Climate Change Adaptation Conference (ECCA), to be held in Hamburg from 18-20 March 2012, one on Delta Centres by Alterra in combination with Deltares, Hogeschool Rotterdam and foreign partners, and one on urban issues by Denmark. In collaboration with the ERA-Net CIRCLE-2, a synthesis report will be prepared on the lessons learned from all (approx.. 30) ECCA science-practice sessions.
- ✓ *WG4 FTA2 IPCC AR5 knowledge transfer*. Norway has taken the lead in developing a coordinated analysis of the knowledge transfer after the publication of the AR5 IPCC reports. In The Netherlands, PBL and KNMI have expressed interest in joining this activity.
- ✓ *WG4 FTA3 ISI-MIP*. The Ministry of I&M is supporting the Dutch participation in this Impact Modelling Intercomparison that aims at strengthening the quality of impact assessment for international assessments such as IPCC. PBL and the universities of Utrecht, Maastricht and Wageningen participate in the programme (see annex 7).



- ✓ *WG4 FTA4 GHG verification.* This initiative from Ireland aims at improving the accuracy of national emissions inventories. The Netherlands is not participating in this effort.
- ✓ *Economics of climate change impacts and adaptation.* In 2012, WG4 has taken the initiative to develop a research line on economics, based on a contribution from the Italian CMCC. In Amsterdam, on 5 October, WG4 organized an international workshop in collaboration with KvK theme 8, after which a short proposal for research priorities was prepared that was approved by the JPI Climate GB in November for further elaboration (annex 8).
- ✓ *Framing issues .* Frans Berkhout in collaboration with Asun St. Clair (Norway) prepared a note on framing issues, proposing four principles as a means to facilitate the integration of all the activities and work proposed by the four modules: (i) a reflexive approach to climate change itself and attention to the way in which it is framed, (ii) self-reflection on knowledge itself, (iii) investigation that explicitly considers policy and decision processes in their framing, and (iv) integration and coherence across all the modules that compose JPI Climate (annex 9). The GB adopted these principle for consideration by the 4 Working Groups.



6 References

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European Commission, 2009. White Paper. Adapting to climate change: Towards a European framework for action. Brussels, 1.4.2009. COM(2009) 147 final

European Commission, 2011. Co0mmission Recommendation of 21.10.2011 on the research joint programming initiative 'Connecting Climate Knowledge for Europe'. Brussels, 21.10.2011, C(2011) 7410 final





Annex 1

3rd Governing Board Meeting of JPI Climate

May 10/11, 2012 Amsterdam

Draft minutes

Participants

Members:

AUSTRIA, AT: Irene Gabriel, Sebastian Helgenberger
BELGIUM, BE: Frank Monteny
DENMARK, DK: Anne Munk Christiansen, Henning- Høgh Jensen
FINLAND, FI: Paavo-Petri Ahonen
FRANCE, FR: Corinne Borel, Patrick Monfray, Sophie Lebonvallet
GERMANY, DE: Evelina Santa, Wiefried Kraus
IRELAND, IE: Ray McGrath
ITALY, IT: Antonio Navarra
NORWAY, NO: Kirsten Broch Mathisen, Ingrid Bjotveit
SWEDEN, SE: Lisa Almesjö, Magnus Friberg
THE NETHERLANDS, NL: Vincent van den Bergen, Frans Berkhout
UNITED KINGDOM, UK: Simon Jackman

Non-voting member:

EUROPEAN COMMISSION, EC: Andrea Tilche

Observer:

SLOVENIA, SI: Davor Kozmus
NORDFORSK: Maria Nilsson, Marianne Rogeborg
CIRCLE 2: David Arvelar
EEA: André Jol
ECRA: Andreas Krell

Central Secretariat: Dagmar Bley, Armin Mathes

Moderation: Wilfried Kraus and Kirsten Broch Mathisen

1) Minutes of 2nd GB Meeting in Bologna

The minutes of the 2nd GB Meeting in Bologna in November 2011 were accepted.

2) GPC questionnaire

General comments: Most of the questions come too early.



Resolution:

- ✓ Evelina Santa, Kirsten Hollaender and Sebastian Helgenberger prepare a draft respond; GB members have time to recommend on the draft until Tuesday evening, May 15.
- ✓ CS send the modified questionnaire to GPC on Tuesday evening, May 15.

3) Composition of TAB

On the discussion there was a common agreement on having more stakeholders in the TAB. An evaluation on the work of the TAB after two years should be made.

Resolution:

- ✓ Allow for extension of TAB up to 25 persons in order to include more stakeholders.
- ✓ To ensure the quality of discussions, the presence of at 12 TAB members will constitute the quorum necessary for the meeting to be valid.
- ✓ Jean-Yves Caneill from EDF is the 20th member of the TAB.
- ✓ Governance rule: Delete the condition that 50% of the scientists must come from outside Europe or having an international affiliation (see Governance 3.5.1 Transdisciplinary Advisory Board; Composition of the TAB on page 16 of the Governance document), and allow for more than 10 stakeholders without increasing the number of scientists.
- ✓ Agenda-topic at the next GB Meeting: Discussion on which kind of experts do we need in the TAB.

Furthermore, there should be the possibility to invite ad hoc resource people (e.g. representatives of the insurance business) to GB meetings and TAB meetings to stimulate thinking on and connecting with concrete user needs.

4) Launch of JPI Climate

Resolution:

- ✓ Launch of JPI Climate takes place.
- ✓ Where: Brussels
- ✓ When: End of October (the European Parliament has sessions in calendar week 43)
- ✓ Organise some side events (Who?)
- ✓ Working Group 'Launch of JPI Climate' with representatives from NL, FR, NO supported by the CS will be responsible for organisation.

(see also AOB, next GB Meeting)

5) CSA

Andrea Tilche informed on the evaluation of the JPI Climate CSA: In general, evaluation was positive, nevertheless there are some minor revisions/comments:



- ✓ List of key deliverables should be improved.
- ✓ Link between the partners and the main funding agencies should be strengthened.
- ✓ Number of partners should be reduced.

CS will send the initial information on the outcome of the evaluation to the GB.

6) Working Group: Presentation on FTAs and Framing Principles

- ✓ For details see presentations of the spokespersons.
- ✓ Framing Principles:
Frans Berkhout and Asuncion St. Claire have developed a draft paper on JPI Climate Framing Principles. Most GB members appreciated the Framing Principles document.
Frans Berkhout will elaborate the introduction.

Resolution:

TAB should give recommendations on the Framing Principles document among other things regarding the question what should become of it.

7) TAB-recommendations on JPI Climate

For details see presentation of Sanna Sorvari.

Resolution:

MC should read the recommendations in detail and make suggestions how put the recommendations to practise.

Minutes of TAB and GB meeting will be send to TAB and GB.

8) Info on Horizon 2020 by Andrea Tilche

For details see presentation of Andrea Tilche.

9) Common activities – Proposal by Patrick Monfray

For details see presentation of Patrick Monfray.

Some views of the discussion:

- ✓ Joint calls are promising activities in the long term.
- ✓ First there should be an idea of what JPI Climate can fund and then start with the call (put money in the pot).
- ✓ JPI Climate should be careful to do not the same as EC is doing with much more money.
- ✓ NordForsk has many experiences in organising joint calls and offers his support.
- ✓ Having a first common call demonstrates the willingness of JPI Climate.

Resolution:

Scoping WS with Patrick Monfray, MC and GB member (GB should also be invited) to elaborate/design subjects where funding seems to be appropriate.



For the time being there is no resolution for a joint call.

10) Election of Vice-Chair

Kirsten Broch Mathisen was nominated for vice-chair again. No further proposals and candidatures for the position of the vice-chair were expressed.

Kirsten Broch Mathisen accepted the nomination on behalf of Norway as vice-chair. The moderator proposes to adopt Norway's candidature for vice-chair.

The GB unanimously appoints Norway as the Vice-chair of JPI Climate for a term of office of one year.

11) Discussion of FTAs – Commitment of JPI members and observer

- ✓ FTA 1.4 should be a cross-cutting FTA
- ✓ FTA 3.3, FTA 3.4 and FTA 3.5 are postponed to the next GB Meeting, should be worked out in detail.
- ✓ FTA X.1: Austria offered to launch a preparatory project on defining needs and fields of action towards lowering the carbon footprint of climate research (programming).

Resolution:

Working Groups should start with the activities now.

Please find the overall list of FTA see annex 2.

12) AOB

Next GB meetings:

- ✓ End of October 2012 in Brussels together with Launch of JPI Climate (calendar week 43)
- ✓ Spring 2013 in Cologne or Bonn hosted by Germany



Annex 1.1: TO DO List

Activity	Who	Addressee	Deadline
Send out the GPC-Questionnaire to the GB members for recommendations	CS	All GB members	Monday, May 14; Deadline for recommendations: Tuesday evening, May 15
Send out modified GPC-Questionnaire to GPC	Chair, CS	GPC	Wednesday, May 16
Propose representatives for the organisation team of the launch of JPI Climate	All JPI Climate Members with voting rights	CS	31/05/2012
Send out information on the outcome of the evaluation	CS	All GB members	As soon as possible
Doodle query for the date of the 4 th GB meeting in Brussels end of October (together with JPI Climate launch)	CS	All GB members	As soon as possible
Modify governance and send it out to GB for adoption	Sebastian Helgenberger, CS	All GB members	As soon as possible
Nominate further representatives (stakeholder) to the TAB	Interested GB members and GB observer	Chair, Vice Chair, CS	15/09/2012





Annex 1.2: List of FTAs and participation

CSA support	Interest to commit resources (funding, in-kind)	Interest, resources unclear	No interest	Interest to lead
(CSA)	2	1	0	X

Please note: the information on FTA participation is based on the current knowledge of the Working Group Chairs and therefore is indicative and does not claim to be complete.

ID	FTA	AT	BE	DE	DK	FI	FR	IR	IT	NO	NL	SE	UK	observers
FTA-1.1 (CSA)	Decadal prediction including relevant observation, understanding, processes		2	2	1	2	2	2	2 X	2	2 X	2	2	Slovenia: 1 ECRA: 1
FTA-1.2 (CSA)	Towards a European strategy for climate modelling: coordination and next generation of climate models		1	2		1	2 X	1	2	2 X		2 X	2 X	Slovenia: 1
FTA-1.3 (CSA)	Changing cryosphere in the climate system - from observation to climate modelling		1		1	2 X	2 X		1	2 X		2 X	?	ECRA: 1 Nordforsk: 1
FTA-1.4	Training in Earth's climate system science (NB: topic will be broadened to consider framing principles)					1	1		2	2 X	1			
FTA-2.1 (CSA)	Mapping user requirements: What do we know and what not?	1 X		2		1	2		2	2	2 X		2 X	EEA: 1
FTA-2.2 (CSA)	Mapping Climate Services in Europe	1		2 X	1		2		2	2	1		1	EEA: 1 Slovenia: 1
ID	FTA	AT	BE	DE	DK	FI	FR	IR	IT	NO	NL	SE	UK	observers
FTA-3.1 (CSA)	Bibliographic Review on Social Science Climate Change Research	1				2 X	2 X							
FTA-3.2 (CSA)	Scoping Social Science contributions to Climate Change Research (Workshop Series) relation with H2020/mainstr.	1		2		1	2			1	2	2		Circle2: 1
FTA-3.3	<i>Synthesis study on Transformation Visions of sustainable, climate-friendly and climate-proof European societies</i>	1								1				
FTA-3.4	<i>Governing the trade-offs of climate change responses – Case studies in climate change hot spots</i>	1							1		1			
FTA-3.5	<i>Call for Pilot studies on „Contributions of Climate Services for societal innovation“</i>	1												
ID	FTA	AT	BE	DE	DK	FI	FR	IR	IT	NO	NL	SE	UK	observers
FTA-4.1 (CSA)	Dedicated Science-Policy Laboratories			2	1	?	1	1	1	1	2 X		1	
FTA-4.2	<i>Knowledge transfer IPCC AR5</i>			1			1	1		1	1		1	

[illegible]



Annex 2

1st Transdisciplinary Advisory Board Meeting JPI Climate

May 10th, 2012 Amsterdam

Minutes

Participants:

a) Members TAB

Eli Aamot

Ulrich Brand

Tim Carter

Joseph Lovell

Dominique Marbouty

Karen O'Brien

Katherine Richardson

Maryke van Staden

Hans von Storch

Pier Vellinga

Governing Board representatives (morning session)

Wilfried Kraus (Chair Governing Board)

Evelina Santa (Sherpa to the Chair of the GB)

Management Committee (morning/ early afternoon session):

Sylvie Joussaume

Dagmar Bley/ Janette Bessembinder

Sebastian Helgenberger

Rob Swart

Central Secretariat (taking minutes): Kirsten Hollaender

Moderation: **Sanna Sorvari**



1) Words of Welcome by the Chair of JPI Climate, Wilfried Kraus

Wilfried Kraus welcomed the members of the TAB and thanked them for their willingness to engage in this task. He provided background information on the development of JPI Climate. Evelina Santa presented the approach of JPI Climate (presentation attached)

Resolution:

- Only 10 members of the thus far 19 elected TAB members were present. Thus, the meeting did not meet the required number of participants for any voting decisions (which would be two thirds) Therefore, the election of the Chair will take place electronically, after the meeting. We will provide opportunity for TAB members to put forward their candidature via mail.

2) Presentation by Sanna Sorvari on the Goals of the 1st TAB meeting

Sanna Sorvari (JPI Climate MC Member and moderator of the 1st TAB meeting) gave a short presentation on TAB goals, roles and expectations (from and to GB). After the presentation TAB mandate, terms of reference and expectations were discussed. Terms of reference in appendix 1.)

- ✓ TAB members agree on the given mandate
- ✓ Also Terms of Reference were clear, however, the complicated rules for quorum were simplified from “...presence of the least two-thirds of scientific TAB members and two-thirds of the stakeholder organization TAB members....” to “...presence of the least two-thirds of TAB members”
- ✓ Expectations and role: TAB is an advising body and will give advice to JPI Climate Governing Board (GB) on content and the process when the GB requests it. TAB can suggest and initiate new JPI climate topics and it should also follow that the operating bodies (namely the working groups) have the most suitable composition of scientific expertise and that this composition reflects the countries expertise on the given topic.

Election of the Chair

Since only 10 TAB members were present on the meeting, the quorum was not fulfilled and the election of the chair was postponed. The participating TAB members agreed to have electronic election of the chair.

Moderator asked the participating TAB members if any of the members were willing to be a candidate for election. Hans von Storch stated his willingness to be candidate for Chair. Participating TAB members acknowledged that Hans von Storch is a suitable candidate for a TAB chair, however, TAB members present also highlighted that the TAB members absent from the 1st meeting should have the opportunity to indicate their willingness to be candidate for the TAB chair position.

TAB gave a task to the JPI Climate (moderator Sorvari and CS member Hollaender) to seek possible candidates and launch an electronic election before the summer season.



The central secretariat of JPI Climate has taken note of the candidature of Hans von Storch and will ask via mail for possible additional candidates for the position of TAB chair. It will then organize a voting procedure via mail before the summer break.

4) Presentations by the Chairs of the four Working Groups

Each working group presented its approach and status quo.

The TAB members discussed each presentation and made comments and recommendations directly after the presentations. (Presentations attached)

These are taken into account by the working group chairs and are not separately reported here.

Also the TAB members were provided in paper with the draft version of the “Framing principles of JPI Climate (authored by Frans Berkhout and Asunción Lera St. Clair)

5) Overall comments – JPI Climate potentials

- ✓ The TAB notes that the coordination of country efforts (to overcome the fragmentation) is a clear JPI Climate added value
- ✓ The coordination of country efforts is relevant, but not so innovative. What is the content related added value?
- ✓ JPI Climate should enable to ask the questions no one is asking
- ✓ Identify the gaps with the users who actually are to be addressed, and sciences and SSH (social sciences and humanities) not yet involved.
- ✓ The science practice laboratories and other experiments with users (e.g. like the idea presented by WG4) were repeatedly mentioned as a good way to proceed.
- ✓ Science-practice laboratories with users should be considered more broadly in the other WGs/ the overall JPI.
- ✓ Discussion also evolved on what kind of research is needed. The need for more knowledge sometimes is used as argument for not taking action, until more is known. Also the usefulness of knowledge to stakeholders needs to be enhanced and needs to be a priority. It is always important to keep asking who “frames the question”.

6) Key issues raised - TAB observations

Focus more on putting research into societal contexts

- guaranteeing the relevance for users, by talking with users with different perspectives and world views, incorporating communicating strategies, engaging in co-production of knowledge

- ✓ Get past the linear model, of speaking truth to power

as outlined in the paper by Berkhout and St. Clair and take seriously reflexivity. There is a need for a two way bridge, meaning dialogue and exchange in both directions.



A bridge needs two way traffic. Science cannot decide for policy what they want or need to know.

- ✓ JPI needs to deal with competing knowledge claims, scientific knowledge claims are not superior automatically, in the public perception. We need to know what people know, but more even, what people believe to be true.
- ✓ Focus also on links with energy, water, etc. The links of climate change to other sectors are becoming increasingly important. JPI Climate WG spokespersons mentioned the other JPIs which cover several of the climate related sectors, such as JPI Water, JPI Oceans, and JPI FACCE. JPI Climate is aiming to increase the collaboration between other relevant JPIs in the future.
- ✓ Who are the target groups of JPI Climate?

Focus on missing players, e.g. the private sector (insurances), local governments, intergovernmental organizations, civil society. They want to know about risks and costs. Also scientific institutions not represented in the author teams

- ✓ TAB stresses importance of looking into the past. Not only looking at future climates but learning from analysis of the recent past (ca. 50 years)
- ✓ WG3 should use the concept of transformation also in an analytical and critical sense, and not just mostly normative, as it appears now
- ✓ Frame climate change in its cultural, political, societal and technical aspects. There are multiple framings and competing knowledge claims
- ✓ Make JPI Climate more relevant to Europe, acknowledging JPI Climate is member state driven initiative. The H2020 programme is still very much vertically organized along established disciplinary lines. This is a risk of fragmentation and duplication, also because of the fact that there are 10 JPIs being established.
- ✓ JPI Climate seems to be still a bit too academic and is focusing too little on solutions. Do not only look at the problem, but look at the adaptation and solutions. JPI Climate should be more about positive solutions, eg. How can we make adaptation solutions cheaper and more attractive.
- ✓ In the Working Groups and author lists for some countries national community is better presented and sometimes not well represented

TAB recommendations to Governing Board

- ✓ TAB will insist on better integration across the four modules and on the cross cutting issues.
- ✓ We face multiple crises, not only related to climate change impacts but also concerning energy, biodiversity etc. This should be considered by JPI Climate.



- ✓ JPI Climate needs to consider links with the other JPIs, there is a risk of duplication

RECOMMENDATION: develop and publish **common white papers from all four working Groups**, for instance analyses of case studies on topics (these could focus on societal challenges such as e.g. currently discussed issues of (un-) employment, green economy, “symbolic” policy, growth paradigm, quality of life.)

because of funding in vertical structures (disciplinary or sectoral lines)

7) TAB Recommendations on the FTA's

The TAB sees the FTAs addresses the coordination goal but they do not yet fully address the cross cutting issues and main challenges in the SRA

TAB observes that the FTA interest table (with the green boxes) reflects the current funding structures

REC1: there should be more integration in the FTAs, e.g. in the training (cross-cutting FTA)

REC2: integration/link between FTA 1.3 and FTA 3.4 (cryosphere and social sciences)

REC3: create a link between FTA 1.2 on next generation models and FTA 1.4 on training

REC3: Imbalance is noted in funding commitments, with especially WG3 too low -> Need for WG3 to make it more attractive, very academic at the moment

REC4: Mapping as a FTA activity as such is not enough, it should be taken a step further, to the analysis (content analyses)

REC5: additional FTA - the science policy interface dynamics, how they changed in the last 20 years

REC6: The cross cutting proposal of X.1. is interesting but needs more elaboration, but should not be an ideological party, go beyond carbon offsetting logic, note the importance of modeling energy consumption

CSA support	<i>Interest to commit resources (funding, in- kind)</i>	<i>Interest, resources unclear</i>	<i>No interest</i>	<i>Interest to lead</i>
(CSA)	2	1	0	X

meeting, to be further developed

[illegible]



Annex 3

4th Governing Board Meeting of JPI Climate

November 07, 2012 Brussels

Draft minutes

Participants

Members:

AUSTRIA, AT: Irene Gabriel, Sebastian Helgenberger
BELGIUM, BE: Martine Vanderstraeten, Frank Monteny
DENMARK, DK: Anja Skjoldborg Hansen, Martin Riis
FINLAND, FI: Paavo-Petri Ahonen
FRANCE, FR: Corinne Borel, Patrick Monfray, Johann Muller
GERMANY, DE: Evelina Santa, Gregor Laumann
IRELAND, IE: David Dodd, Phillip O'Brien
ITALY, IT: Eva Banos de Guisasola, Antonio Navarra
NORWAY, NO: Kirsten Broch Mathisen, Ingrid Bjotveit, Ingunn Lid
Spain, ES: Lourdes Armesto
SWEDEN, SE: Lisa Almesjö
THE NETHERLANDS, NL: Vincent van den Bergen, Frans Berkhout
UNITED KINGDOM, UK: Ned Garnett, Adrian Broad

Non-voting member:

EUROPEAN COMMISSION, EC: Andrea Tilche

Observer:

NORDFORSK: Maria Nilsson
CIRCLE 2: David Arvelar
EEA: André Jol
ECRA: Andreas Krell, Peter Braesicke

Management Committee: Sanna Sorvari, Rob Swart, Dagmar Bley

Central Secretariat: Kirsten Hollaender, Armin Mathes

Chair: **Evelina Santa (replacing Wilfried Kraus) and Kirsten Broch Mathisen**



TOP 0: Welcome

- ✓ Evelina Santa expresses apologies on behalf of Wilfried Kraus for not being able to attend and chair the GB meeting
- ✓ Agenda was changed (TOP 5 and TOP 4 were moved before TOP 3)
- ✓ Minutes of the 3rd GB meeting in Amsterdam (May 2012) were adopted

TOP 1: Joint Programming mode of operations: From formation to implementation

✓ **Introduction**

A presentation by Gregor Laumann was followed by a discussion on

- an iterative process leading to the “Updated of SRA and Implementation Plan” as defined in the list of deliverables of the CSA.
- The need for proper representation of the GB members in the Working Groups as well as improved communication and exchange between WGs (MC) and GB.

✓ **Short report on the Working Groups**

Presentations were given by Rob Swart, Sebastian Helgenberger, Dagmar Bley and Sanna Sorvari.

- Rob Swart (in his role of MC Chair) reported on the 1st joint meeting of the JPI Climate with other related JPIs (Water Challenges, Oceans, Cultural Heritage and Global Change, Urban Europe and FACCE) had a first meeting. JPI Oceans will host a second meeting on 10th December (a.o. to prepare for the Conference on Joint Programming under the Irish Presidency of the Council of the European Union, Feb. 2013, Dublin.)
- Andrea Tilche mentioned that there are some crucial discussions now regarding multi-annual work-programmes of Horizon 2020; he proposed to start a discussion with the JPI on a potential large ERA-Net initiative on Climate Services. EC will provide strong support to Climate Services and invites the JPI Climate to jointly develop these programmes as key partner in this area.
- The EEA invites the JPI Climate for the development of related activities
- Sebastian Helgenberger suggested a further FTA ‘Climate-friendly Climate Research’ which was of interest to almost all GB members.
- The GB suggests to create an ad hoc task force for the strategy development with the EC

✓ **CSA update**

Start of CSA: 1st of January 2013

Next steps: Collecting signatures from the partners.

✓ **Function of WGs** (composition, vertical communication etc.)



Discussion followed on the composition of the WGs.

Resolutions (1):

The GB takes notice of the progress reports of the Working Groups and asks them to continue developing the implementation plan along the lines presented, taking into account the following guidelines:

- ✓ The Working Groups – supported by the GB – should make further efforts to attract key players from the research communities to contribute to the development and implementation of activities.
- ✓ The Working Groups are encouraged to work towards integration in fields and topics where the conceptual work shows strong links and interactions across the Working Groups. On this basis the Working Groups should identify integrated lines of action and review the Working Group structure accordingly.
- ✓ The Working Groups should consider both national; European and international programme lines (e. g. Horizon 2020, EEA...) and seek synergies in their implementation planning.
- ✓ The Working Groups are encouraged to continue working towards a common larger strategic framework.

Resolution (2):

- ✓ The GB members will endeavour to ensure that those Working Groups they intend to support will be attended by representatives able to provide a perspective of how the topics discussed can be linked to and absorbed by the national research funding organizations in their agenda setting processes (conceptually, technically, and in terms of responsibility).

Resolution (3):

- ✓ The GB adopts the proposal to work towards a zero-order draft of the “Updated SRA and Implementation Plan” (as described as part of the CSA) according to the following time line:

- Submission of a draft report by the Management Committee to the GB and TAB on May 31, 2013.
- Request of TAB recommendations by June 30, 2013.
- National consultations between May 31, 2013 and the next GB-Meeting (t. b. d.).

The TAB shall already be consulted by the MC as part of the preparation process of the draft report.

The process shall be facilitated by the Central Secretariat.



Resolution (4):

- ✓ The GB asks the Management Committee together with the Central Secretariat and the respective CSA task leader to set up a communication platform as part of the website, providing regularly updated information on:
 - Working Group meetings with agenda and background material;
 - reports on the progress and results achieved at the meetings in a brief standard reporting format.
- The platform should provide the opportunity to exchange documents.

Resolution (5):

- ✓ The GB will strengthen its efforts to consider in its research agenda the global strategic European initiatives such as Horizon 2020, other relevant JPIs, GMES, Climate KIC, or any linked large climate change initiative on Climate change at EU and international levels (GFCS, Belmont Forum, Future Earth,...).
- In order to implement this action, the GB will appoint an “ad hoc” task force, within its members, which will keep the communication with these initiatives, follow their development and produce recommendations for the consideration of the GB.

To-do: CS sends email to GB members who should propose representatives for the “ad hoc” task force which will keep the communication with Horizon 2020 and other initiatives.

TOP 2: JPI Climate Framing Principles

- ✓ **JPI Climate framing principles**
- Frans Berkhout presented updated Framing Principles.

Resolution (6):

- ✓ The GB takes note of the document “JPI Climate Framing Principles” and asks the Working Groups as well as the TAB to provide their comments for a final revision of the document by the authors, to be tabled for adoption by the GB at its next meeting.

TOP 3: Collaboration between TAB and GB

- ✓ MC recommendations on how to implement the requests of the TAB
- ✓ Mandate of TAB
- ✓ Framing Principles can function as point of reference for the TAB



Presentation of the MC recommendations with discussion

Resolution (7):

- ✓ The GB takes notice of the recommendations of the TAB and the recommendations of the MC how to implement these comments. The GB asks all members of the JPI Climate to review the portfolio of activities in the light of these recommendations and provide comments on any changes, should these be considered necessary, for discussion at the next GB meeting.

TOP 4: Presentations of other Initiatives

- ✓ Presentation of ECRA (P. Braesicke, NCAS)
- ✓ Presentation of Climate KIC (C. Borel)

TOP 5: JPI Climate First Joint Call

- ✓ First Joint Call further proceeding (*presentation by Patrick Monfray*)

Presentation of First Call-Workshop in Paris in June 2012 and presentation of possible proposals of First Calls.

Resolution (8):

- ✓ The GB notes the report on the preparation activities related to a possible series of joint calls and asks France to continue leading this initiative according to the roadmap presented.

To-do: Patrick Monfray will organise a 2nd Scoping WS for research funders referring to the planned joint call.

TOP 6: AOB

- ✓ Eastern European members: admission of countries in the JPI Climate (postponed to the next GB meeting).
- ✓ Next GB Meeting: Possible in June 2013 in Germany; a doodle poll will be organised by the CS soon.
- ✓ Next GB Chair: The GB members are invited/ requested to suggest possible candidates for the next GB chair to be elected at the next GB meeting in 2013.





Annex 3.1: TO DO List

Activity	Who	Addressee	Deadline
Propose representatives for the task force which will keep the communication with Horizon 2020 and other initiatives	CS	All GB members	As soon as possible
Doodle query for the date of the 5 th GB meeting in Germany in the beginning of June 2013	CS	All GB members	As soon as possible
Organisation of 2 nd scoping workshop for research funders referring to the planned joint call	Patrick Monfray	All GB	January 2013
Request to GB members to suggest possible candidates for the next GB Chair	Cs	All GB members	March 2013 (?)





Annex 3.2: Overview on FTA and participation in JPI CLIMATE

CSA support	Interest to commit resources (funding, in-kind)	Interest, resources unclear	No interest	Interest to lead
(CSA)	2	1	0	x

Adopted by
the JPI
CLIMATE
Gov-

Working Board on November 7th 2012

X	FTA	AT	BE	DE	DK	ES	FI	FR	IR	IT	NO	NL	SE	UK	observers
FTA-X.1 (CSA)	Pilot project on climate friendly climate research in agreement with JPI CLIMATE's sustainability principle	2X	2	1	2		2	1		2	2	1	2	2	Circle2:1 Nordforsk: 1
M1	FTA	AT	BE	DE	DK	ES	FI	FR	IR	IT	NO	NL	SE	UK	observers
FTA-1.1 (CSA)	Decadal prediction including relevant observation, understanding, processes		2	2	1		2	2	2	2 X	2	2 X	2	2	Slovenia: 1 ECRA: 1
FTA-1.2 (CSA)	Towards a European strategy for climate modelling: coordination and next generation		1	2			1	2 X	1	2	2 X		2 X	2 X	Slovenia: 1
FTA-1.3 (CSA)	Changing cryosphere in the climate system - from observation to climate modelling		1		1		2 x	2 x		1	2 x		2 x	?	ECRA: 1 Nordforsk: 1
FTA-1.4	Training in Earth's climate system science (NB: topic will be broadened to consider framing principles)						1	1		2	2 x	1			
M2	FTA	AT	BE	DE	DK	ES	FI	FR	IR	IT	NO	NL	SE	UK	observers
FTA-2.1 (CSA)	Mapping user requirements: What do we know and what not?	1 X		2			1	2		2	2	2 X		2 X	EEA: 1
FTA-2.2 (CSA)	Mapping Climate Services in Europe	1		2 X	1			2		2	2	1		1	EEA: 1 Slovenia: 1
M3	FTA	AT	BE	DE	DK	ES	FI	FR	IR	IT	NO	NL	SE	UK	observers
FTA-3.1 (CSA)	Scoping, Reviewing and Facilitating Social Science contributions to Climate Change	2	2	2	2		1	2		2	2	2	2		Circle2: 1
M4	FTA	AT	BE	DE	DK	ES	FI	FR	IR	IT	NO	NL	SE	UK	observers
FTA-4.1 (CSA)	Dedicated Science-Policy Laboratories			2	1		?	1	1	1	1	2 x		1	
FTA-4.2	Knowledge transfer IPCC AR5			1				1	1		2 x	2?	2?	2?	
FTA-4.3	Impact Model Inter-comparison ISI-MIP			2 x				2		1	1	2		2	EEA: 1
FTA-4.4 (CSA)	GHG verification			1			2x	2x	2x		1		1	1	EEA: 1



FTA-4.5	Economics of adaptation			1	1				1 x		1		1	
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Annex 4

Minutes 1st JPI Climate scoping meeting on Joint Call

Date : June 19th, 2012

Location : Hôtel Claret, 44 boulevard de Bercy, 75012 Paris

Starting at: 10:00am

Closing at: 5:30pm

Object: 1st JPI Climate Call Scoping Workshop

To: GB members, MC members, WG Chairs of JPI Climate

From: Patrick Monfray, ANR Deputy Head

Objective: Identify a Common Process for JPI Climate Joint Calls

Presents:

Ingrid Bjotveit / Norway (IB)
Dagmar Bley / Germany-MC (DB)
Linn Bryhn Jacobsen / Norway (LBJ)
Pascale Delecluse / France-AllEnvi/MF (PD)
Irene Gabriel / Austria (IG)
Sophie Godin-Beekmann / France-AllEnvi/CNRS (SGB)
Sebastian Helgenberger / Austria-MC (SH)
Maurice Imbard / CIRCLE-2 (MI)
Georges Jamart / Belgium (GJ)
Jose Jimenez-Mingo / European Commission (JIM)
Sylvie Joussaume / France-MC (SJ)
Andreas Krell / ECRA (AK)
Sophie Lebonvallet / France-ANR (SL)
Patrick Monfray / France-ANR (PM)
Anne Munk Christiansen / Denmark (AMC)
Maria Nilsson / Nordforsk (MN)
Martin Serritslev Riis / Denmark (MSR)
Sanna Sorvari / Finlande-MC (SS)
Rob Swart / The Netherlands-MC (RS)
Christian Tricot / Belgium (CT)
Martine Vanderstraeten / Belgium (MV)
Richard Wood / United Kingdom (RW)

Excused:

Lisa Almejo / Sweden
Martin Fuessel / EEA
Gregor Laumann / Germany

Introduction

P. Monfray

Something new we want to initiate. Not to take conclusions today, but go on with discussion during the summer, and have propositions for the next governing board.



Many things to see, procedures to launch a call, but also priorities we want to push.

Tour de table.

Proposed framework: we have to identify what are the main objectives, what kind of incentive tools we can use, what priority themes we want to boost for the next years, how to build a generic MoU and how to build an implementation plan for the call selection, and then what kind of potential support JPI members could bring, and then what timeline we have to follow to be ready for Fall 2012.

What are the main objectives?

What kind of incentive tools we want to promote?

P. Monfray, Management Committee, all participants

We have to get a common view on what we want to promote.

Main objectives are about grand societal challenges of climate change.

Very important to have a better coordination of every on-going national efforts, and promote JPI integration.

We need to have a clear European added-value (innovative actions, European leadership at international level, complementary to other European actions...).

Important to get better social sciences and users engagement.

We need to create incentive tools that last for years.

Today is just brainstorm on potential tools and themes.

Main outputs = guidelines for upcoming workshops.

At this stage we have to be very open, we can imagine many different tools. We need to have a toolbox, to promote different actions in different flexible ways for the next years.

Some ideas of tools:

Foresight workshops, mapping exercises... (see ppt)

What priority themes we want boost in 2013-2016 (based on 4 modules and their integration)?

Management Committee, all participants

How to establish priorities?

Different ways to slice JPI priorities, how to do that? Following modules, or do we want more (integration science-society, coordination of national research...)?

Some examples from previous experience (BF, NordForsk, CIRCLE-2, JPI Urban, JPI FACCE...).

DISCUSSION

-IG: CSA does not exclude the other point about integration and coordination

-PM: it was just to open the discussion

-SJ: the SRA does not exclude that neither.

-JJM: CSA is just a support tool for the JPI. We can take the example of ERA-Net CIRCLE.

-SS: go on with the previous experiences

-AMC: Joint call on the JPI Urban

-IG: also on the JPI FACCE

-MV: coordination with the timeline of the CSA?

-DB: CSA will only start in fall.

=> PM: it's "the same thing". Today is in fact only preparing one part of the CSA... If we wait until



the money of the CSA in November to think, we will launch something in one year, it's just to do it sooner than that.

-MV: How to integrate the results of both?

=> PM: integration of CSA outputs will be for the second call.

-JJM: CSA not ready yet, will evolve. It's only a mechanism to have workshops and everything, but will not give money for a joint call (only for organization).

-SS: it's only a discussion about the first call, will be different on the next years.

NORDFORSK presentation (Maria Nilsson)

Top-level research initiative.

Organisation of the TRI = Management board + TRI secretariat, and six subprogrammes.

(??)

Experiences from the TRI:

Cross-border common pot, cross-border governance. Important to have an added-value, but also to build trust and coordination.

When choosing the funding instruments, we have to think of what are the objectives.

Organization implementation: need for a board.

Use of different models.

Processes which have proven to accomplish common pot: consult at the right level of research and financing agencies in the different countries.

Important incentives for a quick start.

Allow for flexibility (thematic prioritizations,...).

Upcoming call by the end of 2012.

Possibility for interaction with JPI Climate on Nordic or arctic issues ?

Also Nordforsk could help for call management,...

QUESTIONS

-JJM: theme defined before, or see after receiving the proposals?

=>MN: continuous evaluation system. Management board

-RS: political level is important.

Integration and coordination with users and private sector, is it mandatory?

And how do you see possible collaboration with JPI Climate?

=>MN: in the text, encouraged to have users on board, and was also checked by the evaluation committee. Private sector has not been so involved.

For the moment, do not have any fresh money left, but open for collaboration, Nordforsk could support TRA, and could consider to bring money on a joint call.

-SS: ?

-IB: at least three Nordic countries involved (funding the research) (more can join, if they bring their own funding)

-SS: ?

=>MN: focus for international cooperation

-SH: remarks about the three minimum participants, it depends on the total number of participants (could be a percentage of the total number).

-PM: for selection, only external peer-review, or also panel of experts independent of the program officer?



=>MN: international expert panel, presented their report to the program +committee.

CIRCLE (Maurice Imbard)

CIRCLE is an ERA-Net initiated by the FP6, CIRCLE 2 by the FP7.

2004-2014 period.

Three joint calls were launched, one in 2007 about Mediterranean sea (impacts, adaptation), one about Nordic region (2007) and one on-going about mountain regions.

For each call, members of CIRCLE 2 are in the funding working group.

For example, for the Mediterranean joint call, 5 to 6 countries have put about 2 million euros for 8 projects.

Other joint initiatives: winter schools, workshops, guidance...

In 2011, CIRCLE 2 prepared a joint call on the coastal area, but was not launch due to lack of participants.

For the next year, expect to launch a new call, but topic not define yet.

QUESTIONS

-IG: stick to the ranking of the evaluation committee, in fact the first projects were only involving France and Austria, some countries got out of money before reaching the ranking of projects involving other countries. It's kind of a limitation. Difficult to deal with that.

-PM: flexibility depends on if it's a common pot or not.

-MI: In CIRCLE, not a common pot

-SJ: same problem in other initiatives

-AMC: real common pots are rare in Europe, but **we can have a mix-mode version, virtual common pot + about 10% of common pot**. Already done in some projects, allow to more flexibility.

JPI Urban call (Anne Munk Christiansen).

Call has just open, 6 participating countries, some have two funding agencies. Quite flexible, from 0,5 M€ to 3M€, virtual common pot.

December 2011 discussed in GB, then workshops early 2012, and then call launched. Call topic has to be decided early in the process.

There is a call secretariat.

At least three partners from two countries.

Call coming in 2013.

QUESTIONS

-SJ: mechanism for other countries to contribute in-kind?

=>AMC: yes, and new countries can join

-RS: ?

=>AMC: ?

-PM: flexibility is important, some countries can be interested in one theme, others in other...

-SH: on JPI FACCE, focus was made on mapping workshops to identify topics, with a good methodology developed.

-RS: ?

-PM: JPI-FACCE is preparing a new call with the global alliance.

-SH: lowest level of participation = providing in-kind, + money for collaboration...

Belmont Forum IOF (Patrick Monfray)

-What is Belmont Forum? World's major and emerging funders of global environmental change re-



search and international sciences councils.

MoU signed at PuP in March 2012, to put in place mechanisms to support collaborative research actions between BF members.

Current members: G8 countries + BRICS + EC + ICSU + ISSC, some agencies also involved in JPI Climate or JPI FACCE = intersections between these groups at the international level.

Big challenge is to deliver knowledge needed for action to avoid and adapt to detrimental environmental change, including extreme hazardous events. Increase interactions between natural sciences and social sciences, + have transdisciplinarity between science and society.

-The IOF= mechanism with a generic MoU, yearly basis, flexible tool. All is in common (call, evaluation,...) but money, it's a virtual common pot (national budgets with specific rules). Joint calls with other initiatives are possible (G8, EC,...).

-IOF 2012, two themes

(i) Freshwater security, about 10M€, joint with G8. Promote international and transdisciplinary research, with inter-comparisons methods (global, regional and local level).

(ii) Coastal vulnerability, about 10M€, joint with G8, synchronizes with FP7.

Timeline: opening 15 April, two-step action with pre-proposal (20 July), then full proposal (20 December), funding April 2013 (up to 15 projects).

-Timeline for 2012 IOF

Call opened in April 2012, two-step procedure (July then December), funded projects may start in summer 2013.

-IOF/CRA for 2013 and beyond? Support Future Earth, and BF = innovative seeds to help to settle those interdisciplinary approaches.

2013 themes, food security (with JPI FACCE?), arctic (with JPI Climate?), e-infrastructures (with JPI Climate?).

Other potential themes on biodiversity, climate services (with JPI Climate?), green growth, Africa,...

Next IOF call to be opened in April 2013.

QUESTIONS

-RW: how do you develop this collaboration?

=>PM: see more details this afternoon (*...but later not enough time*)

-MV: no more money in any agency... and how to integrate with the national agendas? Is it possible to integrate on-going national projects? Important also to cluster what is already existing, not only to bring new money and new research.

=>PM: clustering activity is also very important. If joint action between Belmont Forum and JPI climate for example, we can say we want to promote clustering and networking.

-SS: we have to explain expected outcomes.

=>PM: we have to discuss about in-kind, we have to define what is really incentive (not only fresh money, can also be access to new infrastructures, local manpower...).

-IG: things will come alive with the fast-track activities. Not only say "call", larger mechanisms for collaboration/cooperation.

-SS: ?

-DB: cooperation between BF and JPI? Only European countries in JPI? How to handle that?

=>PM: it could increase European leadership. We have to find ways (three countries/three European countries...?).

-SS: there will be anyway international activities, we have to align.

-JJM: not mix things too much. We are talking about a very concrete thing = a joint call, we first have to define and organize ourselves before. Then see how we can have joint actions with others.

=>PM: for example JPI-FACCE, only for their third call may have a joint action with others.

-SJ: how does 2013 BF planning fits with JPI Climate planning?



=>PM: next BF meeting in October then in February. We can imagine not join, but co-alignment, or collaboration...

-JJM: ?

EC Framing programme (Jose Jimenez-Mingo)

FP7 + H2020.

Budget of 18 million? euros. Call will open in July. Six main topics. Possible to fund large projects and small projects. (ocean, atmosphere, scenarios if +3°C, land use, then “a la carte” emissions, and economics of adaptation)

Climate services (which is one of the JPI modules), a lot of movement on that field of activity in the world, make interaction between initiatives (meeting July 3rd in Brussels).

QUESTIONS

-IG: what is that meeting?

=>JJM: meeting with WMO..., on climate services.

-PM: what about H2020?

=>JJM: Climate KIC will be part of the activities. Also, ERA-Net+ is one possible tool.

-DB: other instruments than ERA-Net+?

=>JJM: many tools.

-JJM: objectives of this meeting is to define the procedure of the joint call, do you have any idea on what you want to propose?

=>PM: not a common pot, but maybe virtual + 10% common, and incentive in-kind. Make a round table at the end of the meeting.

How slice and establish research priorities?

Management committee.

-RS: Dimensions thematic specification JPI Climate call #1

Four dimensions: level of details open/specific, integrated/disciplinary, research/policy questions, Europe-wide/regional focus.

-MV: what size of projects do we want? One, two years...?

=>PM: the duration and money amount directly linked to the kind of incentive tools we want to use.

-MV: money put for research is not the same than money for workshops. It comes from different budget.

=>PM: all agencies have constraints; explain them during the round table. For BF IOF, Japan is a player: if social scientists they will go to JSPS, if natural scientists they will go to JST. Common call, but national annexes to take into account specificities.

-IG: timescale problem regarding the FTA (already a process defined in the FTA). FTA could give a good way to identify gap of knowledge and see where we want to go.

=>PM: we have to see what can be supported in the CSA, and what part will need extra support. We need also to go beyond FTA. We will not have the outputs of the FTA to define the first call. We need to be complementary and articulated.

-SJ: objective of FTA/1 is to define joint calls (could be launched at the end of 2012). Same spirit than FTA.

-SS: ?

-SH: for WG3, workshop based on the CSA, develop priority topics (for calls or whatever), get the community organized, get the researchers together to ask them what would be the appropriate tool, what would help them.



- DB: same aim for the WG2.
- AMC: great to incorporate results of FTA in the second call. We also have to see coordination between WG and funding agencies (WG should be more linked to funding agencies).
- SJ: in module 1, have tried to do it.
- RS: from WG4, recommendations could be used for a second call. WG are going in separate ways, not forget the integration... First call could be an opportunity to have integration before recommendations from WG.
- PM: we could have an about 10M€ call, not put only on integration even if it's very important. The real deadline is when we will open the call. Draft clear guidelines for people (and GB) who will work in the coming months to be ready by end of the year.

Lunch 13h - 14h

Continued...

What we agree on/ What is still to clarify:

- Have a suit of incentive tools (see list in the PowerPoint file), in general for all calls (then choose some* for the first call).

- *Foresight workshops/Seminar series
- *Mapping exercises
- *Clustering or networking (projects or infrastructure)
- *Exploratory projects
- *Integrated projects
- Synergy for large field campaigns
- Policy support actions
- Innovative communication to large public
- Others?

For some countries, it's no coming from the same budget line.

- Timeframe
- 1st call on items on which we are ready to go by the end of 2012.
- (Do more advertising issues?)
- Targeted topics?

DISCUSSION

- RW: ?
- MV: networking of existing projects for the first call, see what comes out from the FTAs, and then consortia created by the networking will be able to apply to the next call (people have to be able to meet)
- LBJ: the government won't support a call if it's too broad and open.
- AMC: clustering, one-stage, two-stage?
- RW: ?
- SS: have a matrix as JPI urban did.
- AMC: framework. Start with the SRA, and identify target topics than agencies want to promote, or bottom-up ideas...



- MV: FTA and CSA are already playing that role.
- PM: we need to be aligned with FTA, but this kind of call could support FTA and beyond.
- IG: give a little more time? Have the first call next year?
- PM: was discussed during the last GB. The idea is to launch some “buzz” at the Brussels meeting in October, to pre-announce that the JPI will launch a joint call (and then launch in December, but could be launched later).
- SH: we did not have the discussion on the timing at the GB.
- PM: ok, but common feeling that we have to do it soon, for the JPI visibility. Sort of competition between JPI, and the others are launching actions, we don’t have to wait too much.
- IG: JPI Urban wanted to copy the FTA of the JPI Climate... if we find a good idea, it’s fine, but otherwise it could wait?
- PM: we have GB every 6 months, next one in October, if we can’t propose anything it will be postponed by May 2013.
- AMC: collaboration between WG and funding agencies. A call would be a nice way to have that collaboration.
- PM: we need co-design between WG and agencies. Maybe agencies are more pushing for call. See what we can do at middle, and long term.
- RW: ?
- AMC: most funding agencies know their budget at the last moment, can only show their interest but not be sure of the funds, difficult to have a very long term perspective. Not all agencies have to participate.

What kind of potential support JPI members could bring on table?

Program managers and funders

Round table with potential interest from agencies:

- FR/ANR: constraint for budget 2013 = discussion in June, decision in October 2012. ANR is only dealing with cash money but with leverage effect on French labs and institutes. ANR could put 1-2 M€ (or maybe more if a lot of French teams in the selected projects). Possible to fund French teams + least developed countries teams (+ 10% common pot?).
- FR/CNRS-INSU: INSU concerned by WG1. They can contribute through in-kind on some topics of strong interest (observation, modeling), or field campaigns (Mediterranean, Arctic...). Interest for a call on Arctic but after 2013.
- FI/Academia: interest on research instrumentation, on Arctic, to be confirmed during summer.
- DE/BMBF: potential money for joint call, in favor of shifting the first call to spring 2013 for a call more mature, gaining results from FTA to define better priorities.
- FR/MoE: 0,5M€ for CIRCLE-2, potential interest to join action with JPI Climate.
- UK/NERC: in-kind participation from NERC research centers. To be confirmed by September 2012, and final decision by March 2013 (part of 7M€ on themes of interest, over 4-5 years?). Interest on atmosphere variability from seasons to century, adaptation issues, carbon sequestration, observation of N. Atlantic circulation, clustering and networking co-alignment.
- NL/Rob Swart: uncertain situation with present government, interest research & innovation,



WG4-water safety.

-DK/: don't have a climate programme right now, could be of interest to have 0,5 up to 0,75 M€ on climate (not specific items for the moment).

-BE/: expect to get some priorities from FTA. New programmes for the next five years, with three calls (maybe 2M€ per call on climate) that could be aligned with JPI. Some extra money to support JPI activities.

-NO/: 2013 budget will be known by November. Interested in results of FTA, maybe a bit early for a call. Workshop in Norway in September, will know more on topics in which scientists are interested. Potential interest. JPI Climate has to have added-value.

-AT/: interest on FTA. Potential interests for co-alignment, depends on timeline, topics and budgets, interest on WG2&3, focus in 13? Arctic in 14?

-SE/FORMAS: potential interest (*sent by email*).

-ECRA: not funding, interest in networking to have a better coordination of what already exists.

-NORDFORSK: Nordic countries could find more money for Nordic issues. Possibilities for cooperation between TRI (Top-level Research Initiative) and JPI Climate. Tomorrow, phone meeting. Could help contact between Nordic agencies and regional activities. Possibility to join forces and not to duplicate initiatives. Possible of in-kind collaboration and support for call secretariat.

=>PM: We have to see (envision) how within a few years JPI has influenced each national agency's activities. What we are doing now it's not to add one more call, but should be view as a way to entrain also better co-alignment of classic calls made at each national level. **JPI success will be measured by its influence on our different national programming, to build ERA** (European Research Area).

Do we open a call in Spring 2013, rather than End 2012? At that moment, because of the change from FP7 to FP8, there won't have any FP calls in 2013.

Beware of time constraints to use 2013 budget (before December at last? depending on agencies). Also, depends on if we have a one-stage or two-stage evaluation process?

Open in Spring 2013 with a one-step procedure? But depends on how broad is the call (if very broad, we might need a two-step call...). Also depends if networking,... If two-step, it will be 2014 budget, can be a broad open call.

Can we have an early GB in March 2013, then open call early April for a one-step procedure ?

See what's happening with FTA during Summer and Fall 2012.

Upcoming 2012 meetings (*see details in ppt*):

WG1: not planned yet.

WG2: draft for August

WG3: workshop 18-19 October in Utrecht.

WG4: meeting 3 October in Amsterdam, other meeting GHG fall 2012

General comment: have mirror groups in every country? France, Netherlands have that.



=>Draft a one or two-page guideline (summarizing that first scoping workshop), to GB members, management committee, and also for each of those WG meetings, to explain what we are discussing here, have their input and feedbacks, and make link between WG and funding agencies (examples of things to speak of in the guidelines: kind of incentive tools we want,...).

Important elements of the day:

Discussion on kind of incentive tools: Exploratory to integrated projects on an annual basis; Workshops and seminars: we have to keep it on a competitive mode for most of the agencies.

European added-value.

Not only selecting but also following-up the projects.

One-step process for a targeted call with a 2013 budget?

Or a two-step process for a broad call with a 2014 budget?

Do not forget follow-up of funded projects, we have to do more than just selection (but it's something handled in the example of IOF BF/G8 MoU).

In the two-page document, have a timeline, agenda,...

Draft will circulate before being sent to GB.

Comments about thematic specification:

- More a specific call

- Cross-modules or inside modules? Might depends, have both!

- Be balanced between policy and research questions

- Maybe for a first call have a European wide (for a regional focus, we would need several agencies being interested in the same region, and for the moment it's only true for Arctic)

See what we expect on the JPI: Role of coordination of national research.

Have another scoping workshop just before the next GB in fall? Have a Teleconference in October to prepare submission to November GB.

Ending 17h30



Annex 5: Informal JPI Coordination Group

1st Coordination Meeting 28.09.2012

hosted by JPI CLIMATE in the DLR offices, Brussels

MINUTES (Results)

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1.Coordination across JPIs

Objectives of the informal JPI coordination group

- help and support each other
- avoid duplication
- strengthen the voice of JPIs in the EC process on Joint Programming

Organizing exchange

contact point: the JPI CLIMATE Secretariat (centralsecretariat@jpi-climate.eu) will serve as contact point for this informal JPI coordination group.

contact persons: **Everybody**, please send names and email addresses of your JPI contact persons (e.g. management board, secretariat) to centralsecretariat@jpi-climate.eu

Email-List: Sebastian Helgenberger (JPI CLIMATE) will establish a email-distribution list to circulate information among the contact persons

2.Joint Activities

information exchange

interesting Information to be shared among this group includes (but is not limited to)

- ✓ information / invitations to relevant JPI events and opportunities to participate
- ✓ documents published by the JPIs (e.g. SRA)
- ✓ important updates from the JPIs

JPI coordination meetings

objectives

- ✓ to allow for informal exchange on current processes and lessons learned in the JPIs on a working basis
- ✓ inward-orientation to members of the JPI



- ✓ to identify common themes ("core topics") or objectives to exchange ideas or coordinate activities

core topics identified so far

- ✓ How to approach complex systems
- ✓ (joint) forward-looking activities
- ✓ coastal zones
- ✓ water-climate-food-energy-nexus

organizational options

- ✓ hosted by JPIs in rotation
- ✓ back-to back with other relevant JPI events, where a number of participants is already in place (e.g. JPI-to-CoWork workshops)

Joint events

- ✓ Invitation / Participation in JPI events
- ✓ invite other relevant JPI(s) to workshops, meetings etc.
- ✓ e.g. as side events back-to-back to Governing Board meetings

upcoming events

- ✓ 06.11.12 (evening): Official Launch of JPI CLIMATE
- ✓ 18/19.12.2012 - JPI to Co-Work workshop "governance and evaluation" (Warsaw)
- ✓ JPI CLIMATE Climate Service Workshops to be scheduled;
- ✓ Outreach - to increase visibility
- ✓ Joint brainstorming (events)
- ✓ joint conference on JPI outputs. e.g. in 2015

Further thematic activities

- ✓ compare research agendas + develop recommendations in thematic co-operation; point to important topics for our Agendas
- ✓ joint forward looking activities

Further strategic activities

- ✓ strengthen the voice of JPIs in the EC process on Joint Programming
- ✓ Comparing notes on the GPC evaluation on JPIs
- ✓ taking the lead to think out of the box
- ✓ communicating our knowledge needs to CSA JPIs-to-CoWork



3.Upcoming JPI coordination meetings

Dec 2012

host+organizer: JPI Oceans Secretariat (Brussels)

participants: Group of 10 JPIs (G10)

Duration: 1 day (morning + afternoon session)

morning session - contents

- overarching strategic JPI issues
- preparation of Dublin conference
- influencing Horizon 2020
- Go East!

afternoon session - contents

- exchange among thematic related JPIs, e.g. our group of 6 (G6)
- including speed-dating

Feb 2013

Host: JPI Conference (Dublin) / Irish Presidency

Organizer: JPI FACCE secretariat (contact: Tim Willis)

Time: 28.02., morning

Core-topic: t.b.d.





Annex 5.1:

Overview of JPIs: focus on inter-linkages

JPI	procedural questions	hot topics for collaboration
JPI CLIMATE	Representation: Where is Eastern Europe? Funding opportunities for Natural and Social Sciences required Process from Pilot Actions to Joint Call	science-practice labs climate services + user needs climate modelling + observation risk assessments economic evaluation social science climate change research transformation visions and scenarios geographical climate change hot spots
JPI Water	linking up with citizens and industry towards the objective of coordinating 20% or Water-related national RTI Budget Reconcile CSA with JPI governance intensify partnership and trust among JPI members Start thinking BIG	Triangle: Water-Energy-Food Water supply, e.g. in urban areas Sustainability of Ecosystem (Services) Sustainable Agriculture (under climate change)
JPI FACCE	"Alignment of national/European/international funding - JPI as strategic partner Linking up with ERA-Nets and ERA-Net Intelligence Mapping of core themes "Knowledge Hub" as pilot action Stakeholder Consultation "money to play with" - through membership fees	interrelations Climate Change & Agriculture (Mitigation + Adaptation) Food Security + Social disruption Sustainability of agriculture
JPI Oceans	CSA: Science for Science; Science for Innovation, Science for Policy Joint advisory board of research experts and stakeholder representatives Focus on Societal Objectives (instead of research topics) Capacity Building in Society	Interface: Economy-Science-Governance Coherent Earth Observation Mechanisms Climate Impacts on Coastal Zones Links: Environment - Economy - Climate
JPI Cultural Heritage	Launch of FP7 ERA-Net Plus under the framework of the JPI Foresight Process under way Strategic Research Agenda under way, with inputs from national reference groups Pilot Call in preparation on request of the EC Inputs from international Institutions (e.g. UNESCO)	Construction + Re-use + Climate Impacts Climate Change Protection of Cultural Heritage Societal Transformation
JPI Urban Europe	Urban Living Lab Create Panel of Cities Go East! Linking Science to urban development Alignment: in the nexus between member states and super states Team before Money	Empirical Urban Sociology (e.g. Case studies) Create Data and Access to Data CSA 2.0 social disruption under stress Cities under Global (Climate) Change Understand EUROPEAN Cities Urbanization and Efficiency



List of Participants and Contact Details

JPI	Surname	Name	Function	Contact
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Annex 6:

JPI Climate

Several Proposals for a First Joint Call

October 26, 2012

Content:

(1) JPI Climate First Call (2 alternatives A and B; by the MC)	2
(2) Sustainable Environments in an Era of Climate Change (by Nordic Top-level Research Initiative (Nordic TRI))	10
(3) Filling observational gaps: a network of European Climate Data Centres (by ECRA)	14
(4) Danish priorities regarding joint call within JPI Climate (by Denmark)	16



(1)

Proposals for a first joint call, or joint action, for 2013

as discussed by the 4 JPI Climate Working Groups for consideration and advise of the 7/11/2012 Governing Board

by Rob Swart, Sylvie Joussaume, Sanna Sorvari, Dagmar Bley, Sebastian Helgenberger

After the May meeting in Paris, where possible modalities of a first joint call were discussed with the JPI Climate funding agencies, the JPI Climate Management Committee discussed various options for the content of such a call. At various meetings, the importance of a first pilot joint call as a test bed for regular joint activities was stressed, with a 1st joint call addressing the JPI Climate strategic priorities oriented towards societal challenges and the leverage of JPI Climate member's existing investments through European added value. Because of the wide scope of the JPI Climate Strategic Research Agenda, a wide variety of possibilities can be distinguished to shape such a call, and select priority themes. Assuming that a series of consecutive calls will be issued over the years to come, the 1st call doesn't necessarily have to capture all possibilities at once. The Management Committee notes that a main choice to be made for the 1st call is between two broad types:

- A. ***A series of themes focusing on opportunities for coordinated basic and applied research to strengthen the European Research Area.*** These themes could build on the on-going preparatory work in the Working Groups and their Fast Track Activities.
- B. ***Focus on policy-support and integration between the modules,*** introducing the idea of a "Climate Knowledge Hub" that starts to build the knowledge base to support the development of a climate-smart Europe by 2030.

Elaborations of these two approaches are attached. Please note that not all proposed themes (neither in alternative A nor in alternative B) have been discussed within all Working Groups. *The Governing Board is requested to advise on the choice between these options for a 1st call, or on combining the two options or develop alternative approaches that can be taken up by the Management Committee.*

***Alternative proposal A for the development of a 1st JPI Climate joint call or joint action
Focus on opportunities for coordinated basic and applied research to strengthen the European Research Area.***

This alternative would build on the various initiatives developed in the four Working Groups, notably the Fast Track Activities. In this alternative, the 1st JPI Climate "call" will take the shape of a combination of joint "actions" with activities aiming at coordination of existing or planned research, or mapping in support of a future revised research agenda, in line of the FTAs. Topics to be included would derive from the discussions in the WGs. Tentative ideas are listed below. Projects could involve some cross-cutting work, but this is not a requirement. For more detail of the proposed themes, see the WG progress reports. The call has the following objectives:

1. *To perform excellent joint research in response to questions in the Strategic Research Agenda;*
2. *To increase and facilitate transnational cooperation and coordination between excellent researchers from different disciplines, research organisations and stakeholders from different sectors, building a progressive and long-lasting network;*
3. *To develop research capacity in the JPI Climate research area, to develop transnational learning/training activities, and to share infrastructures.*

Rules for participation would include (but not be limited to): at least 3 partner countries should be represented, proposals should demonstrate the clear benefit of transnational research collaboration, and proposals should match the overall objectives of JPI Climate.



Working Group 1

1. **Launch of coordinated activities in the Arctic/Pan Siberian regions**, starting from the Pan Siberian region in 2013 but then extending in 2014 to the Arctic, possibly within the Belmont Forum. This is related to FTA1.3 first two activities.
2. **Support coordinated analyses of international experiments in climate modelling**, i.e. CMIP5 for global models and CORDEX for regional models. This support could be integrated in a common topic with module 4 on supporting the coordinated use of these results for impact studies.
3. **Support the mapping and foresight exercises for JPI Climate**. The CSA will support some of these activities, mainly organization of workshops and support to coordinate and write white papers, but, for example for FTA1.2, CSA support does not include man resources to assist in the mapping and interviews. This may be the case for other FTAs as well.

Working Group 2

1. **What do users need?**
2. **What do providers supply?**
3. **How can the relationship between demand and supply side be improved? Analysis of the results between countries and sectors**

At the current stage the WG is primarily interested in determining what users need, what suppliers provide and how the interface between climate research and its applications can be improved meaning how the quality of Climate Services can be improved. These questions can be addressed on a national level, but also a joint call between those countries that can not assign research institutions directly would be possible. WG 2 would like the GB to ensure that in each Member Country National Dialogues and the Mapping of CS providers can and will be conducted (from political and financial point of view) under the same coordinated conditions and guidelines. In the first step a focus would be led in the following sectors: Agriculture, Water and Finance. In a second step the focus could be on urban planning/decision making. An analysis of the results would follow in the third phase.

Working Group 3

1. **Integrative studies of societal transformations under climate change**, connecting multiple drivers of climate change, other major trends as co-drivers of societal transformation, different groups of change-agents and affected; towards an integrated response to climate change in Europe.
2. **The normative and social justice dimensions of climate change**, addressing issues of justice, equity, democracy, participation, legitimacy, intergenerational climate policies and response measures; Who are vulnerable groups?; Who is included and who is excluded? How are positive and negative impacts distributed?
3. **The role of knowledge in climate policies**: To what extent has the increased level and quality of climate science had an impact on policy, and how can this be explained, and what are the implications of organizing climate science in the future? What types of knowledge are taken into account and why?

Working Group 4

1. **Impact Modelling Intercomparison and European Impact Scenario Development**, to improve the quality and consistency of climate impact models by consolidating and expanding the work initiated in the context of ISI-MIP.



2. **Usability and framing of scientific climate information** (IPCC AR5 case), to use of the opportunity of the publication of the Intergovernmental Panel on Climate change fifth Assessment report (IPCC AR5) during 2013 and 2014 to explore and enhance the mechanisms by which the information in these reports inform and influence decision making at a range of levels, within sectors and institutions.
 3. **Economics of adaptation**, to develop and test methods for economic evaluation of adaptation policies and (remaining) damage assessment, taking into account issues of scale, attribution and autonomous adaptation, and aiming at facilitating comparison of adaptation and damage cost estimates across sectors and countries.
 4. **Greenhouse Gas Emissions Verification**, to improve the understanding of the most uncertain sources and sinks of greenhouse gases to enable better verification of national inventories.
- Issues that have also been proposed to develop and test "science-practice laboratories", but which may be postponed until further development of these ideas and collaboration with JPIs Urban Europe and Water Challenges:*
5. **New Decision-support Methods for Smart and Climate Resilient Cities**, to develop new methodologies, methods and tools to support climate change decision-making in urban development.
 6. **New Approaches to support Climate Change Decision-making in Water Management**, to develop new methodologies, methods and tools to support climate change decision-making in adaptive water management.

Alternative proposal B for the development of a 1st JPI Climate joint call or joint action "Climate Knowledge Hub"

Focus on policy-support and integration between the modules, starting to build the knowledge base to support the development of a climate-smart Europe by 2030.

This proposal is drafted as a template for such a call, with placeholder focus and themes to make it concrete. It has the following characteristics, all of which have alternatives:

- ✓ *This second alternative for a 1st JPI Climate "call" would focus on the integration between the different modules with one common long-term goal (climate smart Europe by 2040) and one common tool so support that aim (a Climate knowledge hub)*
- ✓ *A limited number of themes which are quite broad to encourage creative proposals from the research community and that can influence the SRA from the bottom-up, but sufficiently constrained to match the scope of JPI Climate and its 4 modules.*
- ✓ *The proposed themes have their emphases in different modules but have connections to the other ones.*
- ✓ *The proposed themes combine generic research with research targeting specific sectors or regions. The suggested sectors relate to the main sectors distinguished by the Global Climate Services Partnership and other JPIs.*
- ✓ *As for alternative A, rules for participation would include: at least 3 partner countries should be represented, proposals should demonstrate the clear benefit of transnational research collaboration, and proposals should match the overall objectives of JPI Climate.*
- ✓ *Additional rules for participation in alternative B would include: at least two of the thematic areas and at least two of the call themes should be covered by the proposals, and proposals involving experiments with setting up co-creation of knowledge between researchers, government representatives, and societal and private sector actors are specifically invited, e.g. in the form of "science-practice laboratories"*



Introduction

- ✓ Background JPI until 2012, 4 modules, FTAs – To Be Added

Scope and objectives

The JPI Climate pilot research call for a “Climate Knowledge Hub” has as the overarching goal to start building the knowledge base to support the development towards a climate-smart Europe by 2040, which combines climate resilience with climate-friendly development. The JPI Climate Knowledge Hub will support the development of ERA on climate change as well as decision-making in Europe and its member states by connecting knowledge about global climate change and relevant societal developments with vulnerabilities and response options at the regional to European level in support of the shaping of a climate-smart Europe. It will focus on strengthening the coordination of basic research in Europe and developing usable knowledge for decision-makers in politics, industry and civil society jointly with stakeholders of these groups. It will be implemented in close coordination with related national and international research programmes, such as the World Climate Research program and the new Future Earth program. A procedural objective is to gain experience in jointly generating, selecting, funding and implementing transnational research activities in the context of JPI Climate. The proposed pilot action will run in parallel to the mapping, scoping and programming activities in the Coordination and Support Action (CSA), and builds on discussions in the context of the Fast Track Activities.

Adapting the idea of a Knowledge Hub from the JPI FACCE, the JPI Climate Knowledge hub has four objectives (the first three of which are common with Alternative A):

1. To perform excellent joint research in response to questions in the Strategic Research Agenda;
2. To increase and facilitate transnational cooperation and coordination between excellent researchers from different disciplines, research organisations and stakeholders from different sectors, building a progressive and long-lasting network;
3. To develop research capacity in the JPI Climate research area, to develop transnational learning/training activities, and to share infrastructures;
4. To develop an integrated knowledge base on climate change risks and response options for Europe that can be used by or co-created with stakeholders to support decision-making.

Call themes

To start implementing JPI’s Strategic Research Agenda and building the knowledge hub integrating the 4 modules, research projects in this pilot call can be organized in two types:

- ✓ Generic, cross-cutting and cutting-edge research to develop new climate and socio-economic model projections, and new methods for assessment of risk, and adaptation and mitigation policy options.
- ✓ Transdisciplinary, action-oriented research addressing regional and/or sectoral climate change risks, societal response options and capacities.

Below, a selection of six themes are proposed for the first pilot action. These themes have not yet been discussed in the Working Groups and are mainly given to make the discussion on the subject of a first joint call more concrete. The Governing Board is suggested to discuss the overall thrust of an integrated call rather than the details of the examples below. The selected themes may have some emphasis in the themes of one of the WGs but, unlike alternative A, are limited to crosscutting research.

1. *Using climate projections for impact assessment*

Decision-making on climate response measures is hampered by the long time horizon and low resolution of current projections, with uncertainties increasing with decreasing time scales and



increasing resolution of projections. Delivering reliable predictions at higher resolution and shorter timescales will take time, and JPI Climate aims at playing a key role in coordinating this process in Europe. At the same time, stakeholders demand such information, and a thoughtful, effective response to these demands is required. This theme requires climate system knowledge (WG1), provides a contribution to the development of climate services in Europe (WG2), and requires an understanding of the decision-support context of climate information (WG4). Under this pilot action theme, projects could be eligible that would meet one or more of the following objectives:

- ✓ Improve the understanding of the reliability and limitations of climate projections at seasonal and decadal time scales.
- ✓ Improve the communication about new climate modelling results with impacts analysts and other scientific users.
- ✓ Improve the understanding of what stakeholders need in terms of decadal and seasonal projections (what do they actually want to know and how do they want to have it?).
- ✓ Increase the ability to communicate uncertain climate modelling information to stakeholders.

2. Contributions of Climate Services for Societal Innovations

Knowledge transfer from climate research to societal decision-makers is considered increasingly important to facilitate societal innovation and transformation processes. Climate Services are conceptualized as institutions to enable this knowledge transfer in a bi-directional way. In contrast to 'Met Services' the idea of climate services is novel and not yet established – given the lack of conceptual and empirical evidence it is still largely unclear by which means and processes climate services can effectively contribute to societal innovation and sustainable transformation. Possible examples of research foci include but are not limited to (i) types of knowledge needed for robust decision-making; (ii) change agents in the governance systems to leverage transformations; (iii) management of sustainable transitions; (iv) role of uncertainty in supporting societal transformation" (Beside the "barrier discourse" this could also mean to study uncertainty discourses as a way to improve European future/foresight/long-term competitiveness. It could include analysis of risks and chances and suggestions for improvement).

This overall theme requires climate system knowledge (WG1), provides a contribution to the development of climate services in Europe (WG2), and would enhance the understanding of the role climate change plays in societal transformation (WG3). Under this pilot action theme, projects could be eligible that would meet one or more of the following objectives:

- ✓ provide empirical knowledge on the design of Climate Services for societal innovations against the background of specific institutional and political settings on a regional, national or European level;
- ✓ next to empirical studies, develop conceptual knowledge on the role of climate services for societal innovation, depending on the status quo of national climate service development;
- ✓ Given the strong societal relevance of the call, co-design the research with relevant stakeholders.

3. Impact modelling intercomparison and coordinated scenario analysis

The risks of climate change impacts limiting the options for a sustainable development of the global and European economy and society are considered to be large, requiring a combination of mitigation and adaptation actions. At the same, the understanding of these risks is incomplete and fragmented. At the global scale, new climate scenarios (Representative Concentration Pathways) and socio-economic scenarios (Shared Socio-Economic Pathways) have recently been developed in support of the IPCC's 5th Assessment Report. This overall theme requires coordinated



use of climate projections (WG1), may include societal transformation dimensions embedded in scenarios (WG3), and is central to adaptation decision support (WG4). Under this pilot action theme, projects could be eligible that would meet one or more of the following objectives:

- ✓ Strengthen the quantitative knowledge base for the assessment of climate change risks in Europe by a structured climate impact modelling intercomparison for major vulnerable sectors and regions;
- ✓ Map the range of possible future risks by developing quantitative and qualitative scenarios for Europe in the context of the new global climate and socio-economic scenarios;
- ✓ Develop a consistent methodology to link climate risks at the global, regional and local scales;
- ✓ Communicate climate change risks to decision-makers and stakeholders in Europe.

4. *Communicate climate change risks to decision-makers and stakeholders in Europe: Governing the trade-offs of climate change responses in climate change hot spots*

Strategies to respond to the challenges of climate change in terms of mitigation and adaption frequently come along with socio-ecological trade-offs, jeopardizing a sustainable development. In the case of mountain regions artificial snow-making as the most common strategy to adapt the local tourism to warming trends actually feeds to these trends by increasing GHG emissions through a vast energy consumption. The increase of hydro-power in terms of a clean-energy strategy is another example where climate mitigation compromises parallel development objectives such as ecological intactness or touristic attraction. This overall theme requires climate system knowledge (WG1), requires properly communicated climate change information (WG2), contributes to avoidance of maladaptation in societal transformation processes (WG3), and is central to climate change decision-support (WG4). Under this pilot action theme, projects could be eligible that would meet one or more of the following objectives:

- ✓ Strengthen the knowledge base on real-world challenges of policy cooperation and integration in climate change 'hot spots' (mountain regions, coastal zones, Mediterranean).
- ✓ Provide insights on sectoral integration and multi-level cooperation in the planning and implementation of climate response strategies.
- ✓ Develop a consistent methodology and common synthesis framework to integrate insights from local or regional case studies and to provide insights on the governance of sustainable response strategies to climate change on local/regional as well as on a European level.

5. *Transforming European cities into climate-smart cities*

An increasing part of the global and European population lives in an urban environment. On the one hand, these cities are vulnerable to climate change impacts, such as heat and coastal and river flooding. On the other hand, cities have human and economic resources that allow them to respond to these risks. While many cities have developed strategies to reduce greenhouse gas emissions and become more climate-friendly, less cities have taken steps to assess their vulnerability to climate risks and increase their resilience. The large impacts projected may require transformative rather than incremental adaptation. At the same time, effective mitigation also requires urban transformation. This overall theme focuses on societal transformation (WG3), provides decision-support at the local level (WG4), and informs proper communication of climate information (WG2). Under this pilot action theme, projects could be eligible that would meet one or more of the following objectives:

- ✓ Strengthen the quantitative knowledge base for the assessment of climate-related risks to selected cities in Europe, including decision-analytical tools to support decision-making under uncertainty in an urban context;



- ✓ Identify tensions and synergies between climate and social and economic goals to develop climate-smart cities without compromising well-being;
- ✓ Work with city governments and other societal actors to develop appropriate adaptation strategies, which may include transformative adaptation;
- ✓ Synthesize existing and new knowledge about urban vulnerability and response options into lessons learned, taking into account the place-bound relevance of associated knowledge.

Possibly this theme can be delayed to a 2nd call to allow for further discussions for collaboration with JPI Urban Europe.

6. *Methods for regional risk assessment of water scarcity and droughts*

Climate change is projected to affect water systems in Europe in significant, regionally different ways, in terms of too much water (flooding) as well as too little water (water scarcity and droughts). While flooding has received relatively much attention in Europe, water scarcity and droughts have been receiving less attention, while it is crucial for agriculture, drinking water supply to citizens and industry, shipping and energy production. This overall theme focuses on decision-support methods and tools (WG4), requires climate risk information (WG1), and informs proper communication of climate information (WG2). Under this pilot action theme, projects could be eligible that would meet one or more of the following objectives:

- ✓ Improve the quantitative knowledge base for the assessment of water scarcity and droughts in selected European regions;
- ✓ Develop methodologies for socio-economic evaluation of risks related to water scarcity and droughts;
- ✓ Work with river basin managers and other stakeholders to develop appropriate adaptation strategies;
- ✓ Synthesize existing and new knowledge about urban vulnerability and response options into lessons learned, taking into account the place-bound relevance of associated knowledge.

This theme may be delayed to a 2nd call, to allow for discussions about collaboration with JPI Water Challenges.



(2)

Sustainable Environments in an Era of Climate Change

- *Collaboration Projects for Research and Innovation on Climate, Energy and the Environment 2012*

General info

Final submission date: 15 March 2013

Who can apply?

This call is open for international consortia of researchers and research groups based at universities, university colleges or research institutes, or public or private enterprises and public organisations with a strong research focus. The formal applicant must be an institution, organization, company or other legal entity based in one of the Nordic countries (*). The consortium must involve research institutions as well as public or private enterprises or public organizations from at least three countries, at least two of these Nordic.

(*) Nordic is defined here as Denmark, Finland, Iceland, Norway, Sweden and the autonomous areas Faroe Islands, Greenland, and Åland Islands.

Call description

The Top-Level Research Initiative

The Nordic Top-level Research Initiative (TRI) is the largest Nordic-funded research programme to date within the fields of climate, energy and the environment. The TRI was launched by the Nordic Prime Ministers in 2008, and is supported by various national institutions and agencies. The initiative promotes research and innovation at the highest level. The overall aim of the Top-level Research Initiative is to address major environmental, climate and energy challenges, with a view to societal relevance and implications as well as economic growth. Major importance is attached to a close partnership with business, industry and the public sector to ensure the application and utilisation of research results. The TRI also aims to provide a Nordic platform as a basis for increased international co-operation, both within the EU and beyond.

Climate change is one of the greatest social, economic and environmental challenges of our time. These challenges are transnational by nature, and cannot be solved by individual countries alone. New knowledge and innovations are needed, both in the Nordic region and beyond. The Nordic region is a forerunner in this field, and is strongly committed to cross-border research co-operation on issues related to climate change. Excellent work is being performed in many areas of Nordic climate research, but the knowledge gaps are still numerous. The time is now ripe for strengthening this knowledge base, by launching a call for new collaborative projects building upon the results achieved by the Top-level Research Initiative so far.



Thematic framework

The aim of the present TRI call is to build further on strengths achieved within Nordic cooperation on Climate, Energy and the Environment; to strengthen the cooperation between the different themes under the TRI; and to consolidate the interaction between society, academia and industry within these fields, thereby supporting the Nordic societies in developing new and sustainable solutions fostering green growth.

The call invites high quality and innovative research proposals on topics relevant to the TRI programmes Effect Studies and Adaptation to Climate Change and Interaction between Climate Change and the Cryosphere, combined with a green growth perspective.

In addition, the following aspects should be given weight in the design of the proposal:

- ✓ The projects funded should be multidisciplinary in their approach, and preferably include elements of both natural sciences/technology and the social sciences/ humanities.
- ✓ Projects are to focus on conditions in the Nordic region, preferably also including Arctic issues.
- ✓ Supporting international research cooperation (outside the Nordic region) is a key priority in the call, both within Europe and beyond. Projects should be developed according to this requirement.
- ✓ The call supports cooperation between researchers and users of knowledge. Strong and creative links between the public and private sectors, and academia (i.e. universities and research institutions) are mandatory, to ensure active involvement of users in the projects.
- ✓ Projects funded should strengthen the knowledge base within the field of open access to data and tools, and can also focus on eScience in climate and environmental research (with a special view on Nordic/ Arctic conditions), in particular regarding data management and -analysis, modelling and model development
- ✓ Synergies and complementarities shall be sought with other activities under the Top-level Research Initiative, as well as other relevant national, Nordic and European activities within related fields. The relation to relevant initiatives should be elaborated on in the proposal and co-funding explained in the budget of the proposal.

See **Annex 1** for a more thorough description of the thematic framework for this call.

Instrumentation: collaboration projects

Collaboration projects are designed to be responsive to the changing and evolving needs of industry and policy makers. Collaboration projects comprise a range of actions including the active collaboration of research teams from all sectors, including industry, SMEs, universities, research institutes, interest or civil society organisations etc. Strong user involvement in the project is therefore a pre-requisite.

This call is open for larger collaboration projects (tentatively around *10-30 MNOK* per project). Projects should include various integrated components of cooperation such as focused research and pre-competitive activities as well as various networking activities and Private-Public Partnership projects including academia-industry mobility on PhD or post doc level.

Collaboration projects should build on accomplished strengths within the Top-Level Research Initiative and be well in line with national, Nordic, EU or other international research and precompetitive activities in the field.



Financial framework

The call is funded through a common pot provided by the funding partners of the TRI and governed by its Management Board. The total budget of the call is 34 MNOK and 1-3 projects will be funded.

Funding is granted for Nordic collaboration and this shall be described and accounted for in the proposal. Applicants are asked to provide a budget for the anticipated total costs of the project, including a specification of the amount of funding requested from the TRI. The evaluation of the project plan includes an evaluation of the feasibility of the budget.

Funding from the TRI may be used for various integrated project activities, such as focused research and pre-competitive activities, Private-Public Partnership projects including academia-industry mobility, PhD and postdoctoral support, dissemination of results and network-building at Nordic and international level.

In order to secure good anchoring of the initiatives in ongoing research and innovation initiatives at national, Nordic and EU level, own contribution of a minimum 25-50% of the total budget is requested either as in kind contribution or from other external sources. Applicants present the total budget of the described activities in the proposal.

The following activities are *not* eligible for funding:

- ✓ Marketing costs
- ✓ Investment or product development within individual companies
- ✓ Consulting
- ✓ Major investments in infrastructure and equipment

Eligibility criteria

- ✓ Researchers and research groups based at universities and other research institutions, or at public or private enterprises and public organisations with a strong research focus, are eligible to apply for funding.
- ✓ The formal applicant must be an institution, organisation or other legal entity based in one of the Nordic countries, Nordic being defined as Denmark, Finland, Iceland, Norway, Sweden and the autonomous areas Faroe Islands, Greenland, and Åland Islands.
- ✓ The formal applicant is the organization which will enter into a contract with the TRI secretariat and will be responsible for the administration of the project. This is also the organization to which the grant will be transferred. A pre-requisite for the grant is that the formal applicant signs a consortium agreement with the project consortium proposed in the application
- ✓ Project consortia must consist of research groups or researchers from *at least* three countries, at least two of these being Nordic, in order to be granted funding. Projects are strongly encouraged to include partners from countries beyond the Nordic region, on the condition that Non-Nordic partners can document their financial contribution to the total budget of the project.
- ✓ A budget showing the anticipated total costs of the project, including a specification of the requested funding from TRI must be submitted. The partners' own contributions (cash and in-kind) shall also be accounted for in the proposal. Own contribution of a minimum of 25-50% of the total budget is requested either as in kind contribution or from other external sources.



- ✓ The proposed duration of the research projects is maximum three years.
- ✓ Projects must maintain high ethical standards and environmental perspectives and this must be described in the project proposal.
- ✓ Project proposals must include a description of relevant gender aspects of the research as well as of the project organisation.
- ✓ Project proposals must contain a plan for how to ensure open access to research results and a data management plan. Projects funded should strengthen the knowledge base within the field of open access to data and tools. *Appendix with further guidelines will be developed.*

Evaluation criteria

- ✓ Relevance to the call for proposals and call-specific criteria
- ✓ Quality of the project plan including scientific and technological excellence, innovativeness, novelty, and multidisciplinary
- ✓ Expected results and impact including long-term scientific, economic, environmental and societal impact of the cooperation
- ✓ Quality of the consortium and project management, including
 - competence and relevant experience of the individual participants;
 - relevance of the project participants to the project (including balance and complementarity);
 - skills related to project management and operation;
 - planned organisation of the project, including mobility, networking and support of researcher careers
 - Feasibility and soundness of the project plan in relation to proposed resources (human resources, budget, schedule, infrastructure)
- ✓ Added value of the Nordic cooperation including justification as to why the project should be carried out as a joint Nordic effort and how the results will benefit the Nordic countries
- ✓ International cooperation and networking; synergies with relevant initiatives
- ✓ Dissemination plan and relevance to knowledge users

Evaluation procedure

Proposals shall be submitted electronically to the TRI secretariat (using application portal - LINK) no later than 15.03.2013. Proposals must be submitted in English. No attachments are allowed, unless specifically requested in the application form.

Applications will be evaluated by international experts (peer review) and the final funding decision will be made by the TRI Management Board. The decision will be communicated to the applicants late May 2013, and the TRI secretariat will sign the contracts with the granted projects and their host entities shortly thereafter.

Max applied amount: 34 MNOK

Responsible adviser(s): NN



(3)

Filling observational gaps: a network of European Climate Data Centres

Contributors (names)

Hosting institutions of observational environmental data across Europe

European context and added value (including international and societal aspects)

Climate data are essential for understanding the functioning of the Earth system and validating the numerical models used for climate projections. While there are a number of national climate data centres and specific national projects on this theme, an integrated European network for climate data curation and distribution is still missing. Models for climate predictions cannot be trusted unless they are shown to be able to reproduce recent climate conditions. The availability of large amounts of high-quality and certified data is required to confront model results efficiently with observational data, with immense benefits for initiatives such as Med-CORDEX and EURO-CORDEX. This is important for a large number of climate related variables, which can significantly differ from one type of measurement to another and it can be difficult to compare model outputs with "ground truth" in the absence of a large database.

The project intends to fill the observational gap in climate data availability by creating a European-wide network of national and regional data centres, allowing researchers and stakeholders from all over Europe to access, in a coherent and systematic way, the available climate observations. In addition to improving the availability of existing data (through improved networking of data centres), the project should identify observational gaps and identify observational requirements guiding the development of strategic emphases in environmental research.

The network will include centres that compile or manage several types of data which are central to our understanding of climate: ground measurements, atmospheric soundings, air quality and composition data, precipitation estimates, hydrological data such as surface runoff and evapotranspiration, glacier inventories and mass balance estimates, snow cover, biodiversity and ecosystem data are all essential fragments of the climate puzzle this network intends to characterize. In doing so, the project will have to solve problems related to the interoperability of the existing archives, the definition of the best metadata strategies and the harmonization of access protocols to the data.

The project should built upon an ensemble of already existing centres and projects, such as BADC in the UK, the national project of strategic interest NextData in Italy and C3Grid in Germany, which will acquire an even greater importance when inserted into a European climate data centre network of excellence. Each of these projects and structures has made significant investment in data curation on a national level that will feed into this initiative. Parallel to the networking between existing centres, the project will also stimulate the creation of national and regional data centres in those areas where none are still active. Overall, this initiative will put the European scientific community in a central position in climate change assessment worldwide.

The added value of the project consists in creating a truly European information system on climate observations, open to all relevant users in the member states. This network will enable the development of evidence-based climate service actions and adaptation measures, as well as facilitate model validation on different temporal and spatial scales.



Objectives (including expected outputs)

1. Identification of observational gaps and stimulation of specific field campaigns and targeted observations to augment available climate observations and expand the network of linked centres for the access to climate data.
2. Fill observational gaps in climate science, building a network of national and regional data centres, stimulating the creation of new data centres in key European areas and developing a distributed and coherent European-wide climate data repository, linking together and making the best use of already existing data centres and initiatives.
3. Create high-quality databases for model validation purposes, allowing testing of global and regional model performances on a large dataset.

Targeted communities (including identification of disciplines, users and countries to engage, if needed specify international cooperation to do)

The network of data centres will be built by researchers and computer/communication scientists, and will be a crucial tool for the scientific community (climate data for understanding processes, verifying interpretations and validating models, thus of interest to climatologists). The network of data centres will be an essential tool for stakeholders, local and regional public and private agencies, industries and decision-makers. The network will allow for developing evidence-based adaptation plans and climate service actions.

Targeted tools (precise one or more types of tool in size, length, topics...)
(for funders precise potential budget lines and constraints, as calendar)

- The project will allow clustering and networking of existing projects and infrastructures, stimulate new observations and field campaigns and support long-term data platforms and measurement stations.
- This project is exploratory to the development of a large-scale integrated project on climate observations.
- Specific workshops, as well as doctoral and post-doctoral schools on data analysis and model validation will be organized in the context of the project.
- A common data portal to access the full network will be developed, as well as a common data catalogue service. Although some of the centres (e.g., BADC) already provide many such services, the new network will include data from all European regions as well as from specific areas of interest for climate research (e.g., high mountains or remote areas, Arctic regions) which are often available only at specific national archives.
- Pilot studies on the impact of climate change on specific environments and/or processes (e.g., the hydrological cycle in mountains, the effect of aerosols on Arctic regions, the impact on Mediterranean ecosystems), based on the data available at the data portals, will be stimulated and coordinated by the project.



**Annex 7: Proposal for
Dutch contribution to ISI-MIP Fast Track Activity
in the context of Joint Programming Initiative Climate**

English summary

17 April 2012

Objectives

The objective of the project is to support the active participation of Dutch modelling groups in ISI-MIP (Inter-Sectoral Impact Model Intercomparison Project), coordinated by PIK and initiated together with IIASA. The objective of ISI-MIP is to compare projections of climate change impacts from global models, based on consistent climate and socio-economic input, and by doing so, address the relatively weak and fragmented nature of the scientific research underlying climate impacts assessments such as those by IPCC WG2.

Activities

ISI-MIP is a community-driven modelling effort with the goal of providing cross-sectoral global impact assessments, based on the newly developed global climate [Representative Concentration Pathways (RCPs)] and socio-economic [Shared Socio-Economic Pathways (SSPs)] scenarios. The core activity is an impact modelling comparison implemented on the basis of an agreed research protocol, addressing the following questions:

- ✓ What is the difference between a 2 °C, 3°C, and 4°C warmer world and how good are we at telling these difference?
- ✓ Is global mean temperature change a good indicator of the impact?
- ✓ Are there essential deficiencies in our process understanding or the way processes are represented?
- ✓ Are these deficiencies persistent across different impact models?

Relevance for JPI Climate

ISI-MIP is considered to be the first and one of the most important building blocks of JPI Climate Working Group 4 on improvement of decision-support methods, which is chaired by The Netherlands (Rob Swart, Al-terra).

Deliverables

The main deliverable that is currently foreseen is the publication of a set of ISI-MIP papers to be published in the Proceedings of the National Academy of Sciences, as input for IPCC's 5th Assessment Report (AR5).

Teams

Four Dutch teams currently participate in ISI-MIP that need support to allow for a substantive contribution to ISI-MIP: Planbureau voor de Leefomgeving (agriculture/land-use impacts - contact person Tom Kram), Wageningen University /CWK (water risks - contact person Fulco Ludwig), Universiteit Utrecht (water risks – contact person Marc Bierkens) and Universiteit van Maastricht/ICIS (health - contact person Pim Martens)

Resources required

The four modelling teams can fund a basic contribution (model runs) from other national and international (EU FP7) resources, but require additional support to fully engage in ISI-MIP through analysis, comparison, participation in meetings and publication of results. During the fast track action that should lead to IPCC AR5 input this would amount to 100 kEuro (4 times 25kEuro). A further consolidation and expansion of ISI-MIP afterwards, including a possible focus on European, regional and national impacts, would require additional resources that will be part of a future project proposal.



Voorstel Nederlandse bijdrage ISI-MIP, 17 april 2012

Rob Swart (Alterra), Marc Bierkens (Universiteit Utrecht), Tom Kram (PBL), Fulco Ludwig (Wageningen University), Pim Martens (Universiteit Maastricht), Detlef van Vuuren (PBL)

Samenvatting

Dit voorstel betreft de coördinatie en ondersteuning van de Nederlandse inbreng in ISI-MIP (Inter-Sectoral Impact Model Intercomparison Project). ISI-MIP is een initiatief van de wetenschappelijke gemeenschap op het gebied van de gevolgen van, kwetsbaarheid voor en aanpassing aan klimaatverandering, gecoördineerd door het Potsdam Institut für Klimaforschung (PIK). Het doel van ISI-MIP is het ontwikkelen van internationale impact assessments voor klimaatverandering op een onderling gecoördineerde wijze, om te komen tot een zowel kwalitatief en kwantitatief sterkere kennisbasis op dit terrein. In 2012 zal in een “fast track” activiteit gewerkt worden aan input voor het 5^{de} Assessment rapport van IPCC, daarna zal het programma verder worden geconsolideerd en uitgebreid. ISI-MIP wordt gezien als een van de belangrijkste bouwstenen van Werkgroep 4 van het Joint Programming Initiative Climate (JPI Climate), die zich richt op het versterken van beleids-ondersteunende methoden en instrumenten. Nederland zit deze werkgroep voor. Nederlandse modelgroepen die zijn betrokken bij ISI-MIP zijn PBL (landbouw, ecosystemen, water), Universiteit Utrecht (water), Wageningen Universiteit (water) en Universiteit Maastricht (gezondheid).

1. Waarom is ISI-MIP nodig?

De wetenschappelijke gemeenschap die zich richt op de bestudering van het klimaatsysteem is al vele decennia zeer hecht en al sinds 1995 vinden er modelvergelijkingsprogramma's plaats, die onder meer gecoördineerde input leveren aan de assessments van IPCC. Momenteel wordt gewerkt aan het vijfde modelvergelijkingsprogramma (CMIP5) dat input zal leveren voor IPCC's 5^{de} Assessment rapport. Deze hechte samenwerking wordt vereenvoudigd omdat het gaat om een relatief sterk afgebakend probleem (verandert het klimaat en zo ja, wat zijn de oorzaken) waarbij een betrekkelijk klein aantal disciplines is betrokken, hoewel dit in de loop van de decennia geleidelijk is toegenomen (o.a. door het meenemen van de oceanen en de biosfeer). De analyse van de gevolgen van klimaatverandering is van meer recente datum (als het klimaat verandert, wat zijn dan de gevolgen) heeft te maken met een groot aantal kwetsbare sectoren, waarbij naast natuurwetenschappelijke dimensies ook sociaal-economische ontwikkelingen een rol spelen, terwijl het ook gaat om zeer diverse regionale en lokale veranderingen. De wetenschappelijke basis voor assessments van de gevolgen van, kwetsbaarheid voor en aanpassing aan klimaatverandering is dan ook veel minder ver ontwikkeld, hetgeen tenminste deels verklaart waarom juist de rapportage van Werkgroep II van IPCC het meest aan kritiek heeft blootgestaan (zie bijvoorbeeld PBL, 2010. Assessing an IPCC assessment: An analysis of statements on projected regional impacts in the 2007 report).

Tegelijkertijd wordt het steeds duidelijker dat het zeer moeilijk (en duur) zal zijn om de EU doelstelling van een toename van de wereldgemiddelde temperatuur van 2 graden te behalen, zodat het steeds belangrijker wordt om met hogere gemiddelde temperatuurstijgingen rekening te houden. Het is daarom van groot belang inzicht te krijgen in de gevolgen van klimaatverandering bij verschillende mate van temperatuurstijging. Een kwantitatieve synthese van klimaatgevolgen over verschillende sectoren met consistente schattingen van de onzekerheden is op dit moment nog niet beschikbaar. Op deelgebieden zijn er recentelijk enkele initiatieven ontwikkeld om middels modelvergelijkingsprojecten de wetenschappelijke basis voor assessment van de gevolgen van klimaatverandering te versterken met name op het gebied van landbouw (Ag-MIP) en water (Water-MIP). Het door PIK en IIASA genomen initiatief ISI-MIP bouwt voort op deze programma's, focust ze op de komende IPCC rapportages en breidt ze uit met andere sectoren. ISI-MIP wordt expliciet ondersteund door de werkgroepen II en III van IPCC.



2. Wat gaat ISI-MIP doen?

In eerste instantie richt ISI-MIP zich in een “fast track” op het leveren van input voor het 5^{de} Assessment rapport van IPCC, waarvoor het noodzakelijk is om de analyses in 2012 uit te voeren en nog voor de sluitingsdatum in 2013 te publiceren. Een kwantitatieve schatting zal worden gemaakt van de gevolgen van klimaatverandering en de daarbij behorende onzekerheden voor een vijftal sectoren (landbouw, ecosystemen, water, gezondheid, infrastructuur), op basis van zoveel mogelijk deelnemende modellen per sector. De resultaten zullen worden gerapporteerd via een aantal beleidsrelevant indicatoren. De analyses zullen gebaseerd worden op de nieuw ontwikkelde klimaatscenario's [Representative Concentration Pathways (RCPs)] en sociaal-economische [Shared Socio-Economic Pathways (SSPs)] scenario's. De fast track actie richt zich op de volgende hoofdvragen:

1. Wat is het verschil tussen een wereld die 2, 3 en 4 graden warmer is, en hoe goed kunnen we de verschillen verklaren? De spreiding tussen de modellen geeft een indicatie van de robuustheid van de bevindingen.
2. Is de mondiaal gemiddelde temperatuur een goede maat voor de gevolgen van klimaatverandering? Met name omdat de gevolgen sterk scenario-afhankelijk zullen zijn, zijn andere indicatoren van belang (CO₂ concentratie, inkomen, demografie).
3. Zijn er essentiële lacunes in onze kennis van de relevante processen of de manier waarop die in de modellen zijn opgenomen, en zijn deze lacunes aanwezig in alle modellen?

Om de analyses van de verschillende werkgroepen te kunnen vergelijken, is inmiddels een “Project Design and Simulation Protocol” opgesteld. ISI-MIP zal voortbouwen op c.q. samenwerken met de bestaande deelinitiatieven voor landbouw (Ag-MIP) en water (Water-MIP). Een belangrijke reden om ISI-MIP te starten is om ook na de IPCC AR5 de samenwerking en coördinatie tussen de verschillende modelgroepen op het gebied van de impacts van klimaatverandering te consolideren en verder uit te breiden met andere groepen en beleidsrelevante vragen. Een betere kwantitatieve kennis van de gevolgen van klimaatverandering op basis van gedetailleerde modellen zal ook kunnen worden toegepast om de weergave van gevolgen in geïntegreerde modelstudies, zoals met IMAGE van het PBL, te verbeteren. Op deze wijze zal langzamerhand de kennisbasis voor Werkgroep II van IPCC verder worden versterkt.

3. Waarom is ISI-MIP belangrijk voor JPI Climate?

Nederland is een van de initiatiefnemers voor het Joint Programming Initiative Climate (JPI Climate), en is hierbij voorzitter (via Rob Swart van Alterra) van één van de vier werkgroepen, namelijk de werkgroep die zich bezighoudt met beleidsondersteunende methoden en modellen. Niet alleen wereldwijd, maar ook in Europa is de kennis op het gebied van de impacts van klimaatverandering gefragmenteerd. Verschillende lidstaten, en verschillende internationale projecten hebben in het verleden op ongecoördineerde wijze studies naar de gevolgen van klimaatverandering uitgevoerd, gebruik makend van verschillende klimaatmodellen en verschillende scenario's. In de Strategic Research Agenda van JPI Climate wordt voorgesteld om dit in de toekomst te veranderen. Door de analyse van de potentiële gevolgen van de nieuw ontwikkelde mondiale klimaatscenario's [Representative Concentration Pathways (RCPs)] en sociaal-economische [Shared Socio-Economic Pathways (SSPs)] scenario's voor Europa onderling af te stemmen (tussen de lidstaten, met Europese programma's) kan niet alleen de kwaliteit van de kennis verbeterd worden, maar ontstaat ook een consistenter beeld van de gevolgen van klimaatverandering voor Europa dan tot nu toe mogelijk was. Terwijl moet worden vastgesteld dat naast “top-down” modelstudies ook andere methoden van belang zijn om een goede basis te creëren voor de ontwikkeling van nationaal en Europees klimaatadaptatiebeleid, zullen impactmodellen hierbij een cruciale rol blijven spelen. ISI-MIP wordt in deze context gezien als een van de belangrijkste bouwstenen voor een



gezamenlijk onderzoekprogramma voor de door Nederland getrokken Werkgroep 4 van JPI Climate.

4. Welke Nederlandse inbreng in ISI-MIP is voorzien?

Momenteel zijn vier Nederlandse onderzoeksgroepen op uitnodiging van ISI-MIP bij het programma betrokken: PBL (IMAGE model, landbouw, water, ecosystemen), Universiteit Utrecht (PCR-GLOBWB model, water), ICIS/Universiteit Maastricht (MIASMA model, gezondheid) en Universiteit Wageningen (VIC model, water):

- ✓ **Planbureau voor de Leefomgeving (contactpersoon Tom Kram).** De geplande PBL-bijdrage richt zich op drie aspecten van ISI-MIP. In de eerste plaats zullen met IMAGE 3.0 scenario-berekeningen worden gemaakt op basis van de nieuwe mondiale sociaal-economische scenario's (SSP's) en gevoeligheidsanalyses worden gedaan voor met name regionale klimaatveranderingspatronen. Afhankelijk de afstemming tussen ISI-MIP met AG-MIP zal PBL in samenwerking met het LEI werken aan de modelvergelijkingsstudie van landbouwmodellen (gewasmodellen en agro-economische), hetgeen – voor zo ver de fast track benadering dat toelaat) gekoppeld zal worden aan het LEI FP7 project FOODSECURE. Tenslotte werkt PBL met de Universiteit Utrecht aan onderling afgestemde scenario's voor het water gedeelte van ISI-MIP, waarbij Utrecht de watermodellering doet en PBL met IMAGE de daarvoor benodigde data levert voor landgebruik en sociaal-economische ontwikkelingen.
- ✓ **Wageningen University /CWK (contactpersoon Fulco Ludwig).** Ook WUR is op drie manieren betrokken bij ISI-MIP. In de eerste plaats via het hydrologische model VIC, dat mee doet in de modelvergelijking. In de tweede plaats via de link WaterMIP, een eerder binnen het 7de kaderprogramma opgestarte watermodelvergelijkingsproject (met name het FP7 WATCH project) dat binnen ISI-MIP wordt voortgezet om samen met het ISI-MIP core team de vergelijking van water modellen de gevolgen van klimaatverandering op the mondiale water cyclus en de onzekerheden hierin te analyseren. Specifiek wil WUR ervaring opdoen met het linken van de nieuwe mondiale klimaat- (RCP's) en sociaal-economische scenario's (SSP's): hoe kunnen de nieuwe SSPs in de mondiale watermodellen worden geïmplementeerd m.b.t. landgebruiksverandering, irrigatie (areaal, en verandering water vraag), dammen & reservoirs, etc. In de derde plaats wil WUR samen met PBL de RCP-SSP de interacties analyseren van de water-, landbouw-, en energievraagstukken door middel van de koppeling tussen IMAGE en het LPJ-model.
- ✓ **Universiteit van Maastricht/ICIS (Pim Martens).** In eerste instantie zal ICIS kijken naar de verspreiding van Plasmodium falciparum malaria (samen met o.a. Liverpool University en de London School of Hygiene and Tropical Medicine). Het model (vanuit Nederland) dat aan de basis van de analyses ligt is het MIASMA (versies 1.0-2.2) model; meer specifiek de malaria module. Uitkomsten van de analyses zal het verspreidingsgebied van malaria, lengte van het transmissie seizoen (geografisch) en de risico-populatie zijn. In een later stadium kunnen ook andere onderdelen van het eerder ontwikkelde MIASMA model aan de klimaatdata gekoppeld worden (dengue, hitte-stress).
- ✓ **Universiteit Utrecht (contactpersoon Marc Bierkens).** De Universiteit Utrecht doet aan ISI-MIP mee op het gebied van mondiale hydrologie. Op dit moment ontwikkelen we een volledig geïntegreerd model van waterbeschikbaarheid, watervraag, waterconsumptie en watergebrek, waarbij wateronttrekking uit grond- en oppervlaktewater (inclusief reservoirs) en watergebruik (irrigatie, huishoudens, industrie) expliciet wordt gemodelleerd. Het model zal draaien op een 10x10 km resolutie. We zijn geïnteresseerd om gecombineerde RCP-SSP scenario's te analyseren en daarmee de effecten te berekenen op afvoeren, watertekorten, grondwateruitputting en, in samenwerking met PBL en Deltares, op overstromingsrisico's. Daarnaast kunnen we de effecten op watertemperatuur berekenen. Op het gebied van water



en voedselvraagstukken kunnen zien we samenwerking met WUR en PBL, op het gebied van overstromingsrisico met PBL en Deltares en op het gebied van gezondheidseffecten (overstroming, watertemperatuur) met de Universiteit Wageningen.

5. Wat levert de Nederlandse bijdrage op?

De resultaten van de ISI-MIP fast track, inclusief de Nederlandse bijdrage, zullen, indien het strakke tijdschema wordt gehaald, in een speciaal nummer van de Proceedings of the National Academy of Sciences van de Verenigde Staten of van het tijdschrift Climatic Change worden gepubliceerd. Deze publicaties zullen vervolgens als input worden gebruikt voor het 5^{de} Assessment rapport van Werkgroep 2 van IPCC. De kwaliteit en beleidsrelevantie van dit rapport zal daardoor een positieve impuls krijgen. Het Nederlandse co-auteurschap hangt af van de mate waarin de Nederlandse deelnemers hun voorgenomen onderzoekactiviteiten kunnen realiseren. In deze – en mogelijk additionele – publicaties zullen de onder (2) genoemde vragen worden geaddresserd. Ook zullen de resultaten waar relevant in Nederlandse en Europese publicaties worden meegenomen, zoals de Staat van het Klimaat 2013 en de ondersteunende studies voor de Europese Adaptatiestrategie die ook in 2013 zal worden gepubliceerd.

6. Wat zijn de geschatte kosten, en in hoeverre is extra ondersteuning nodig voor een effectieve deelname aan ISI-MIP?

Voor alle vier de Nederlandse instellingen geldt, dat zij de boven aangegeven onderzoekactiviteiten slechts ten dele kunnen financieren uit momenteel beschikbare gelden uit Nederlandse of andere bronnen, zoals gerelateerde FP7 projecten. ISI-MIP is pas in 2012 geconcipeerd en er is in lopende programma's geen rekening mee gehouden. Tabel 1 geeft aan welke additionele financiering in 2012 benodigd zou zijn om de fast track activiteiten uit te voeren, met een tentatieve schatting voor 2013. Een additionele mogelijkheid zou zijn om in Nederland eind 2012/begin 2013 een workshop te organiseren om de eindresultaten van de ISI-MIP fast track actie te bespreken en af te ronden. Deze workshop heeft ook als doel de Nederlandse inbreng binnen ISI-MIP zichtbaarder te maken. Alleen indien Nederland niet in staat of bereid zou zijn om de ISI-MIP fast track activiteiten in 2012 te ondersteunen, kan een beroep worden gedaan op tijdelijke Duitse fondsen.



Appendix 8: Proposal for a new JPI Climate WG4 research theme and associated FTA: socio-economic analysis of climate response options

Background

Notwithstanding advancements, uncertainty still affects our understanding not only of climate phenomena and resulting impacts, but also of the consequences of these impacts in social-economic terms. At the aggregate level, damage functions have been established for various climate risks, but these are insufficiently grounded in representative local and regional research findings. Moreover, information on the cost of adaptation is still scattered and incomplete and quantification is as yet very problematic. Adaptation will very likely involve a re-organization of social-economic systems and a re-thinking of development patterns at the local and broader levels. Accordingly, emphasis should be given to social and institutional barriers that can limit the effectiveness of measures.

Possible priority research directions

- ✓ **Develop and test guidance on application of a set of relevant socio-economic evaluation methods.** There is a need for a set of relatively simple evaluation methodologies to support regional and sectoral adaptation decision-making (“light touch” versions of CBA, CEA, MCA, optimal timing, etc.), rather than data-intensive detailed studies.
- ✓ **Expand the knowledge base on climate damages, and avoidable damages.** Damage cost estimates should be developed that are specific for specific vulnerable groups and places, including estimates of the damages that can be avoided by adaptation measures.
- ✓ **Collect and analyse case studies on specific adaptation strategies.** Bottom-up studies should be collected and then consistently integrated to define adaptation costs and effectiveness per domain to be able to develop better top-down estimates of adaptation costs and effectiveness at the country or European level. This requires appropriate integration and scaling methodologies for adaptation across different domains and geographical scopes.
- ✓ **Develop methods to analyse adaptation costs in the context of broader policy issues.** The majority of adaptation actions are not specific to climate change, but consist of strategies that are being implemented for other reasons. The aim is to understand the context and identify synergies and trade-offs (e.g., with mitigation) rather than to try to distinguish adaptation costs from other costs. This requires quantitative and qualitative methods, and the confrontation of economic findings versus findings from other disciplines.
- ✓ **Investigate the potential costs entailed by autonomous adaptation processes,** in particular considering the possibility of transition cost, frictions, delays in adjustments and the eventuality that, because of these, adaptation becomes maladaptation.
- ✓ **Analyze the potential institutional barriers between different administrative units and measures to remove them.** Due to its “local nature”, adaptation is assumed to require a lower coordination effort than mitigation; furthermore it is considered a private good. Many adaptation strategies, however, affect different sub-national administrations and/or communities.
- ✓ **Explore which regulatory or economic mechanisms can be deployed for effective adaptation.** While for mitigation instruments, a large body of literature is available, the analysis of the effectiveness of and conditions for various instruments for adaptation is still in its infancy.
- ✓ **Analyze the potential for adaptation as an engine for social and economic development,** in addition to its direct benefits. Under which conditions can adaptation stimulate technological development and job creation, and enhance human welfare?
- ✓ **Understand people’s preferences to potential climate risks/risk attitude.** In addition to purely economic considerations, other issues affect human behaviour also in the context of climate change adaptation, which are as yet insufficiently studied.



Fast track activity: prepare white paper on socio-economic research priorities in climate change response

- ✓ Map past and present research and identify gaps and research aiming at useable knowledge from local to European level to corroborate the relevance of the above proposed research themes and amend them;
- ✓ Discuss the resulting research agenda with a wider number of experts, e.g. during the UBA Austria/CIRCLE-2 workshop on climate costing in Vienna in January 2013 and possibly during an additional workshop jointly with CIRCLE-2 in autumn 2013.





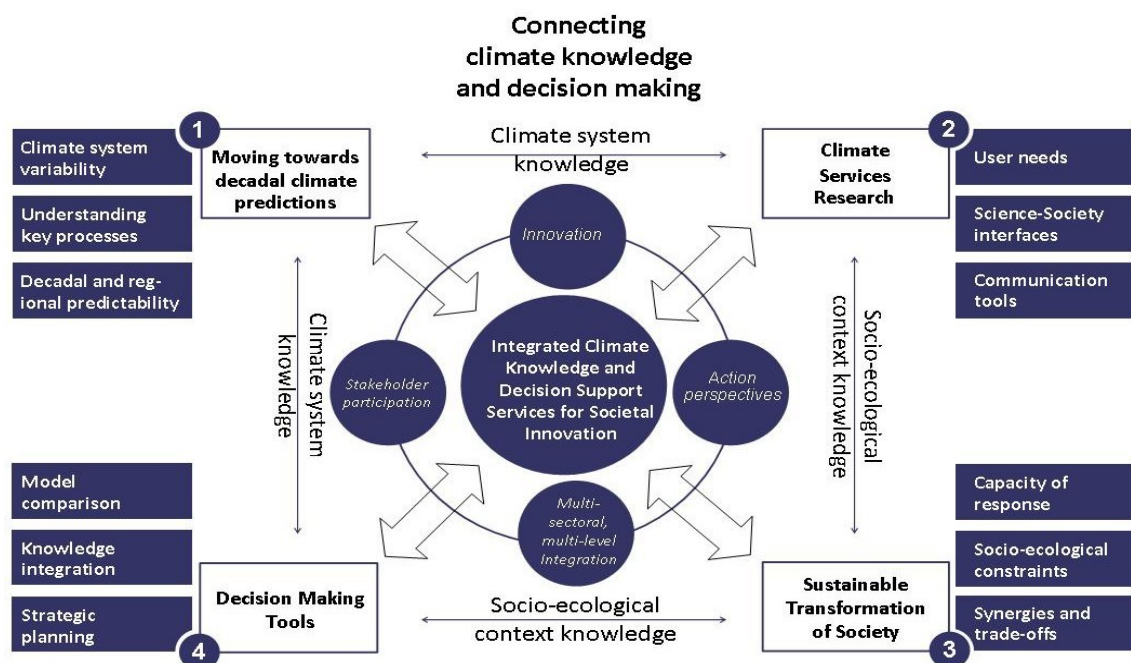
Annex 9: JPI Climate Framing Principles

Frans Berkhout and Asuncion Lera St.Clair

This document proposes a set of framing principles to guide the ongoing work and further development of JPI Climate. JPI Climate's main goal is to close critical knowledge gaps by combining and connecting climate-related scientific approaches through a systemic approach that considers the complexity of our social, economic and ecological systems to cope with climate change and to take responsibility for reducing and avoiding the negative consequences of climate change. The structure of JPI Climate into four different working groups or modules facilitates work towards this main goal, but it may also lead to fragmentation, particularly because of the barriers across disciplinary perspectives, and especially because of the gaps between the natural, social and human sciences.

In this note we argue that JPI Climate's main goal calls for a reflexive approach to how climate change and approaches for addressing it are framed, what knowledge is needed, knowledge about what, and knowledge for whom. Equally important is to reflect on what knowledge be used (or not used) and why. Such a reflexive approach should be embedded within JPI Climate norms and ways of working, as well as periodically reviewed.

We propose a set of principles, JPI Climate Framing Principles, that can guide the activities of all working groups participating in JPI Climate to assure the result is a holistic and unifying perspective that answers the central question stated in the center of the figure below that illustrates the scientific structure of JPI Climate; "Integrated climate knowledge and decision support services for societal innovation."



The first principle is a reflexive approach to the theme of climate change itself and attention to the way in which it is framed. What type of problems does climate change present, is it environmental, technological, or rather an issue related to behavior, beliefs, interests, political economy, or ideas and institutions pursuing progress and wellbeing? We know that climate change science



has framed climate problems as environmental and technical challenges. And key policy instruments used to address the challenges are market-based tools (carbon markets, taxes, subsidies for clean technologies, etc). But neither the framing nor the tools address systemic and structural issues, nor do they touch upon internal matters such as belief systems, people's aspirations for their future, or social practices and existing institutions. The fact that there is little research focused on these aspects of climate change reflects the dominance of a framing of climate change that is incomplete.

This first principle calls upon all activities proposed by JPI modules to *make explicit how they frame climate change*, as to assure it addresses more than environmental challenges or tasks for the market, and that such framing speaks to people's beliefs, incentives and institutional systems. This is key to producing knowledge that is credible, salient and legitimate, and thus more effective.

The second principle we propose is self-reflection on knowledge itself. We suggest all JPI activities ask what knowledge and whose knowledge is needed for the work they propose, and that they also ask how that knowledge can and should be used. These types of questions should inform and guide the JPI activities. This goes beyond the question of uncertainty (what is and what is not known in a given technical domain) and asks instead the deeper question of what kind of knowledge (cognitive, normative, pragmatic) is needed to enable connectivity between science and with action.

This principle leads to self-reflection about the limits of scientific knowledge and new forms of understanding and dissemination through co-production, which in the case of climate change may entail co-production with a wide variety of users (from farmers to engineering entrepreneurs to policy makers). Attention to this second principle along with attention to the framing of climate itself may enable JPI to identify more clearly means of enhancing the uptake of outputs, even where there is skepticism about climate change as a reality or an emerging risk.

The third principle calls for explicit awareness of policy and transitions processes. All JPI Climate modules have the goal of not only producing new knowledge, but also *making knowledge relevant and useable* and contributing to societal innovation. Reflection on whether knowledge contributes to societal processes creates attention for the factors and conditions that make knowledge credible, salient and legitimate across different actors. Policy and transitions processes involve contestation and conflict. Knowledge is employed by interested parties as one resource among others, to shape problem perceptions, configure interests and privilege particular response options. Producers of knowledge need to be aware of its practical uses and respond to the different societal contexts in which knowledge has its effect.

This principle will lead to questions such as: Why and when is knowledge functional to decisions, choices and actions? How does knowledge contribute to policy effectiveness? What is the role of the expert in contested social contexts? This third principle may lead to think creatively about co-production of knowledge and action, but also about the opposite situation in which knowledge claims are rejected or used destructively in public and policy processes.

The fourth principle calls for integration and coherence across all the modules in JPI Climate. Although the 4 modules have teams of scholars within concrete areas of work and disciplinary backgrounds, there is a risk some modules perceive themselves as being from the natural sciences and others from the social sciences. This is a false dichotomy that would break the coherence of JPI Climate. Modules 1 and 2 are directly related because climate predictions and services need to respond to users' needs and science and society interfaces, yet both are also directly linked to the factors that can enable European societies to achieve a transition to low-carbon sustainability (Module 3), while at the same time being related to the ways in which solutions and decision making tools (Module 4) are framed. Sustainable transformations of society are not something people just agree, partly because there are many different visions in society about what consti-



tutes sustainability and there are different interests in future developments. Often a societal goal will be related to the types of decision making tools used and the way these frame the different societal domains that need to be “transformed”.

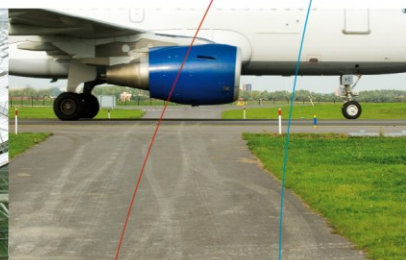
We suggest that these four principles are adopted by JPI Climate Governing Board as a means to facilitate the integration of all the activities and work proposed by the four modules:

- o a reflexive approach to climate change itself and attention to the way in which it is framed
- o self-reflection on knowledge itself
- o investigation that explicitly considers policy and decision processes in their framing
- o integration and coherence across all the modules that compose JPI Climate

These *JPI Climate Framing Principles* facilitate the connection between research processes and societal processes and stimulate an interactive understanding of the relation across the themes of the working groups (where 1 informs 2 and 2 informs 3 and 3 informs 4). They may prevent the building of territorial boxes, where 1 module becomes the stronghold of a concrete scientific group (for example the view that the natural sciences are concentrated on module 1 and social sciences are primarily concentrated in module 3). The principles assure a more effective and creative dynamic, and enable and encourage the different modules to work in a more integrated manner. The JPI Climate Governing Board can create a system to communicate these principles to JPI Climate stakeholders, and then establish a protocol to review their relevance and effect through, for example, research that crosses and links the modules activities and annual meetings bringing together research teams.

We propose that a JPI Climate Transdisciplinary Board is established as the custodian for these principles and that it develops a process of monitoring their application by all fast track and other initiatives undertaken by JPI Climate teams, and to review the principles periodically.





To develop the scientific and applied knowledge required for
Climate-proofing the Netherlands and to create a sustainable
Knowledge infrastructure for managing climate change

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