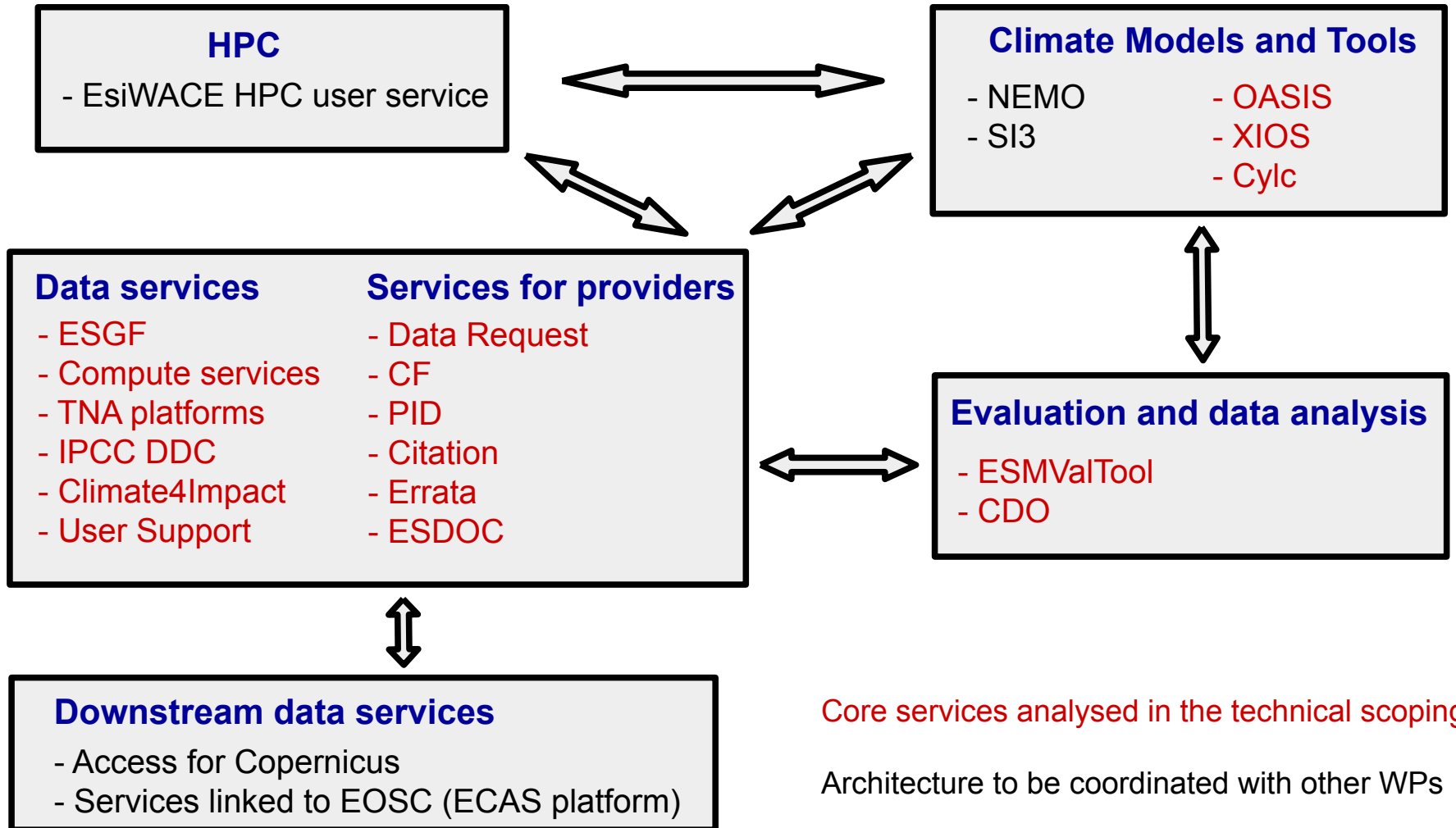# Introduction to Sustainability

# (WP2-NA1)

## Fanny Adloff, Michael Lautenschlager

## and the Sustainability WG

# The ENES Research Infrastructure (ENES-RI)

**HPC**

- EsiWACE HPC user service

**Climate Models and Tools**

- NEMO          - OASIS
- SI3           - XIOS
                - Cylc

**Data services**          **Services for providers**

- ESGF                     - Data Request
- Compute services         - CF
- TNA platforms            - PID
- IPCC DDC                 - Citation
- Climate4Impact           - Errata
- User Support             - ESDOC

**Evaluation and data analysis**

- ESMValTool
- CDO

**Downstream data services**

- Access for Copernicus
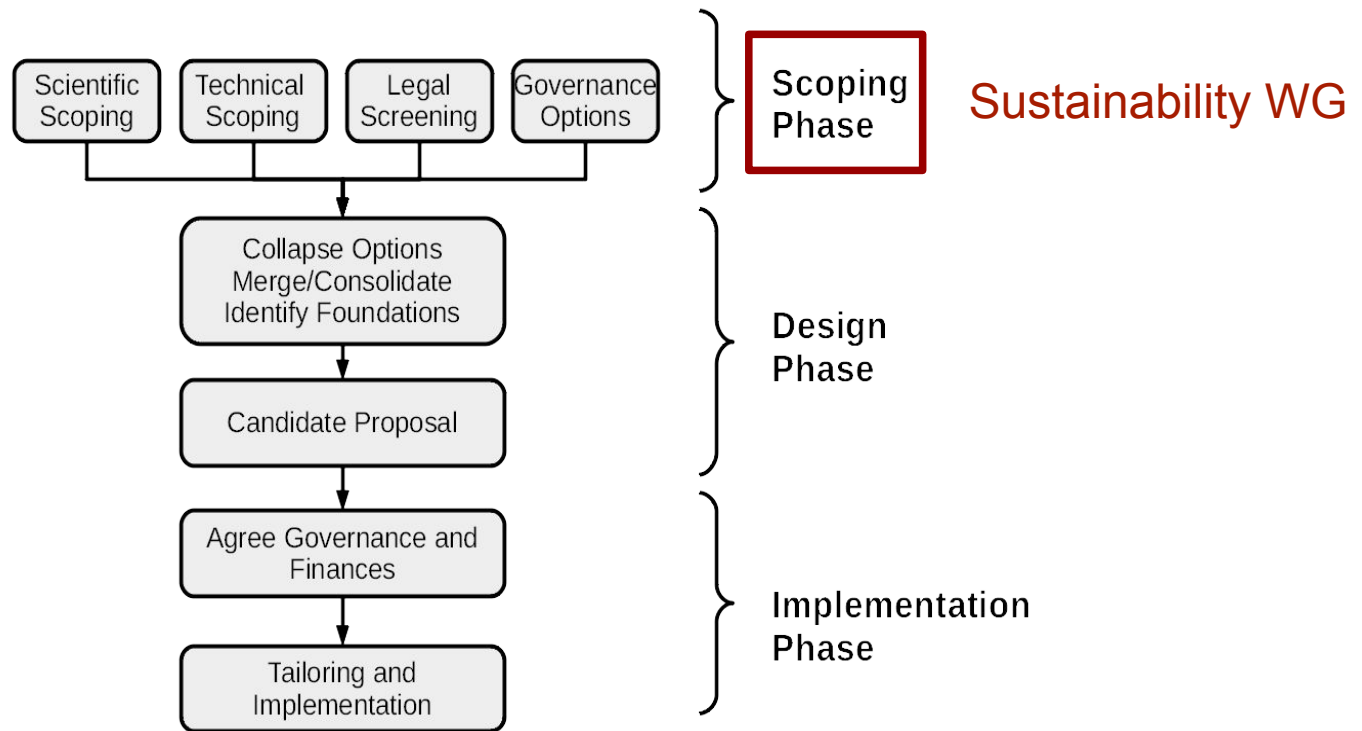- Services linked to EOSC (ECAS platform)

Core services analysed in the technical scoping

Architecture to be coordinated with other WPs

# Background on sustainability

Objective: build an infrastructure that guarantees long-term services to the ENES community

# Legal screening – status from Summer 2019

## Current options

- Letter of Intent/Letter of Commitment
- Memorandum of Understanding
- Consortium Agreement
- AISBL, Belgian Law (e.g. EUFAR, PRACE, SeaDataNet)
- Dutch foundation (EGI)
- ERIC

## Aspects being considered

- Legal entity
- Binding agreement
- Duration
- Signatory parties
- Minimum number and nationality of partners
- Membership modalities imposed by the agreement
- Statutory seat / headquarters location
- Governance implications
- Access to EU funding scheme as one entity/partner
- Timeline to establish (necessary stages)
… etc...

## Next steps
- Steering committee shall decide on a short list of possible options
- Short list of options to be discussed with legal departments at institutional level

## Governance
- IS-ENES Stakeholder Board will be set-up at the end of the scientific scoping phase
- Will depend to some extent on the legal option chosen

Full table available: https://drive.google.com/file/d/1ypP-vV8ibTgqHQd5JHqoJBssRo8E0I7Q/view?usp=sharing

# Technical scoping: ENES-RI as of March 2020

| Service Classification | Service Names | Availability | Funding |
|---|---|---|---|
| Remote at infrastructure sites | ESGF data service | 24/7 SLA | Inst. + Nat. + EU |
| | Compute service, IPCC-DDC | 24/7 Best Effort | Inst. + Nat. + EU |
| | Errata service, ES-DOC, SYNDA data replication, C4I portal | 24/7 Best Effort | Inst. + EU |
| | Citation service, PID service | 24/7 Best Effort | Inst. |
| Data management | Data request service | 24/7 Best Effort | Inst. + Nat. + EU |
| | CF convention support | Best Effort | Inst. + EU |
| Provision of software | Cylc | 24/7 Best Effort | Inst. |
| | OASIS, XIOS | Best Effort | Inst. + EU |
| | CDO | Best Effort | Inst. |
| | ESMVal | Best Effort | Nat. + EU |

Technical Scoping Synthesis Report: https://docs.google.com/document/d/1BM9uIAvia_5rjuoWrJq5FAh02-ITFL1Q_TfIN_T9wZ0/edit?ts=5e7254ef

# Technical scoping: ENES-RI as of March 2020

## HPC and Tools

- Provision of software with download and local usage.
- Operates on a best effort basis.

Funding: mainly institutional and European.

Sustainability: depends on the engagement of persons and the leading institute(s).

## ENES-CDI

- Remote end user services and ESGF supporting services.
- Operates on a 24/7 best effort basis, have availability commitments against ESGF.
- Data management services (CF conventions and data request)
- Operate on a 24/7 best effort basis

Funding: institutional, national and European.

Sustainability: depends on institutional engagement and on a continuous stream of project money.

## Operations

Funding: no direct funding for operational services nor collection of service fees from users.

Sustainability: problematic for ENES-RI sustainability because institutional engagement is connected to synergy effects, and project money is for development and improvement, but not for operations.

Technical Scoping Synthesis Report: https://docs.google.com/document/d/1BM9uIAvia_5rjuoWrJq5FAh02-ITFL1Q_TfIN_T9wZ0/edit?ts=5e7254ef

# Scientific scoping - consultations

40 people consulted with most participants from Modelling and Data Users communities

## Awareness
- Very little awareness of the services provided by the ENES-RI except for OASIS, XIOS, ESGF, ESMValTool and NEMO.

## Dependencies
- Significant number of users are dependent on OASIS, XIOS, ESGF, ESMValTool and NEMO.
- Many other dependencies raised by less users per service.

## Involvement in IS / Software development projects
- Most users are involved in such projects across more than one European institution.

## Pros and Cons of sharing tools
- Main pros: gain of time / efficiency, better service quality, better inter-comparability of data...
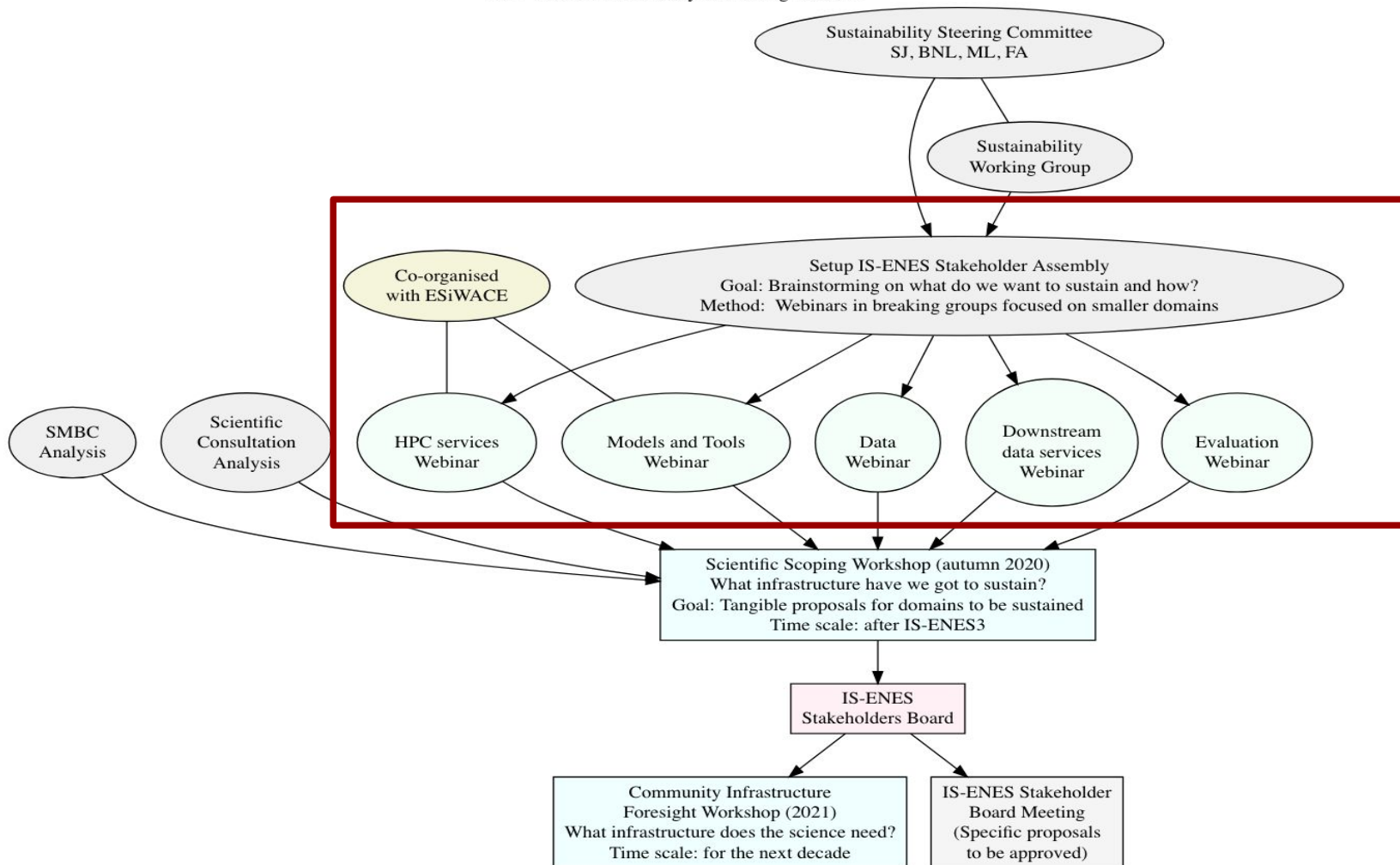- Main cons: less responsive to institutional needs, creates dependencies, decreases diversity...

## What is missing in the current European IS
- Needs more information / communication, a common governance (with single focus) to help addressing the issue of sustainability.
- Importance to keep bottom-up approach when looking for IS solutions.

Scient. Consult. Synthesis Report: https://docs.google.com/document/d/1avo20wICDrvm6BDwVwXDBEdWrXRIQmJUraZVzQqp4_w/edit?usp=sharing

# Scientific scoping - next steps

# Summary

## Current status

Completed:
- Technical scoping
- Scientific consultations

Ongoing:
- Legal screening: short-list to be done and submitted to legal departments
- Scientific scoping: domain brainstorming webinars in preparation

## Next steps

- Scientific scoping workshop (autumn 2020)
- Set-up IS-ENES Stakeholders Board (end 2020)

### THE CONSORTIUM

Coordinated by **CNRS-IPSL**, the IS-ENES3 project gathers **22 partners in 11 countries**

CNRS · with CEA · SORBONNE UNIVERSITÉ

National Centre for Atmospheric Science
NATURAL ENVIRONMENT RESEARCH COUNCIL

Met Office · DKRZ DEUTSCHES KLIMARECHENZENTRUM

BSC · CERFACS

CMCC · Koninklijk Nederlands Meteorologisch Instituut · Ministerie van Infrastructuur en Waterstaat

SMHI · UK Research and Innovation

UC UNIVERSIDAD DE CANTABRIA · DLR · netherlands eScience · Norwegian Meteorological Institute

METEO FRANCE Toujours un temps d'avance

MANCHESTER 1824 The University of Manchester

WAGENINGEN UNIVERSITY & RESEARCH

CHARLES UNIVERSITY

NORCE · LiU LINKÖPING UNIVERSITY

If you are interested in joining the Sustainability group, please email me and I will add you to the Slack channel!

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Our website
https://is.enes.org/

Follow us on Twitter !
@ISENES_RI

Contact us at
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zenodo
Join the community on ZENODO !