

## Energie – Session

Helmholtz-Büro Brüssel

Holger IHSEN

EU-Referententreffen Dresden 22.06.2022

### Agenda

EERA

-RePowerEU

-Set-Plan

-Strategies

Mission Innovation

StoRIES Projekt

Partnerschaften

# EERA and the new European/World Context

Revamping SET Plan

REPower EU

EU Green Deal

Energy crisis emergency

New Energy Paradigm

EU Strategic Autonomy

New Geopolitical Order

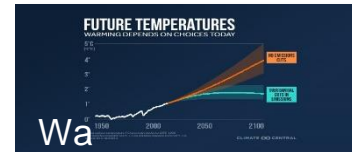


200 – 700 m migrants 2050

2° in 2050, 3°-4° in 2100

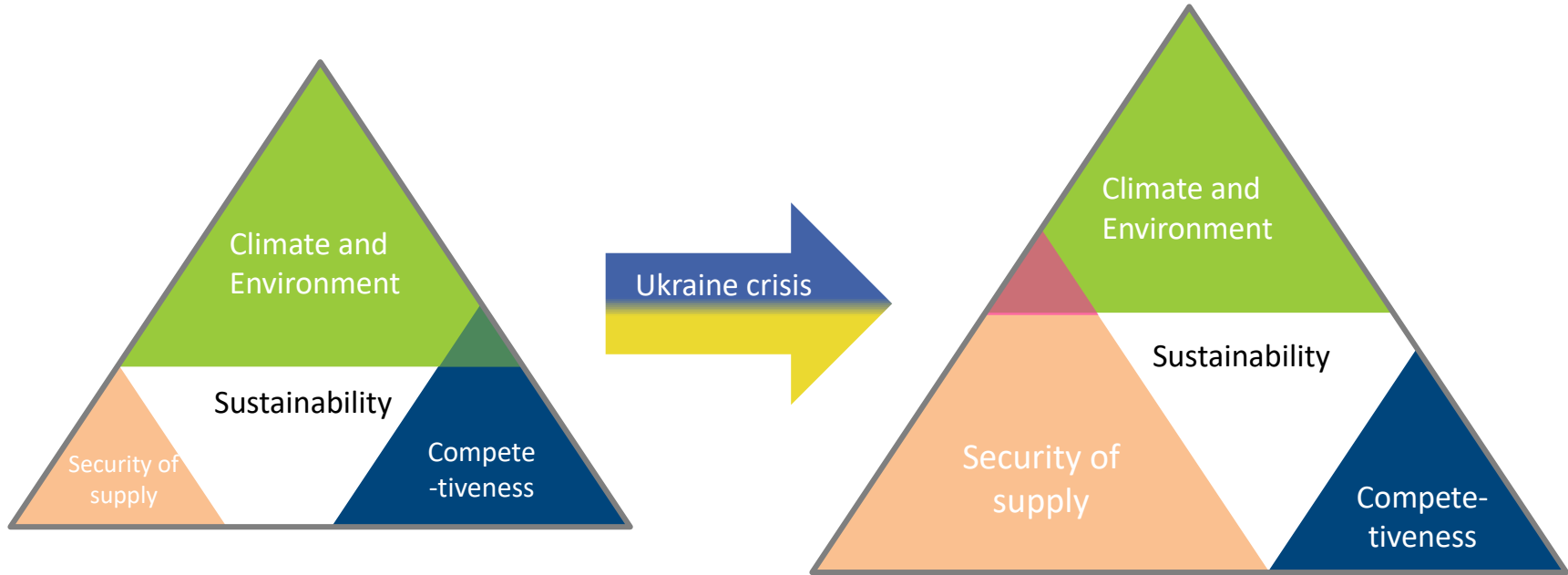
Rebound Fossil invest.

Increasing emissions



# War in Europe

Change in priorities

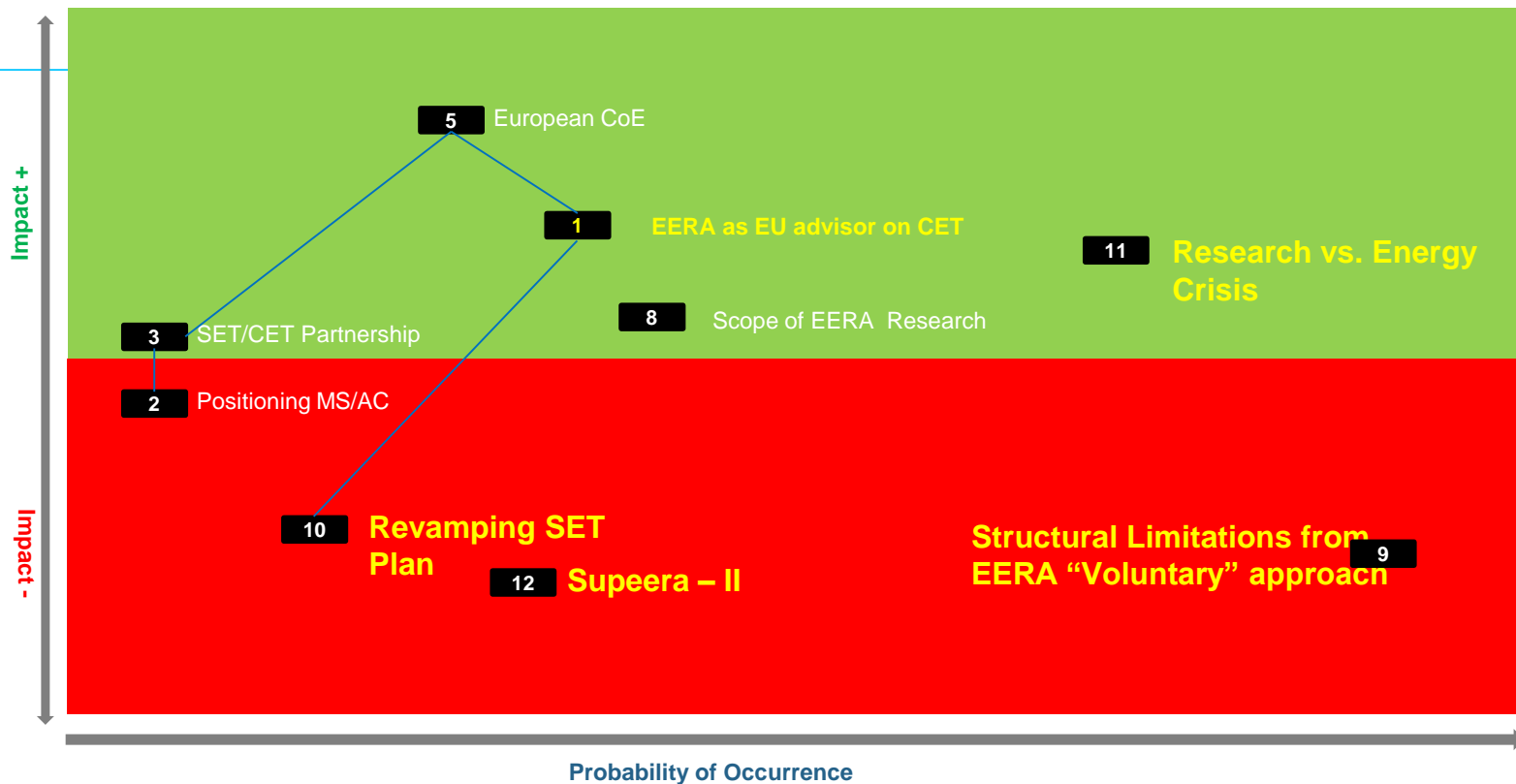


# Final Taxonomy Proposal

- ▶ **EU Taxonomy** → set of rules designed to provide investors with a common definition of what is green and what is not in order to channel more capital into sustainable businesses.
- ▶ **Final document** (02/02/22): **includes gas and nuclear energy** in the list of activities covered by its scope by labelling them as **transitional**, i.e.: *“activities that cannot yet be made fully sustainable, but which have emissions below industry average and do not lock in polluting assets or crowd out greener alternatives”*
- ▶ **Status of the process: until June**
  - ▶ EU Parliament – object to full text with simple majority ( $\geq 353$  MEPs)
  - ▶ EU Council – object to full text with reinforced majority ( $\geq 20$  Member States, representing at least 65% of the EU population) → **NEW!** Germany will vote against the proposal but won't sue the EC. The move is largely symbolic (only Germany, Austria, Luxembourg & Spain)
- ▶ **If no objection is successful**, text will enter into force as of **01/01/2023**
- ▶ **15/03/22: Group of 102 MEPs have called on the EC to withdraw its proposal to include fossil gas in the taxonomy** saying Russia's invasion of Ukraine has rendered the proposal obsolete. Link to the letter [here](#).
  - ▶ Faraway from the required 353 number requested to reject the EC proposal
- ▶ **Brief collection of follow ups** [here](#)



# Opportunities & Risks



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# RePowerEU

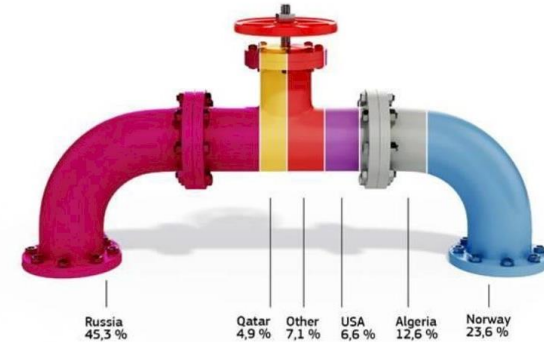
# REPower EU - Objectives

*Versailles Declaration, 10-11/03/2022*

EU leaders agreed to phase out the EU dependency on Russian gas, oil and coal imports ASAP and invited the EC to put forward a plan to ensure security of supply and affordable energy prices during the next winter season by end of March.

- ▶ Joint European action for more affordable, secure and sustainable energy
- ▶ Get rid of Russian dependency – gas, oil, coal – well before 2030, starting with gas EU Dependency:
  - ▶ Gas: 40%
  - ▶ Oil: 27%
  - ▶ Coal 46%
- ▶ Get rid of 2/3 (100 bcm) of current gas imports from Russia by 2023

*Share in EU natural gas imports, 2021*



*Source: European Commission*

# REPower EU – 3 Pillars



## 1. Energy Prices



## 2. Gas storage



## 3. CET



# REPower EU – Cut Russian Gas dependency - CET

## 1. Boosting RES deployment, grid and permitting

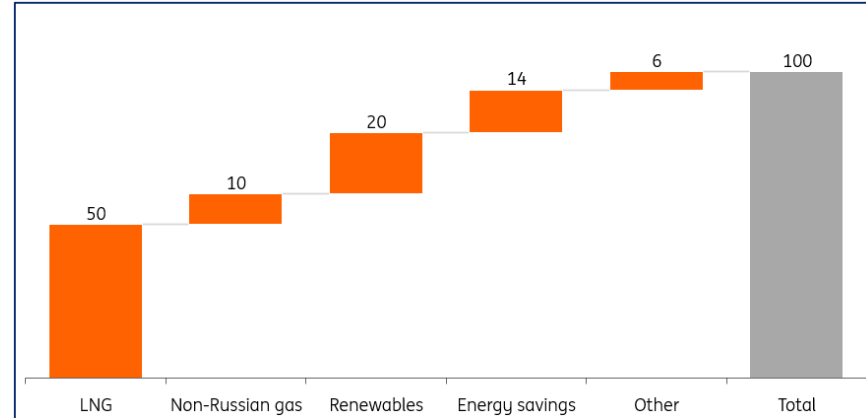
1. Solar PV
2. Wind
3. Heat-pumps x2 :10 M installations in 5 Y

## 2. Energy Efficiency

1. Buildings
2. Industrial Processes

## 3. Diversifying Gas supply

1. Suppliers
2. LNG infrastructure



## 4. Double 2030 Biomethane targets: 35 bcm by 2030

## 5. Accelerate Hydrogen

1. Infrastructure : ports, transport, storage
2. Import 9-18 Mt, produce 5-6 Mt by 2030

# SUPEERA Policy Brief on REPowerEU

- ▶ Published! Available [here](#)
- ▶ Analyses the text of the EU Commission's Communication and lists measures based on **short, medium, and long term**
- ▶ Builds on the **JPC's feedback** to identify R&I challenges
- ▶ Main general considerations → Further legislative steps stemming from the Communication will need to:
  - ▶ **Climate Mitigation: sustainable, fair and just transition** to the benefit of all EU citizens and businesses
  - ▶ **EU security of supply and Strategic Autonomy;**
  - ▶ **EU leadership in climate diplomacy and technology transfer;**
  - ▶ Integrate **climate adaptation** considerations (e.g., IPCC AR6 WG2 );
  - ▶ Support **UN SDGs**;
  - ▶ Tackle **non-technological barriers** (e.g. administrative barriers).



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# SET-Plan

# SET Plan Revamp – Key Points

In 2022, the European Commission is taking stock of the 14 years of experience of the SET Plan implementation, undertaking a **second revision** of the Plan to pursue several objectives:

- ▶ Adjust to the evolving policy landscape and in particular **deliver on the Green Deal** by making the SET Plan a more mission-oriented, impactful and politically visible tool;
- ▶ **Reinvigorate its governance** by introducing more simplification and legibility into the existing structure - without the addition of an extra layer or body – to increase its flexibility and **tackle cross-thematic areas**;
- ▶ **Support the ERA** Policy Agenda and the goals of the Energy Union;
- ▶ Make **R&I contribution essential** in achieving the objectives of the Green Deal;
- ▶ **Reinforce the synergies** between the SET Plan and other financial instruments and supporting schemes (e.g. Next Generation EU, REACT-EU, ESIF, etc.);
- ▶ **Accelerate innovation and deployment** by making the SET Plan consistent with the NECPs and other relevant national policies and measures;
- ▶ Address **environmental and social aspects** (just transition, citizen engagement); encompass training and education challenges for energy research.

# SET Plan Revamp – EERA contribution

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- A strategic, priority for EERA, albeit with highly unpredictable outcome
- Build leadership in the co-creation process of revamping
  - Building in depth understanding of ERA, in consultation with DG RTD (J. Schuppers; A. Panagopoulou)
  - Accelerating interaction with friendly – and other – SET plan SG representatives
  - Building intelligence through EERA connections in SET Plan (IWGs) and CETP
  - Engage with other key SET Plan Stakeholders (ETIPS, IWGs, SETIS, ...)
  - Use existing tools and instruments (e.g., SUPEERA)

# TF#0 – SET Plan Revamp – timeline



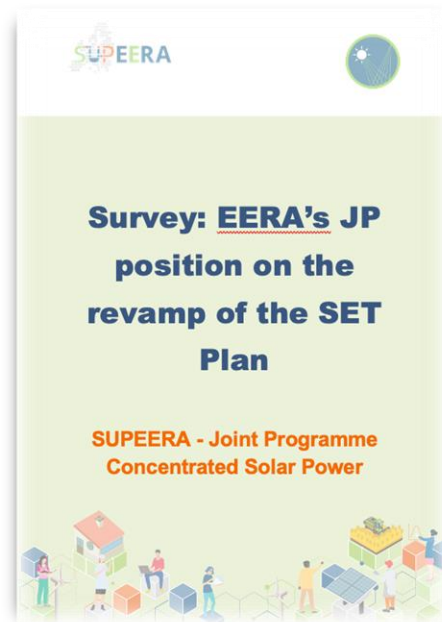
# SET Plan Revamp – SUPEERA process

SUPEERA supports the SET Plan's revision process, enabling to structure EERA community's contribution and to delineate R&I challenges to reach 2030 goals.

Survey is covering all 18 JPs, while dedicated workshop will be organised for 6 JP reflecting 6 major EU strategies:

- Offshore Renewable Energy
- Energy System Integration
- Solar Energy
- Hydrogen
- Renovation wave
- + Energy Storage

- ▶ Preliminary analysis based on answers received until 16 May
- ▶ Responses from 9 JPs (AMPEA, CSP, DfE, ES, Hydro, NM, PV, Wind, SC)

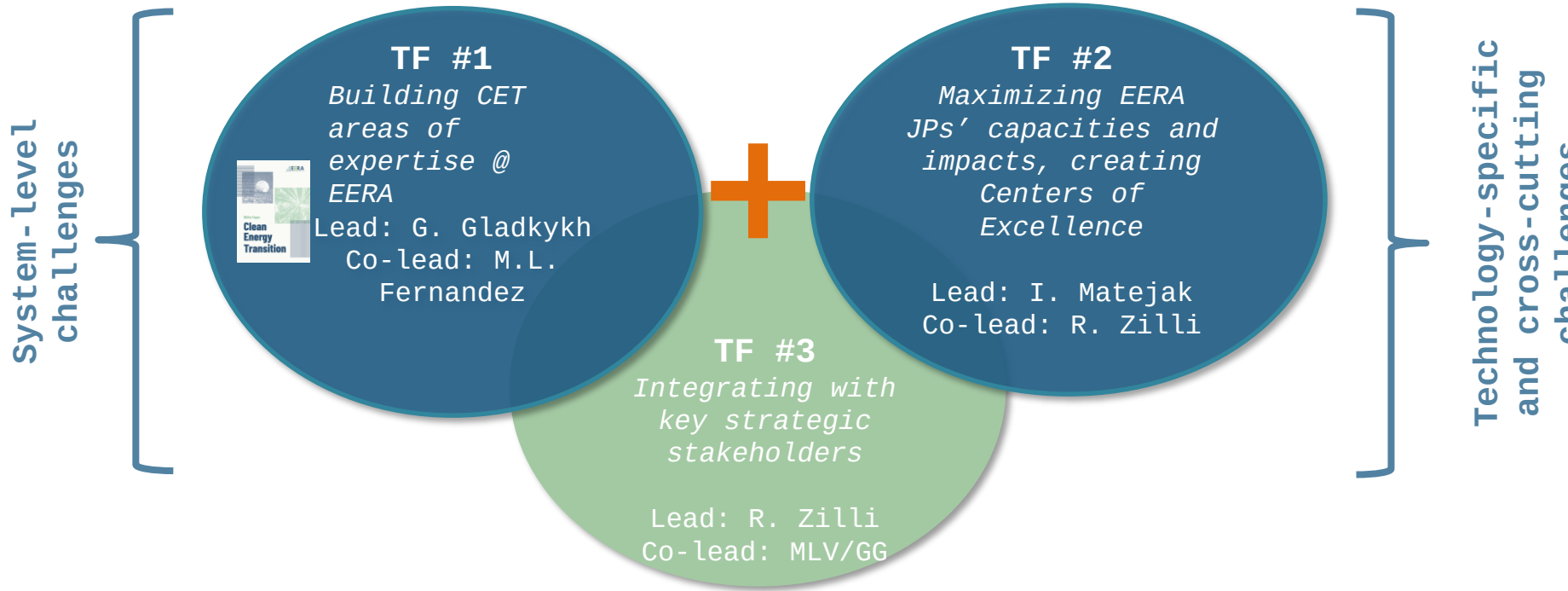


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# EERA – Strategy – Working Groups



# Articulation of EERA strategic activities



# What's next

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## EERA Secretariat + JP e3s

- ▶ **Progress on** mapping CET expertise across EERA JPs.
- ▶ JP E3S will conduct mapping exercise across JP e3s members.
- ▶ **Brainstorm to agree** on the most feasible and sustainable way of transforming JP e3s.
- ▶ **Present new format of the JP e3s** aligned with TF#1 objectives to the JP e3s GA (7 June 2022).

## EERA Secretariat + TF#1

- ▶ **Advise and support the Implementation of the new JP-E3S structure**
- ▶ Monitoring function : **Assess / prepare** EERA's capacity to respond to emerging research and policy challenges.

# TF#2: Creating EU Centres of Excellence

## INTERNAL EERA

EERA JP



EERA CoE  
EECoE

- Reaching pre-defined KPIs
- Self-assessment & Monitoring tool
- Peer Reviewed
- All JPs can become EECoes

## EXTERNAL



European  
CoE  
EUCoE

- Strategic priorities of the EC + MS/AC
- Political agreement EC + MS/ACs
- New platform & governance
- Integration with industry initiatives
- Opportunity for new funding/collaboration opportunities

# European Center of Excellence on Energy Transition modeling

CoE – ETM participating institutes

1. VITO –  
EnergyVille

2. TU Delft

3. CIEMAT

4. LNEG

5. RuG

6. TNO

7. Tecnalia

8. Sintef

9. NTNU

10. DLR

11. UniPd

12. IFE

13. Kadir Has

14. EESY

+ StoRIES project  
partners

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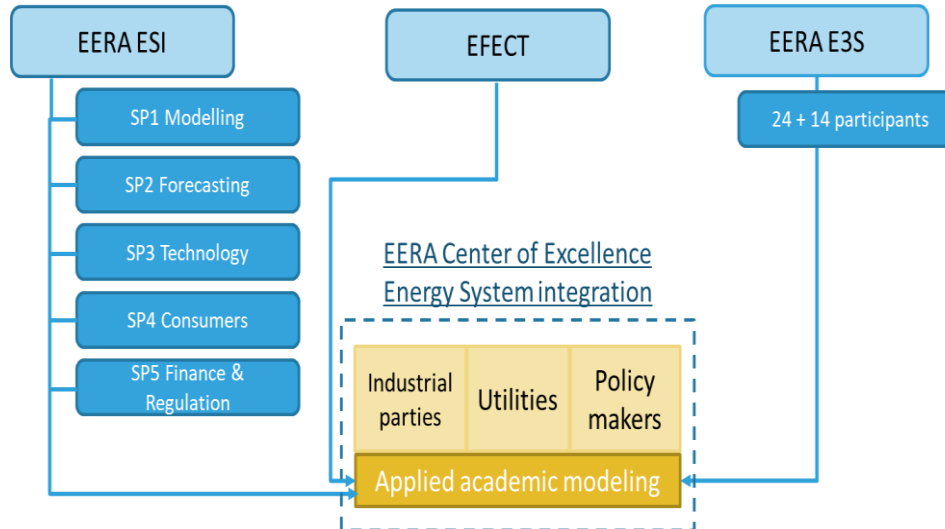


# European Center of Excellence on Energy transition modeling

## Objective: Insights for industry and policy makers

' The mission of the EERA -CoE on Energy Transition Modelling is to bring new insight in how the energy system in Europe can be transformed in the most cost effective and acceptable way.

*This will be done by bridging the gap between academic energy system models and real-life applications. The CoE - ETM will support the planning and operation of industrial and energy infrastructure, support policy makers and utilities via model results, software/hardware development and dedicated consulting.*



## TF#3



### Member States / Associated Countries

- ▶ EERA interaction with **MS/AC** is **generally marginal** and has limited impact (few exceptions).
- ▶ The current approach through the **SET Plan Steering Group** proves **relatively ineffective**.



### Industry & innovation partners

- ▶ To be addressed in a later phase



### International Collaboration

- ▶ Race to net zero calls for an immediate strengthening of International collaboration (IEA).
- ▶ EERA needs to implement an objective driven approach

# TF#3 – Collaboration with External Stakeholders – Timeline

**6 April 2022**

ExCo: decision on way forward on Country Action Groups

**April 2022**

Setting up of new TF#3 Meetings to discuss on CAGs, Mission Innovation and collaboration w/ Africa (depending on result of priority assessment)

**April – May 2022**

TF#3 meetings

**22-23 June (Prague, CZ)**

EERA ASM → present progress achieved

**July – September 2022**

Evaluate, assess, define way forward

# EERA 2021 Annual Report



## ► Content

- Summarizing the highlights from 2021 structured in three sections.
- Preceded by a short message by the EERA presidency and Sec Gen.

## ► Format

- Concise, graphic-based format.

## ► Link: [here](#)

### SECTION 1



Strengthen our position as the **Clean Energy Transition research pillar** and become the **strategic advisor** on climate neutrality to EU decision-makers

### SECTION 2



Boost the **impact of EERA** by **reinforcing the work of the Alliance**, developing **Joint Programmes into lighthouse Centres of Excellence** and strengthening pan-European research collaboration

### SECTION 3



*"Individually, we are one drop. Together, we are an ocean"*

Ryunosuke Akutagawa

Beyond the facts, the people that make it all possible



# EERA Staff Update



**Adel El Gammal**  
Secretary General  
11/2016  
BE



**Ivan Matejak**  
Operations Director  
12/2018  
HR



**Luisa Fernandez**  
Com's Manager  
06/2020  
AR



**Rosita Zilli**  
Sr. Policy Officer  
01/2021  
IT



**Raffaele Guerini**  
Policy and Com's  
Officer  
06/2020  
IT



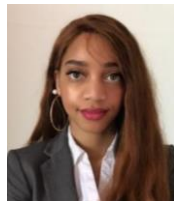
**Monica de Juan  
Gonzalez**  
Sr. Project Manager  
04/2020  
ES



**Ganna Gladkykh**  
CET Expert  
01/2021  
UA



**Spyridon  
Pantelis**  
Project Manager  
02/2022  
GR

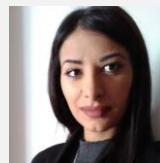


**Sandy Ngnidze**  
Office Manager  
**05/2022**  
CM



**Julien Balsen**  
JP Wind  
04/2022  
FR

**JP Seconded**



**Martina  
Campajola**  
JP PV/JP Hydro  
04/2022  
IT

**JP Seconded**



**Senior CET  
Expert**

New Search  
Launched

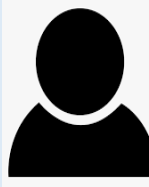
Interns



**Sonia Bianconi**  
Project Intern  
**05/2022**  
IT



**Elena Reato**  
COM & POL Intern  
02/2022  
IT



Admin Intern

Search Launched

# Mission Innovation

Mission Innovation 2.0, launched on 2 June 2021, is catalyzing a decade of action and investment in research, development and demonstration to make clean energy affordable, attractive and accessible for all. This will accelerate progress towards the Paris Agreement goals and pathways to net zero.

Mission Innovation (**MI**) is a global initiative of 22 countries and the European Commission



Australia



Austria



Brazil



Canada



Chile



China



Denmark



European Un



Finland



France



Germany



India



Italy



Japan



Morocco



Netherlands



Norway



Republic of Korea



Saudi Arabia



Sweden



United Arab Emirates



United Kingdom



United States

# Mission Innovation Collaborative Platform

## Materials for Energy ( M4E )

### Objectives of M4E

- ✓ To convene the international community through collaborative projects and infrastructure alignment, and deploy **Materials Acceleration Platforms** around the world
- ✓ To train the next generation of highly skilled talent
- ✓ **To transfer innovative technologies to industry partners for commercialization.**
- ✓ Accelerate innovation by a factor of 10



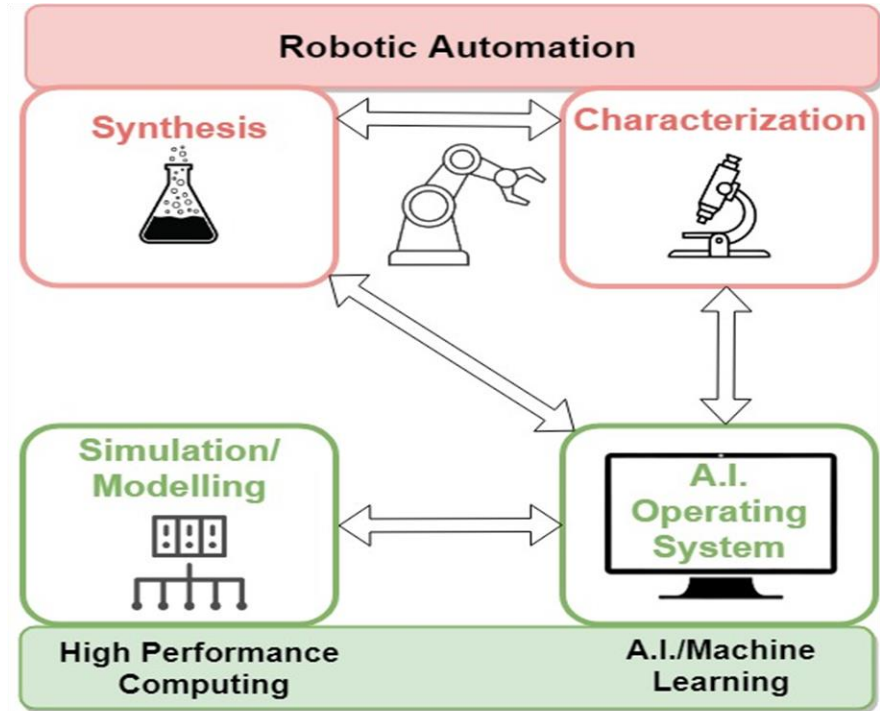
Contact of M4E co-leads : [mark.kozdras@nrcan-rncan.gc.ca](mailto:mark.kozdras@nrcan-rncan.gc.ca)  
[holger.ihssen@helmholtz.de](mailto:holger.ihssen@helmholtz.de)

# Material Acceleration Platform ( **MAP** )

The MAP has two key features :

- 1.) Latest IT technologies, like AI, robotic systems, automated material characterisation devices, HPCs, etc
- 2.) Platform approach, huge collaboration is participating in developing new systems, services and providing data.

MAPs support the optimisation of materials directly in devices.



# Meetings

- With Commission to discuss Mission Hydrogen and how to support the mission.
- Meeting in India (Delphi)
- Meeting EIC Francesco Mattenucci
- Sunergy meeting in Brussels last week

## Upcoming Events - for details -

[IndTech \(June 27-29\)](#)

[EMIRI Meeting – Re-inventing Materials Research \(June 30\)](#)

[GCMAC Learning Intensive & Knowledge Exchange \(August 22 – 29\)](#)

[Accelerate Conference \(August 30 – Sept .2\)](#)

[MI Ministerial \(September 21-23\)](#)

# MoU update

- All comments have been consolidated
- MoU is a non-binding document, without official partnership
- Will seek Email confirmation from signees
- NRCan will handle amendments to the MoU

## Next steps:

- A [Consolidated version](#) will be sent out shortly to obtain final confirmation of approval of MoU content and to obtain main contact information for each signing organization
- After this (~End of June), proceed to signing process – signatures collected digitally, signed manually and distributed party by party
- Aiming for Completion date: End of August 2022
- Could consider including StoRIES/EERA network signing, before end of December 2022

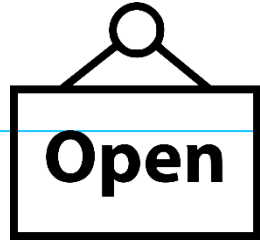
# Research- Ecosystems



- Eco-system with ~100 industries and RTOs
- TNA ( 70 Ris integrated )
- Int. mobility scheme
- Socio-eco-studies
- Road-map
- Pro-active innovation management
- Schools, etc

## Connecting

- Mission Innovation projects from Canada / US / India
- ESFRI ERICs: ECCSEL, PRACE
- EERA JPs : Storage, Ampea (Materials), Hydrogen
- Sunergy and SunC
- Other H2020 projects, EERAdata, SupEERA, ..
- EICs projects in the pipeline
- COST projects in the pipeline
- Helmholtz projects ( HMCs) in the pipeline



## 1<sup>ST</sup> TRANSNATIONAL ACCESS CALL

- **Free access to 64 world-leading Research Infrastructures for Hybrid Energy Storage**
- **Travel and accommodation costs covered by StoRIES**
- **Open to all researchers** from academia and industry
- ▶ **Topic: Application oriented hybrid and sustainable energy storage solutions**
- ▶ **Deadline: 31<sup>st</sup> July 2022**

→ [www.storiesproject.eu/calls](http://www.storiesproject.eu/calls)

<https://www.storiesproject.eu/list-database-research-institutes/atenea-microgrid>

**StoRIES**   
*Storage Research Infrastructure Eco-System*

Contact: [eera-jpes@b3.kit.edu](mailto:eera-jpes@b3.kit.edu)

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- **5 Calls for researchers from European institutes can visit international laboratories for 2 - 12 weeks**
- **First one will open up in October .**
- **Each call might have 20-25 applicants.**
- **Support for accommodation and traveling (250€/week + 700€ )**
- **Topic: MAPs**
- **We should have a description of international “MAP” laboratories with contact points and may be a kind of a profile of the visitors for the web-site.**
- **In principle the applicants can go where ever they want.**
- **[www.storiesproject.eu](http://www.storiesproject.eu) more information in July.**

# Helmholtz-Jahresveranstaltung in Brüssel

## Thema : Herausforderungen für die Forschung im der langfristigen Energiespeicherung

Am **11. Oktober 2022** in einer Landesvertretung in Brüssel



### Ziele :

- 1.) **Lobbyarbeit für eine Energiespeicher ESFRI Netzwerkforschungsinfrastruktur machen.**
- 2.) Diskussion um eine groß angelegte Initiative zur Erforschung alternativer langfristiger Speichertechnologien zu initiieren; z.B reaktive Metalle

# Advanced Materials Partnership

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- Grenoble Commission conf. IndTech 2022 27-29 June.
- Discussions on „advanced materials“
- EMIRI workshop on June 30 on MAPs.
- With EMIRI we drafted CSA WP text on request of the Commission ( not in yet)

# What is the Batt4EU Partnership?

*A co-programmed Partnership for batteries under Horizon Europe*





A co-programmed Partnership under Horizon Europe which gathers – on the public side – **the European Commission**, and - on the private-side – **the Batteries European Partnerships Association (BEPA)** bringing together all the European battery stakeholders interested to get involved in Horizon Europe.



## 2021 calls – projects are starting this summer

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7 calls: **€160 million** total budget



61 proposals were submitted. Funding requested: **€ 430 million**



22 proposals were under consideration (total of **€ 155 million**)  
Some of which have already started.

# 2022 calls

*2022 calls have opened (April 28)*

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**10 calls**



**€133 million** total budget



Calls are closing **6 September 2022 (17:00:00 Brussels time)**

# Co-funding by industry partners !

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- A complimentary investments (in-kind) by companies in the same research areas that the EU invests in. In addition in-kind contributions to national projects, fully privately-funded research initiatives etc.

Some of our EASE have reported their planned activities for the year 2022 in this report.

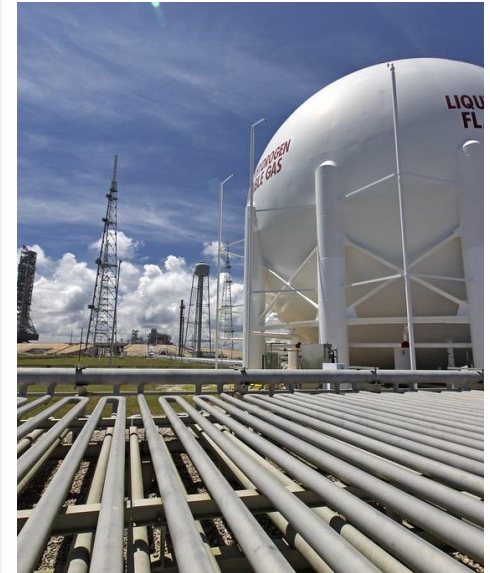
<https://bepassociation.eu/wp-content/uploads/2022/06/BEPA-PLANNED-ADDITIONAL-ACTIVIES-2022.pdf>

The overall reporting will start in 2023 for the years '21 and '22.

# EU Clean Hydrogen Partnership

- ▶ • The [EU CHP](#) has launched the first batch of calls for proposals under its scope, with these among the main topics:

- ▶ Hydrogen production processes
- ▶ The efficiency of solar thermochemical water splitting
- ▶ Low temperature water electrolyzers for highly pressurised hydrogen production
- ▶ Use of hydrogen in transport (and mainly, heavy-duty transport), heating and power
- ▶ Cross-cutting projects
- ▶ “Hydrogen valleys” → A Hydrogen Valley is a defined geographical area, city, region or industrial area where several hydrogen applications are combined together and integrated within an FCH ecosystem
- ▶ While the total mobilisation of public funds will amount to €1 billion over the course of the partnership, this first call for proposals will channel €300 million that shall be equalised by private sector participants, aiming to reach a total of €600 million in funds.





## Agenda process on **green hydrogen** – why?

- Initiated by the German Federal Ministry of Education and Research and jointly agreed by European partners under the umbrella of the German Council Presidency
- One of the R&I pilot agenda processes under the “new ERA”
- Mission to co-create the ERA with the EU-Commission *and* its Member States
- Successful example for a new quality of cooperation within the European Research Area (ERA)

→ Aim: Identify urgent research and innovation issues (for Green Hydrogen competitiveness) and to develop a joint strategic research and innovation agenda.

# Fragen willkommen!

Vielen Dank für Eure Aufmerksamkeit!