

# European Technology & Innovation Platform on Deep Geothermal

## Work plan 2022 of ETIP DG and New Energy policy initiatives (REPower EU, etc)



**ETIP-DG**

European Technology & Innovation  
Platform on **Deep Geothermal**

[www.etip-dg.eu](http://www.etip-dg.eu)

## ETIP DG Working Groups: activities

- Effort has been made to **amplify the interest of stakeholders** in ETIP DG WGs:
  - contact partners and members of other projects
  - An **online space** for all Chairs and members of ETIP DG WGs via **Dropbox**.
  - More people are attending (3rd round of webinar in March 2022).
- Drafting the updates SRIA
  - Majority of WG Chairs are on track in delivering the review of the topics of the SRIA

2021: 2 WGs meetings

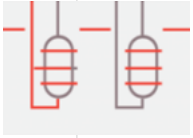
1st S 2022: 1 WG meeting,  
drafting each topic of the  
SRIA by summer

2nd S 2022: editing and  
consultation by end 2022

# ETIP DG Working Groups (kick-off meetings 2021)



**WG 1. Geo Resources Assessment**  
(previously Exploration)



**WG 3. Power systems**  
(previously Surface Systems / Generation)

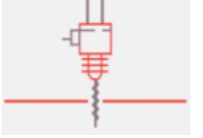


**WG 5. Materials**  
(previously Production Technologies)



**WG 7. Circularity and Sustainability**  
(previously Documentation & Presentation and Environment)

**WG 2. Well Technologies**  
(previously Deep Drilling)



**WG 4. Heating & Cooling systems**  
(previously Surface Systems / Generation)



**WG 6. Environment**  
(previously Production Technologies)



**WG 8. Market Uptake**  
(previously Non-Technical)



# ETIP DG Working Group Leaders

1. GEO RESOURCES ASSESSMENT	2. WELL TECHNOLOGY	3. POWER SYSTEMS	4. H&C SYSTEMS	5. MATERIALS	6. ENVIRONMENT	7. CIRCULARITY & SUSTAINABILITY	8. MARKET UPTAKE
Jan-Diederik van Wees	Laurent Escare	Marco Baresi	Thomas Jahrfeld	Luca Xodo	Bodo von Doring	Sara Montomoli	Adele Manzella
David Bruhn	Miklos Antics	Riccardo Corsi	Luca Guglielmetti	François Penven		Joerg Uhde	



# ETIP DG Working Groups

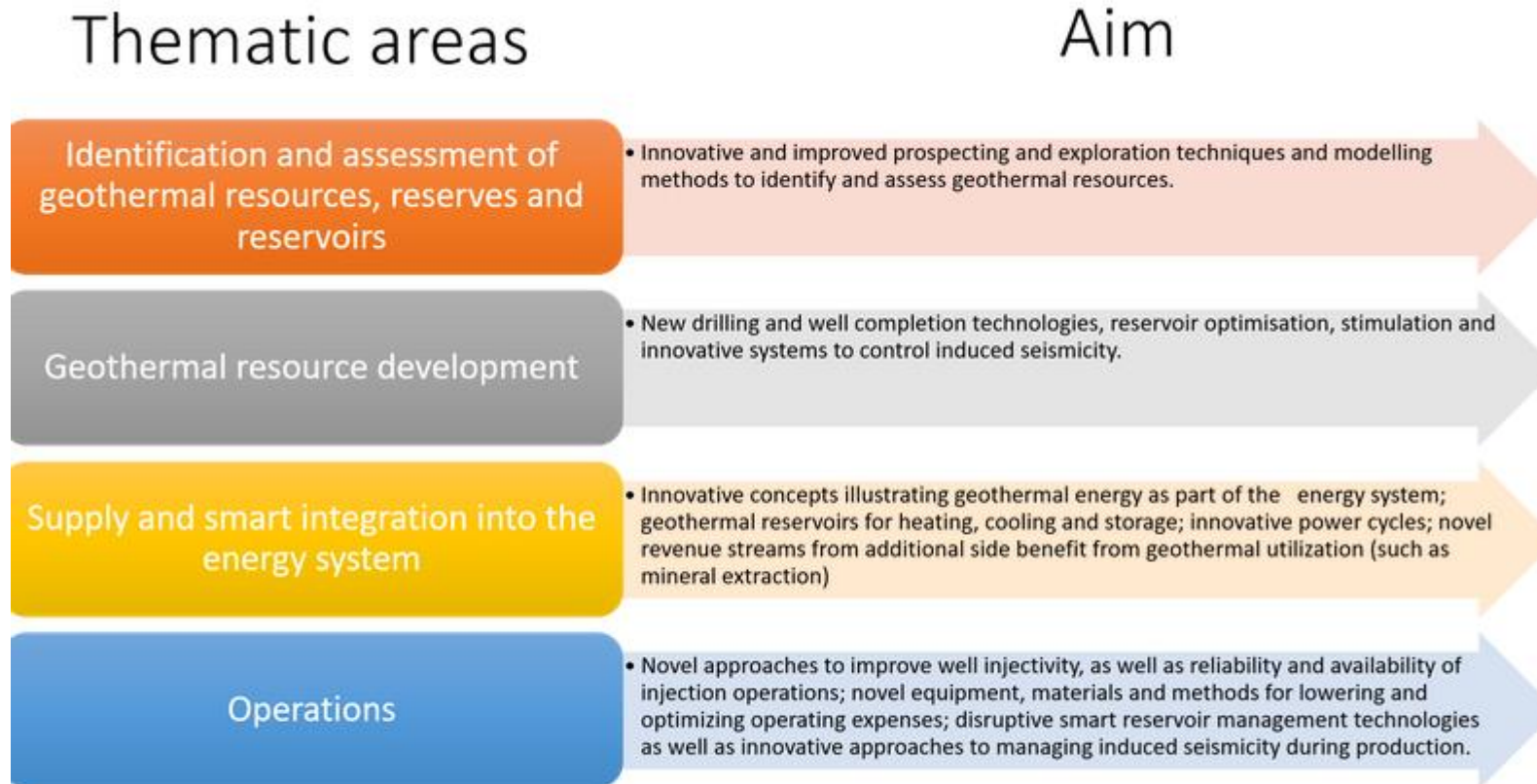
- Have separate meetings – liaison with WGs leaders
- Finalise the drafting of the research topics during the consultation

## Next steps for the WGs to prepare the SRIA

- GEOTERM FORA partners review and compile inputs already received
- Inform SC during a webmeeting in October 2022
- WG leaders informed in November 2022
- AGM on 13 December: valide draft version to launch consultation on SRIA
- Open consultation until mid-february
- Presentation SRIA in Offenburg 2023 March 1-3

# Next steps for the WGs to prepare the SRIA

- Use key words: circularity, sustainability...
- Structure: look at example from Geothermica with 4 streams + Power & Minerals extraction



Source: GEOTHERMICA Call Text and Guideline for Applicants 2nd Call, Table 2

# GEO THERM-FORA project

## Title: Support stakeholders fora on geothermal systems

project overview



Funded by  
the European Union

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# ETIP DG support secretariat:

Starting on 01/09/2022 for 3 years

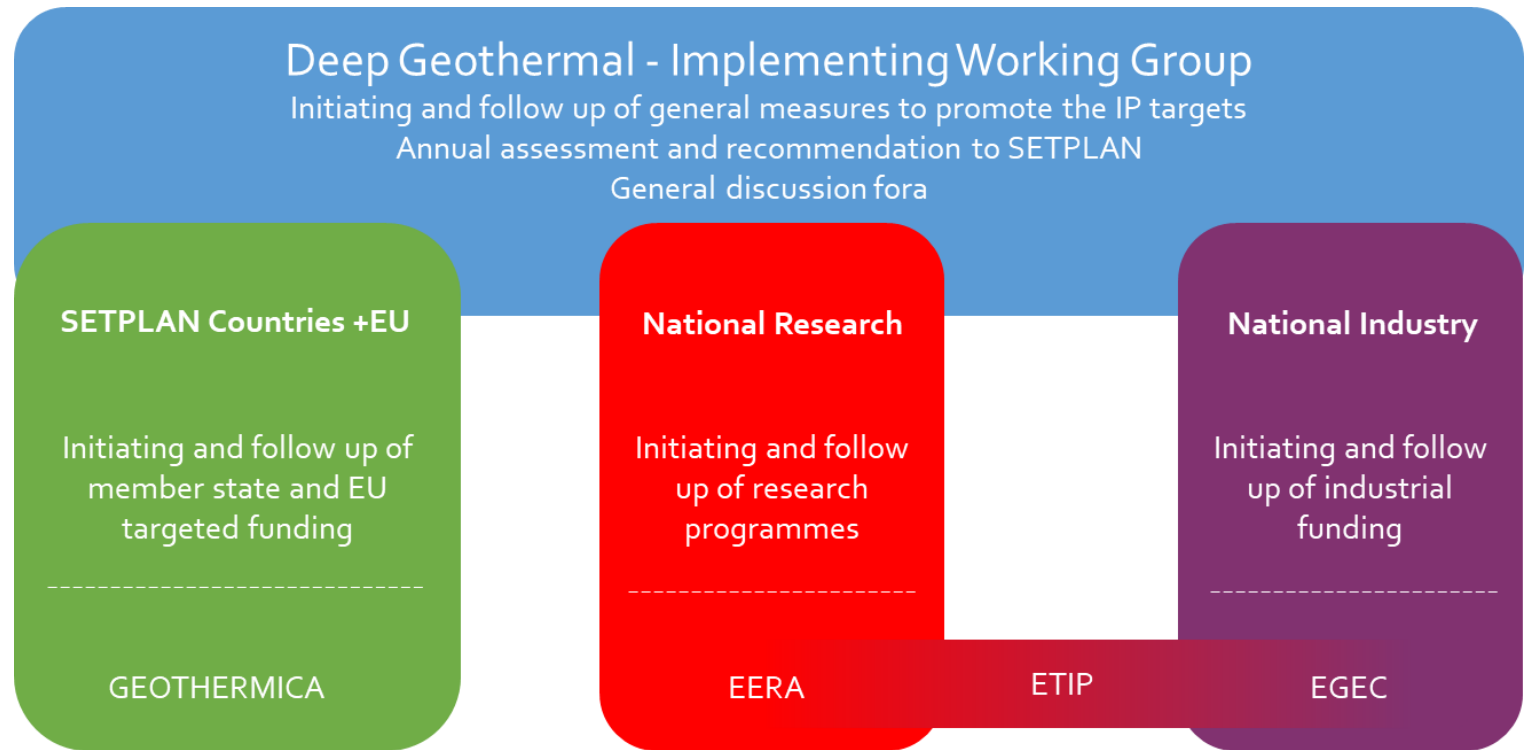
GEOHERM FORA project with

	project partners
1	<b>EGEC</b>
2	<b>GFZ</b>
3	<b>CNR</b>
4	<b>GEORG</b>
5	<b>RVO</b>
6	<b>TNO</b>
7	<b>Rete Geotermica</b>

# Who the Deep Geothermal IWG are:

## Membership

- France, Finland, Germany, Iceland, Ireland, Italy, Netherlands, Portugal, Spain, Turkey, Sweden, Switzerland, Wallonia + European Commission
- ETIP Deep Geothermal
- ETIP Renewable Heating and Cooling
- European Geothermal Energy Council (EGEC)
- EERA Joint Programme Geothermal Energy
- Chairs from the three "pillars"



**WP 2- SUPPORT TO IWG DG**

**WP 3- SUPPORT TO ETIP WORKING GROUPS**

**WP 4- MARKET AND TECHNOLOGY TRENDS**

**WP5 – REGULATORY & POLICY AND SOCIO-ECONOMIC FRAMES**

**WP6 – MONITOR TARGETS & IMPACTS**

**WP 1 : Management**

Financial sustainability of the ETIP DG

**WP 7 : Communication**

## ETIP DG support secretariat:

- Financial sustainability of the ETIP DG
- For the next three years (2022-2025), the ETIP will work on:
  - Updating the deep geothermal technology Strategic Research and Innovation Agenda (SRIA) (month 6) feb 2023
  - The publication of an updated Deep Geothermal Vision (month 12) – july 2023
  - Developing a Geothermal Roadmap focusing on the implementation of the geothermal SRA, (month 6-18-36) – dec 22/2023/25
- + An annual review of R&I priorities for EC programmes

# Work Plan 2023

- Activities:
  - 1) SRIA
  - 2) Vision
  - 3) Roadmap 2023

# SRIA

- Open consultation until mid-february
- Presentation SRIA in Offenburg 2023 March 1-3
- Editing and publication

# Vision and Roadmap 2023

- The publication of an updated Deep Geothermal Vision (month 12) – July 2023
  - Developing a Geothermal Roadmap focusing on the implementation of the geothermal SRIA, (month 6-18-36) 2023/2024/25
- + An annual review of R&I priorities for EC programmes

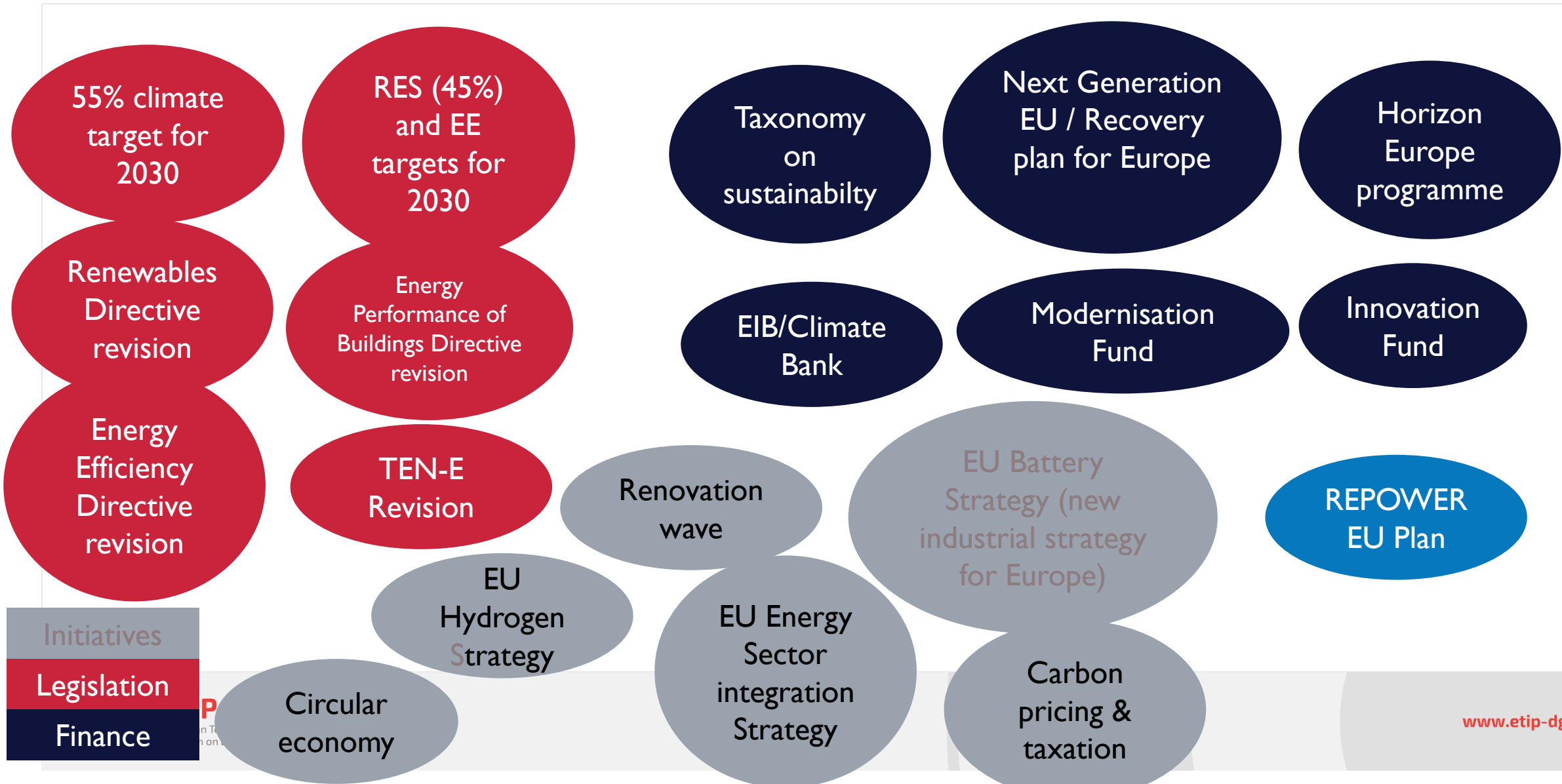
# Events 2023

- Geotherm Offenburg: 1-2 March 2023
- Brokerage events
- Annual meeting



# New Policy Initiatives

# Green Deal areas for geothermal



Initiatives  
Legislation  
Finance



# REPowerEU Actions



MAY 2022



Russia's invasion of Ukraine has massively disrupted European and global energy markets. Europe must end its dependence on such an unreliable supplier. **REPowerEU** is the European Commission's plan to end of dependency on Russian fossil fuel imports. REPowerEU is a plan for **saving energy, producing clean energy, and diversifying our energy supplies**. It is backed by financial and legal measures to build the new energy infrastructure and system that Europe needs.



## SAVING

Every citizen, business, and organisation can save energy. Small behavioural changes, if we all commit to them, can make a significant difference. Contingency measures for supply interruptions will also be needed.



## DIVERSIFYING

The EU is working with international partners to find alternative energy supplies. In the short-term, we need alternative supplies of gas, oil and coal as quickly as possible, and looking to the future we will need renewable hydrogen too.



## ACCELERATING CLEAN ENERGY

Renewables are the cheapest and cleanest energy available, and can be produced domestically, reducing our need for energy imports. **REPowerEU** will speed up the green transition and spur massive investment in renewable energy. We also need to enable industry and transport to substitute fossil fuel use faster to bring down emissions and dependencies.



## INVESTMENT AND REFORM

Additional investments of €210 billion are needed between now and 2027 to achieve our independence from Russian fossil fuel imports, currently costing European taxpayers nearly €100 billion per year. The Commission proposes that Member States develop national **REPowerEU** plans to implement these new priorities.

## SHORT TERM MEASURES



- **Common purchases of gas, LNG and hydrogen via the EU Energy Platform** for all Member States who want to participate as well as Ukraine, Moldova, Georgia and the Western Balkans
- **New energy partnerships** with reliable suppliers, including future cooperation on renewables and low carbon gases
- **Rapid roll out of solar and wind energy projects** combined with renewable hydrogen deployment to save around 50 bcm of gas imports
- **Increase the production of biomethane** to save 17 bcm of gas imports

- Approval of first **EU-wide hydrogen projects** by the summer
- An **EU Save Energy Communication** with recommendations for how citizens and businesses can save around 13 bcm of gas imports
- **Fill gas storage** to 80% of capacity by 1 November 2022
- **EU-coordinated demand reduction plans** in case of gas supply disruption



## MEDIUM-TERM MEASURES TO BE COMPLETED BEFORE 2027



- **New national REPowerEU Plans under the modified Recovery and Resilience Fund** – to support investment and reforms worth €300 billion
- **Boosting industrial decarbonisation** with around €3 billion of frontloaded projects under the Innovation Fund
- **New legislation and recommendations for faster permitting of renewables** especially in dedicated 'go-to areas' with low environmental risk
- **Investments in an integrated and adapted gas and electricity infrastructure network**
- Increased ambition on **energy savings by raising the EU-wide target on efficiency for 2030 from 9% to 13%**

- **Increase the European renewables target for 2030 from 40% to 45%**
- **New EU proposals** to ensure industry has access to critical raw materials
- Regulatory measures to **increase energy efficiency in the transport sector**
- **A hydrogen accelerator** to build 17.5 GW by 2025 of electrolyzers to fuel EU industry with homegrown production of 10 million tonnes renewable hydrogen
- **A modern regulatory framework for hydrogen**



# REPowerEU: a tsunami of legislations and measures

- accelerate the **deployment** and integration of **large-scale heat pumps**, **geothermal** and solar thermal
  - developing and modernising **district heating**
  - clean communal heating
  - exploiting industrial heat
- **strengthen the supply chains for solar, wind and heat pump**
  - enhance the regulatory framework and **life-cycle sustainability**, by ecodesign and energy labelling requirements for solar PVs, and by revising existing requirements for heat pumps.

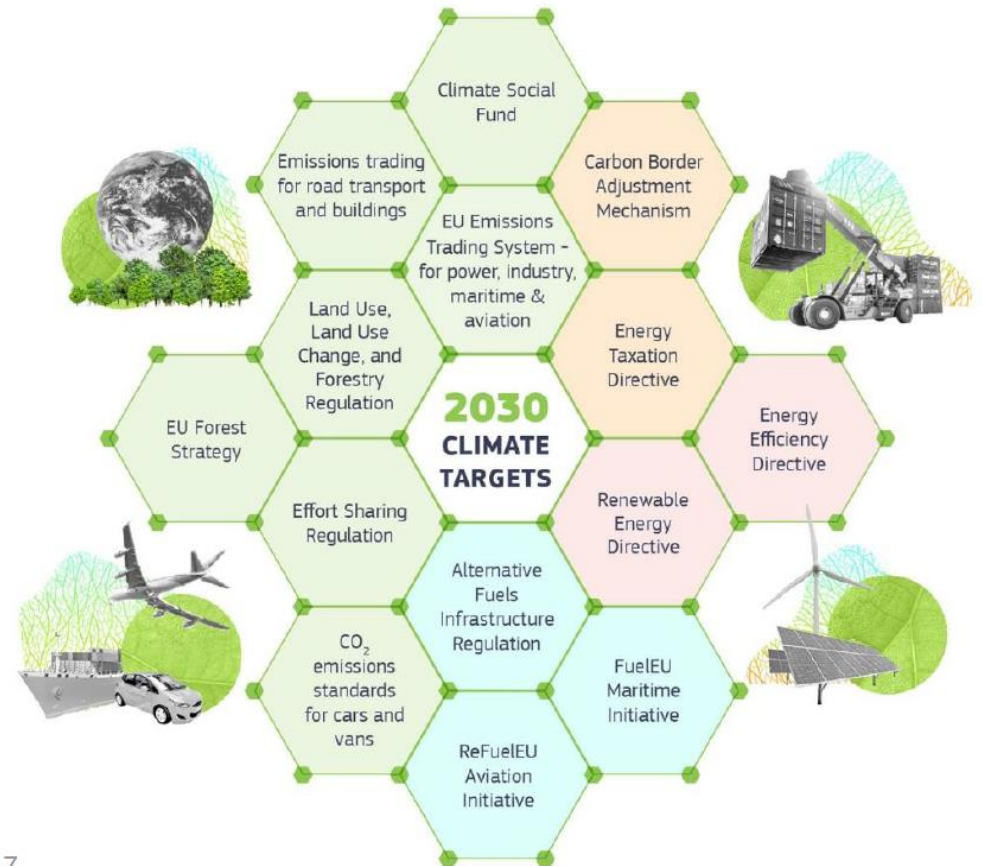
Renewables	Fit-for-55	RePowerEU
<b>Overall RES Target</b>		
EU binding	40%	45%
<b>Heating &amp; Cooling</b>		
Average yearly increase for 2020-2030	1.5 percentage point*	2.3 percentage point
<b>District Heating &amp; Cooling</b>		
Average yearly increase for 2020-2030	2.1 percentage point	2.3 percentage point
<b>Buildings</b>		
EU RES Share in Buildings in 2030	49%	60%
<b>Industry</b>		
Average yearly increase for 2020-2030	1.1 percentage points	1.9 percentage point



## Funding



- + € 7.5 bn from Common Agriculture Policy
- + € 20 bn from Emissions Trading Scheme
- + € 26.9 bn from Cohesion Funds



# REPOWEREU Plan

Key:

- **Communication:** "The European Union should aim at doubling the current deployment rate of individual **heat pumps**, resulting in a cumulative 10 million units over the next 5 years. Member States can accelerate the deployment and integration of large-scale heat pumps, **geothermal** and solar thermal energy in a cost-effective way"
- **Communication:** "To address the skills shortages, the Commission encourages stakeholders in renewable energy production (solar, wind, geothermal, biomass, heat pumps etc.) and permitting authorities to establish a **large-scale skills partnership** under the Pact for Skills"
- **Solar strategy:** "Solar energy systems have long been a low-cost and reliable solution for heating in many European countries but overall solar heat accounts for just around 1.5% of heating needs. To reach the EU 2030 targets, **energy demand covered by solar heat and geothermal should at least triple**".

# Renewable Energy Directive

Proposal under discussion:

- EU RES binding target of **45%**
- Three new indicative targets:
  1. 5% of installed RES from **innovative technologies** by 2030
  2. MS shall set an indicative target for **storage technologies**
  3. MS shall set an indicative target of 5% reduction in **peak electricity demand** by 2030
  4. Binding average annual increase of 1.1 percentage points of RHC for the periods 2021-2025 and 2026-2030
  5. Indicative target of 49% RES in buildings in 2030

## RED 3: Art. 23 par. 4 - RES H&C planning

Mandate on MS for RES HC planning:

- **capacity building for national and local authorities** to plan and implement renewable projects and infrastructures;
- creation of **risk mitigation frameworks** to reduce the cost of capital for renewable heat and cooling projects;
- promotion of **heat purchase agreements** for corporate and collective small consumers;
- **planned replacement schemes** of fossil heating systems or fossil phase-out schemes with milestones;
- renewable heat planning, encompassing cooling, **requirements at local and regional level**;

## RED 4: REPowerEU amendments

### ➤ **Permitting (Art. 16 RED - REPowerEU proposal):**

- The REPowerEU plan required changes to the permitting aspects of renewables. Originally, this was targeted to just wind and PV, however, the final proposal followed the "traffic light" system that EGEC proposed.

### ➤ **"Renewable go-to areas" (Art. 15b and 15c RED - REPowerEU proposal)**

- These are to be mapped by Member States. These will cover land and the sub surface. They are divided into three zones (green) those where no permit is required, (orange) where a permit is required. Here the permitting timetable is to be fast-tracked and a single point of contact established.



## Further important measures for RES H&C

- **(RED) Emergency measure to deploy heat pumps:** This will (hopefully) be agreed on 13 December.

For 18 months from the date of the adoption, special measures will be used to fast-track deployment of air-source and geothermal heat pumps. **First time geothermal heat pumps mentioned in EU law.** GHP have 3 month permitting period, air-source is 1 month. This is mainly geared towards GHPs.

## Further measures



- Even more ambition
- Fitfor55 negotiations are ending
- Permitting is key
- New provisions will be adopted: in 2023
  - 1) State Aid,
  - 2) answer to IRA,
  - 3) Critical Raw Material Act (lithium)

