

## **Online Workshop Summary: Key Insights**

The online workshop “Renewable Fuels for a Resilient Society” focused on the central question of how renewable fuels can enhance the resilience of Europe’s energy supply, using technologies that are already commercially available, scalable, and ready for immediate deployment.

The workshop clearly demonstrated that this topic is being actively discussed across various levels. It also highlighted the existence of numerous promising approaches, while acknowledging the challenges that still need to be addressed.

Below, we take a closer look at some of the key points.

### **Europe’s crisis preparedness must be built on renewable fuel systems**

Europe’s current crisis preparedness is insufficient because it relies on a fossil-based system that is highly import-dependent and vulnerable to geopolitical and supply shocks.

To achieve true resilience, preparedness strategies must be grounded in renewable and decentralised fuel production systems that can deliver drop-in fuels and can be developed within Europe, making use of European feedstocks, reducing dependence on unstable regions, and strengthening energy autonomy.

#### **Current EU instruments on crisis preparedness are not fit for purpose**

- Critical stock obligation is fossil-focused
- EU Preparedness Union Strategy and stockpiling strategy are still in development
  - Will need to better incorporate renewability focus in the core of thinking about crisis preparedness

#### **Ensure dual use & transform and repurpose existing infrastructure**

- Make sure that refineries that close down are repurposed
  - Either for storage or biorefining
- Ensure Dual use of infrastructure and fuel volumes for military and societal purposes
  - Build up of renewable fuel volumes may/must happen to ensure strategic autonomy for military
  - In peaceful times these can be used for society to increase cost-efficiency
- Ensure distribution infrastructure to EU/NATO’s Eastern border
  - NATO pipeline systems should be extended to serve a potential need for fuel at the East borders of NATO

### **Renewable fuel incentives fail to support European production of feedstocks**

#### *Strengthening Renewable Fuel Technologies through European Feedstock Development*

Large-scale renewable fuel production, especially HEFA, relies heavily on imports. To boost resilience, policy must support the development of a European feedstock base. This reduces import dependency and improves supply security. Intermediate crops offer strong potential, bringing agronomic, economic, and environmental benefits.

- Lack of incentives for using local/regional resources.
  - Targeted incentives needed for European-grown feedstocks
  - Incentives for European-based intermediate crop production, specifically to diversify the feedstock base for the dominant technology (HEFA)

## Technologies are ready – Scaling needs investment security

### Scaling renewable fuel technologies requires investment security

Advanced pathways like e-fuels and lignocellulosic biofuels are ready to scale but lack investment due to fossil-focused incumbents. Long-term investment security is key, through instruments like offtake agreements or contracts for difference.

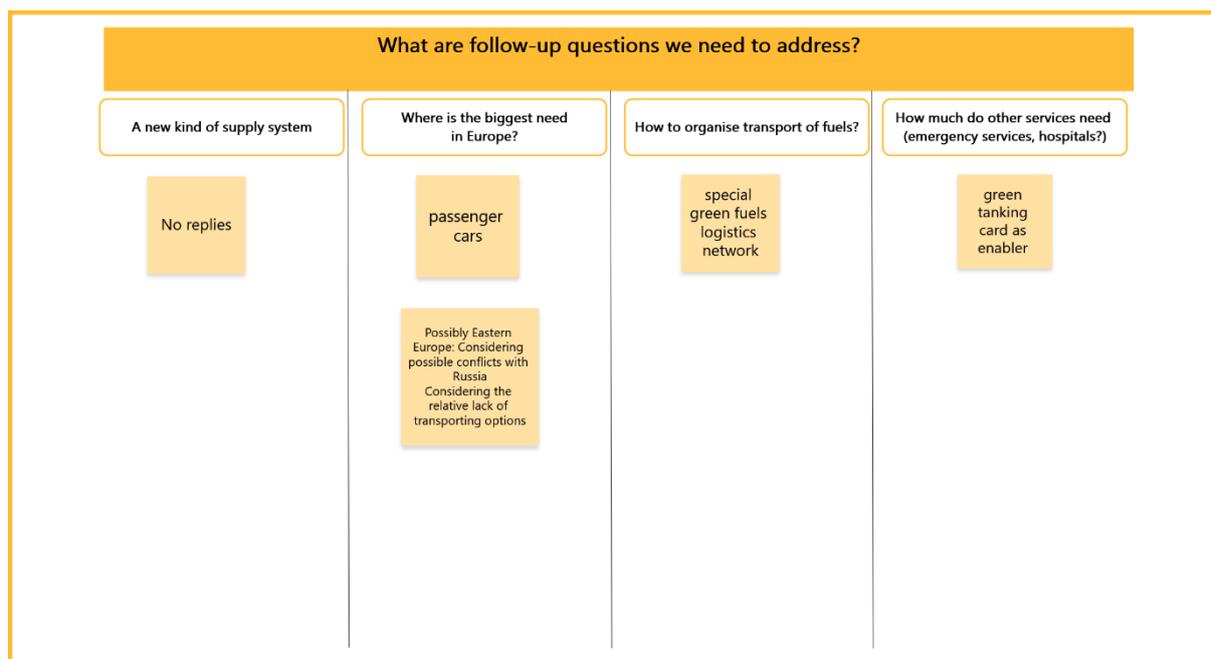
#### Key Enablers:

- Public actors (e.g. NATO, EU) can support via guarantees or resilience funding.
- Civil-military dual use could accelerate scale-up, requiring stronger roles in procurement and strategy.
- Purchase Agreements as a Strategic Instrument
  - Improve investment security and ensures availability of fuels and feedstocks.
  - potential drawback: these agreements may involve a price premium over several years. This represents a risk that must be carefully weighed.

## In-depth insights from the third part of the workshop

The whiteboard notes from the third part of the workshop are particularly insightful. Here, the participants discussed various issues and contributed their perspectives and ideas.

Below you will find an overview of the content developed.



Below you will find some explanations regarding the answers to the questions.

### Where is the biggest need in Europe?

- A key need for renewable fuels lies in **passenger cars**, especially gasoline vehicles, which currently lack viable renewable alternatives. Solutions like Efuelone's methanol-to-gasoline pathway could help and need support to scale.
- Attention should also be given to **Eastern Europe**, where fuel demand may not align with feedstock availability—most resources (renewable electricity, CO<sub>2</sub>) are concentrated in Western Europe.

**How to organise transport and storage of fuels?**

- Existing **logistics networks**, such as CEPS and NATO pipeline systems, should be leveraged to support renewable fuel distribution.

**How much renewable fuels are needed for other services (eg. emergency services, hospitals)?**

- A **green fuel card** could pave the way for the introduction of renewable fuels. This is because it promotes sustainable mobility. Companies and private individuals could use it to actively support the transition to climate-neutral mobility.

**Which stakeholders/perspectives are still missing in this coalition?**

<p><b>Representatives from military &amp; emergency services?</b></p> <ul style="list-style-type: none"> <li>purchasers from national armies</li> <li>representatives from cities, responsible blue light fleet</li> <li>defence industrie (Hensoldt, Rheinmetall, Airbus etc.)</li> <li>Representatives from ministries and their authorities responsible for...</li> <li>Diesel engines in NATO must be able to run on F63 fuel, in addition to the EN590 diesel they were originally designed for. However, when operating on F63, the engines fail to deliver the required power. As a result, transmissions no longer synchronize properly, causing everything to come to a halt. ArenaRED can solve this problem — enabling the engines to run cleanly, efficiently, CO<sub>2</sub>-neutral, and quietly.</li> </ul>	<p><b>Who in your network can you think of to ask to join the next session?</b></p> <ul style="list-style-type: none"> <li>WIWEB</li> <li>DLR</li> <li>EASA</li> </ul>
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**What are follow-up questions we need to address?**

<p><b>Develop core proposition of enhanced supply system</b></p> <ul style="list-style-type: none"> <li>Military pipeline systems with dual use first need the approval from the military side before any new type of fuel is allowed, especially for a banking/flexible system</li> <li>supporting green tank farms</li> <li>Refineries are closing down. Maybe the storage capacity can be reused for strategic stocks.</li> <li>Restructure and reorganise the fossil based fuel infrastructure to a multiproduct approach (more diversified than today)</li> </ul>	<p><b>Biorefineries &amp; hydrogen</b></p> <ul style="list-style-type: none"> <li>Transformation of feedstock base of the existing fossil refineries.</li> <li>co-refining as ramp-up supporter for an intermediate time</li> <li>Transformation fossil refineries to renewable refineries</li> </ul>	<p><b>Apply for funding (NATO/EU innovation funds) – e.g. competitiveness fund</b></p> <ul style="list-style-type: none"> <li>can you share more info on the event in Brussels on the 18th of November?</li> <li>Nato is looking for collaboration with the EU in order to address the funding possibility. Discussions between both entities are ongoing.</li> </ul>
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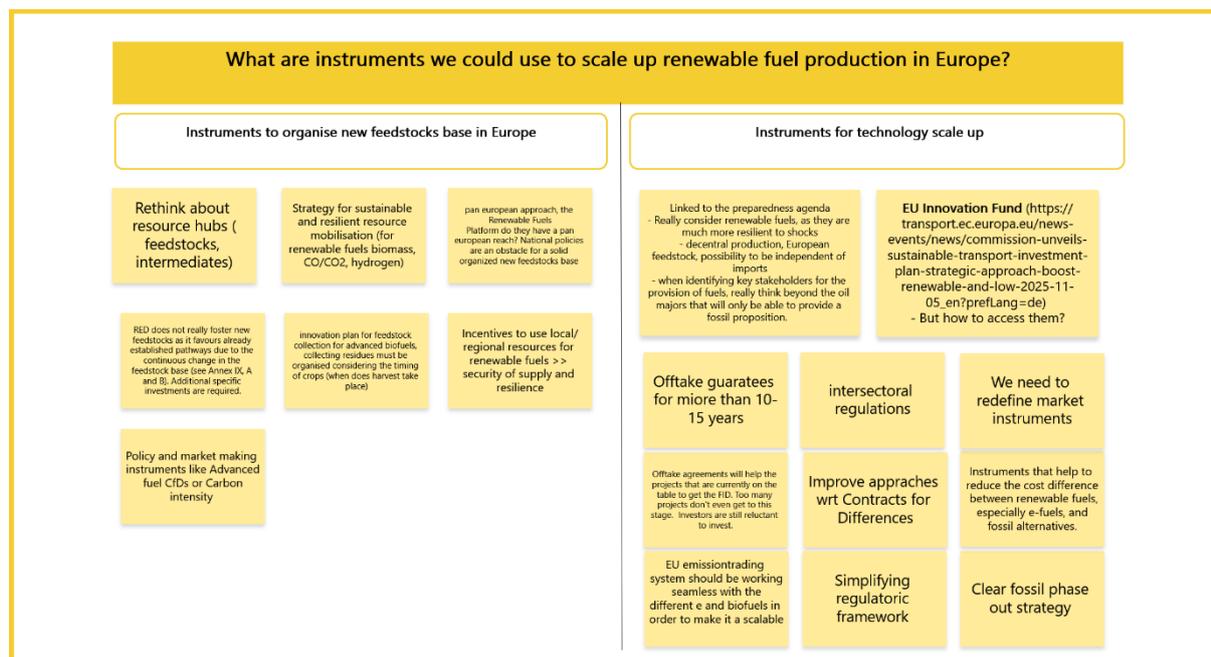
Below you will find some explanations regarding the answers to the questions.

## What are the elements needed to develop core proposition for enhanced supply system?

- Military pipeline systems can and should be used in a 'dual purpose' for both military and societal supply. They currently are, but renewable fuels are facing challenges such as the approval of new fuel specs, and the evidence/monitoring to valorise the green value (GHG reduction)
- Restructure and reorganise the fossil-based fuel infrastructure to a multiproduct approach (more diversified than today)

## Refineries, Biorefineries and hydrogen

- Refineries are closing down all over Europe. Various participants are suggestion to transform or repurpose these existing assets.
  - Transforming to function as biorefineries
  - Use the storage space for strategic stocks
- Also biorefinery projects are stopping production and sold.
  - Ensure that these assets don't go to waste
- Some also suggest to support co-refining as a ramp-up intermediate mechanism
- Apply for funding (NATO/EU innovation funds, e.g competitiveness fund)
  - Nato is looking for collaboration with the EU in order to address the funding possibility. Discussions between both entities are ongoing.



Below you will find some explanations regarding the answers to the questions.

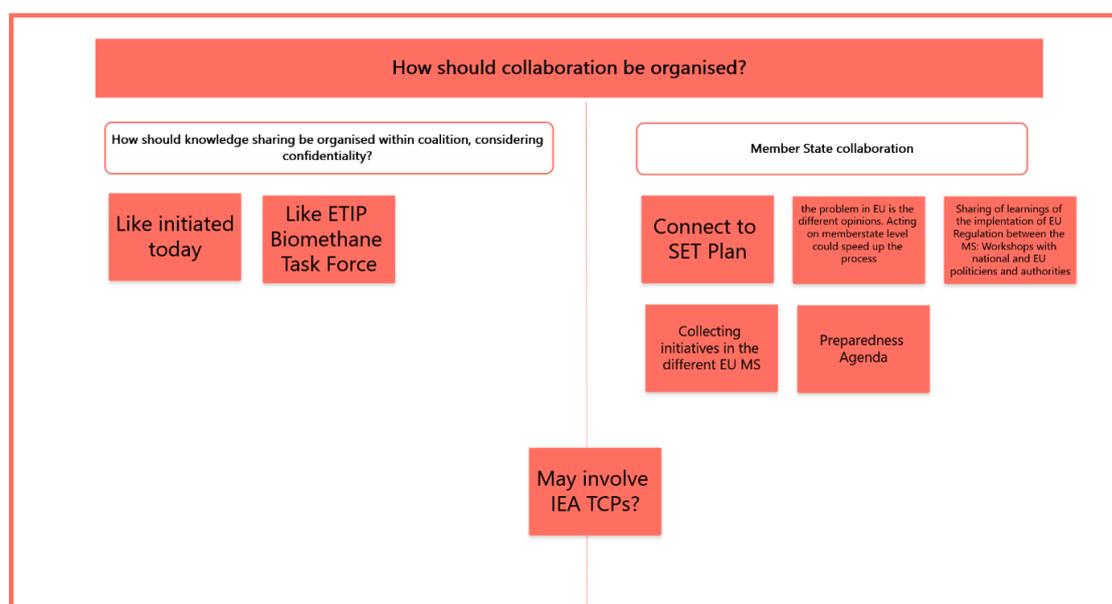
## What are instruments to organise new feedstock base in Europe?

- Strategy for sustainable and resilient resource mobilisation (for European renewable fuels biomass, CO/CO2, hydrogen)
  - RED does not really foster new feedstock exploration as it favours already established pathways due to the continuous change in the incentivised/capped feedstock lists (see Annex IX, A and B).

- Innovation plan for feedstock collection for advanced biofuels, collecting residues must be organised considering the timing of crops (when does harvest take place)
- Incentives to use local/regional resources for renewable fuels >> security of supply and resilience
- New instruments such as Contracts for Difference for advanced fuel pathways
- Need to rethink resource hubs (feedstocks, intermediates)
  - particularly with regard to feedstocks and intermediate products for the production of renewable fuels.
- Pan-European approach – National differentiation in policy is an obstacle for solid organisation of a new feedstock base

### What are instruments for technology scale up?

- Simplify regulatory framework
- [EU Innovation Fund](#)
- Offtake agreements
  - Offtake guarantees for 10-15 years to strengthen investment security
  - Technologies are ready, investments to scale still needed
- Contracts for Difference
- Link to the preparedness agenda
  - Must consider renewable fuels, as they are much more resilient to shocks
  - decentral production, European feedstock, possibility to be independent of imports
  - when identifying key stakeholders for the provision of fuels, really think beyond the oil majors that will only be able to provide a fossil proposition.
- Instruments that help to reduce the cost difference between renewable fuels, especially e-fuels, and fossil alternatives.
- Clear strategy for phasing out fossil!



Below you will find some explanations regarding the answers to the questions.

### How should knowledge sharing be organised within the coalition?

- Participants are pointing to this event as a good way to share knowledge
- Another suggestion is to follow examples of the ETIP Biomethane Task Force

### How can Members States collaborate?

- Member state collaboration can be improved by connecting to the SET Plan
  - Also, by incorporating this thinking on renewable fuels for resilience into the preparedness agenda
  - Strengthening Collaboration Across Member States
  - EU-level collaboration can be challenging due to differing views.
  - A coalition of willing Member States could accelerate progress.
  - Mapping and connecting national initiatives can foster synergies.
  - Member States should share best practices on implementing EU regulations.
  - Engaging with the IEA Technology Collaboration Programme could offer valuable insights.

### Questions?"

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Do you have any questions about specific aspects or would you like more details on a particular point? Then feel free to contact us at any time—we look forward to hearing from you.

### "Join now!"

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Are you interested in joining a coalition to develop supply systems based on renewable fuels?

Then we look forward to hearing from you!

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