BIO4A

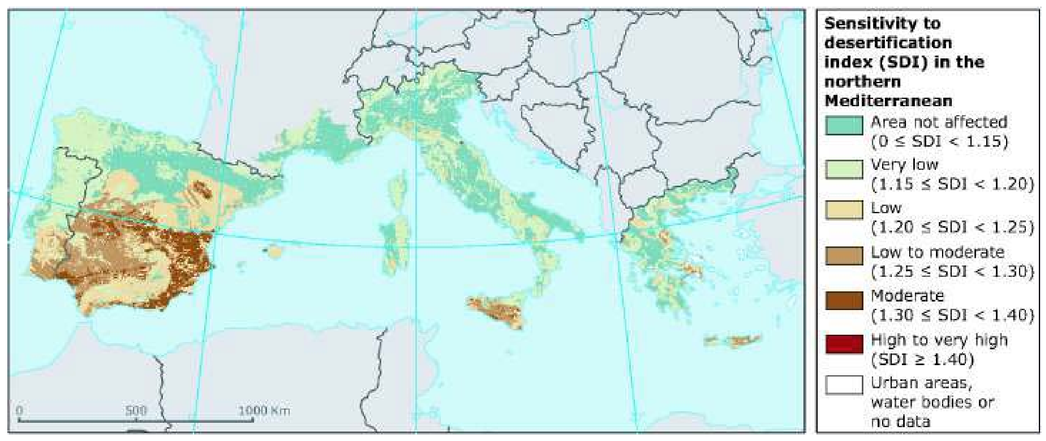
Advanced Sustainable Biofuels for Aviation

Summary

Decarbonising Aviation & reducing its dependence on fossil fuel requires alternative fuels. **BIO4A** targets **Sustainable Aviaiton Fuels** (HEFA **biojet**) pathway from sustainable feedstocks, moving the value chain from **TLR 6 to 7**. It will enable large-scale pre-commercial production of ASTM Certified aviation biofuel from sustainable waste feedstocks (**residual lipids**, as Used Cooking Oil) in the EU, wit **~300 kt_{biojet}/y additional capacity, ≥ 5.000 t** ASTM compliant HEFA biojet (industrial part), and investigating long-term strategies to supply **sustainable no-food lipids** (long-term R&D work) for conversion to **low-ILUC impact biofuels**. The fuel will be distributed using the **existing infrastructures** and conventional aircraft fuelling systems for commercial flights. The biofuel will be used in **regular passenger flight** operations: off-take agreements with several commercial airlines have been secured. Environmental, economic and social impacts will be assessed against targets. **7 partners from 5 EU countries** joined the forces to cover the **whole value chain.**

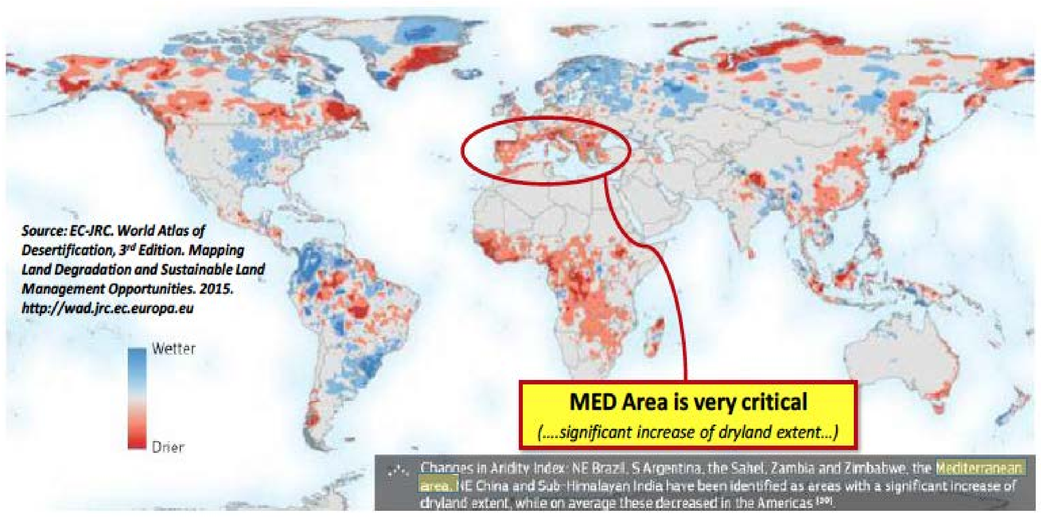
Long term R&D

As alternative to the waste/residual feedstock path (e.g. UCO), and to increase **soil resilience towards climate change** in Southern EU/MED Countries, where strong evidence exist of irreversible desertification effects, BIO4A will develop a dedicated R&D work on **soil and sustainable crops**.
It is composed by three main pillars: **compost**, **biochar** and cultivation of selected varieties of **drought resistant oil crops** suitable for aviation fuel production.



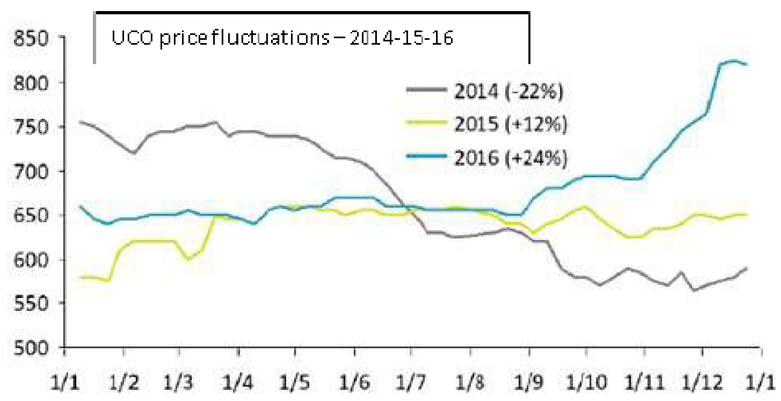
Desertification and Erosivity Index in the EU, focus on Southern EU (MED) region (source: EC JRC)

The approach tested in BIO4A can be replicated in large part of EU MED areas.
The proposed solutions will also **sequester C**, as biochar is mainly fixed carbon that will remain in the soil for hundreds' years: this is in full line with the Paris COP21 indication to develop Carbon Negative actions and not just Carbon Neutral ones.
This will bring significant **GHG reductions** achievement, complemented by the assessment of the potential in the EU MED region and Internationally, and scenario development to exploiting the potential of marginal soils in EU.



Impacts

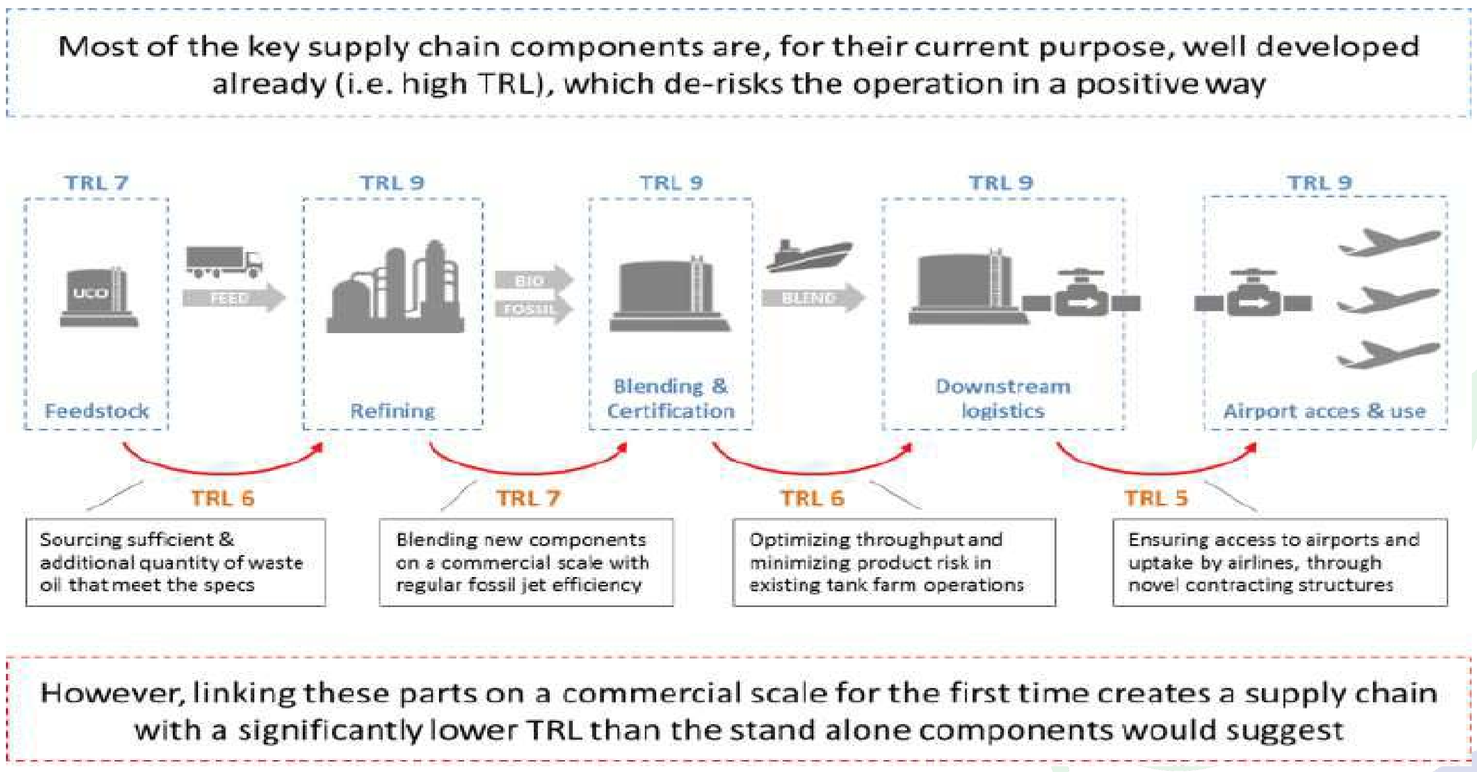
BIO4A will contribute to increase the demand for **ASTM-certified Sustainable Aviation Fuels (SAF)** in the EU & International market, thereby supporting the development of the overall value chain.
The effort necessary to source the amount of feedstocks required in BIO4A will support the transition to sustainable transport, acceleratin their production and **supply capabilities**, promoting the development of logistics and key infrastructures, such as **pre-treatment for residual feedstocks as UCO**, largely variable in quantity and quality, and further bio-refineries.
Producing **commercial-scale quantities** of advanced biofuels for aviation will deliver not only significant environmental benefits through the reduction of GHG emissions, but also contribute to a better management of natural resources and waste use.



BIO4A aims at demonstrating that large scale uptake of green aviation fuel can be realized, that airports and airlines can start using and contracting the product **"business as usual"** and that it is possible to draft structural incentive systems to bridge the price gap between bio and fossil jet.

In fact, the fuel produced in the project will be used in commercial flights and distributed through the existing infrastructures, thereby **reducing significantly logistics costs**.

The outcomes of the project will have a significant impact in the aviation and the overall biofuels sector, since standardizing these procedures will push the industry and policy-makers to move forward and contribute to the widespread adoption of biofuels for aviation, a work **unprecedented in the EU at such industrial scale.**



Project Partners

RE·CORD · TOTAL · SkyNRG · CENER · ADItech · etaflorence renewableenergies · Camelina Company | España · European Commission

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www.bio4a.eu
@bio4a
info@bio4a.eu