



SEEMLA Newsletter - December 2017



Dear reader,

The H2020-funded project SEEMLA is looking back to two successful years and we are proud what was achieved to meet the EU's long-term goals for 2050, contributing to a reduction of greenhouse gas (GHG) emissions, to an EU wide environment protection legislation, taking the compartments soil, air and water into account, to a sustainable bio economy and society, and to networking between EU and non-EU partner countries.

Pilot cases in Greece, Ukraine and Germany are still ongoing since the beginning of 2017. The web-based GIS application is online since April 2017 and this tool provides assistance regarding the identification and exploitation of marginal lands following the soil quality rating (SQR) approach. Further, data were collected to assess socio-economic and environmental points of view. Results will be presented within the next year.

In 2018 SEEMLA is hosting its 2nd international symposium in Copenhagen, expected in combination with the EUBCE 2018, the leading platform for the collection, exchange and dissemination of scientific and industrial know-how in the field of biomass.

At this point, we would like to invite you to follow the activities of SEEMLA for the upcoming third and final year. In case you are interested, you can find a lot of useful information, events and reports on our website on seemla.eu.

We wish you a peaceful Christmas and a Happy New Year!

On behalf of the SEEMLA consortium,

Best regards,

Christiane Volkmann

(FNR, project coordinator)



Mapping of marginal lands in Europe: Developing the SEEMLA Tools

One of the most challenging tasks of the SEEMLA project was the development of the SEEMLA tools. Their aim is to identify and map marginal land (MagL) in EU countries and Ukraine. Many questions needed to be answered and many aspects to be considered in order to even define MagL. Moreover, concerns over the impacts of MagL use on environment, ecosystem services and sustainability had to be addressed. The SEEMLA approach was developed in response to these issues.

The SEEMLA approach is an integrated set of processes, analyses and tools that incorporates environmental, ecological, social, economic and biophysical criteria. It addresses the need to assess biomass potentials and land availability at local, regional, national or EU level taking into account aspects of resources mapping and biomass logistics.

The first versions of the SEEMLA tools have now been completed. The SEEMLA tools include an ESRI ArcGIS toolbox and a web application. The SEEMLA tools have been developed to provide assistance regarding the identification of marginal land and its exploitation potential for biomass production. They are based on the SEEMLA algorithm which outlines the parameters and criteria applied.

The first step of the SEEMLA algorithm is to identify MagL using the Muencheberg Soil Quality Rating (M-SQR), developed by Mueller et al. (2007)¹. Land that scores below 40 (poor or very poor soil quality) is classified as marginal (Image 1).

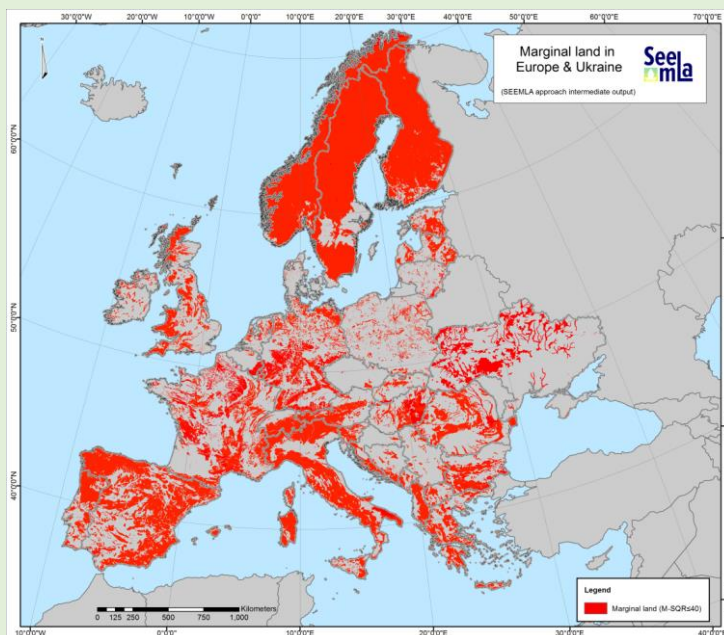


Image 1. Marginal land in Europe (including Ukraine) - preliminary results of the GIS tool

The web application on the other hand works as an M-SQR calculator for localized assessments. The user is required to provide specific measurements of soil parameters. The application then calculates the M-SQR value and determines whether the land is marginal. It also determines the bioenergy crops that can be grown on this specific parcel.

The web application and sample map of the GIS application are available at <http://www.seemla.eu/wa/>. After marginality has been established, it is necessary to consider whether this land is available or even suitable for biomass production for bioenergy purposes. Land which is used for agriculture or is under protection regime, for example is not considered exploitable within the SEEMLA context. Both ecological/environmental issues and regulatory/legal restrictions and constraints posed by national or EU policies are taken into account during this step.

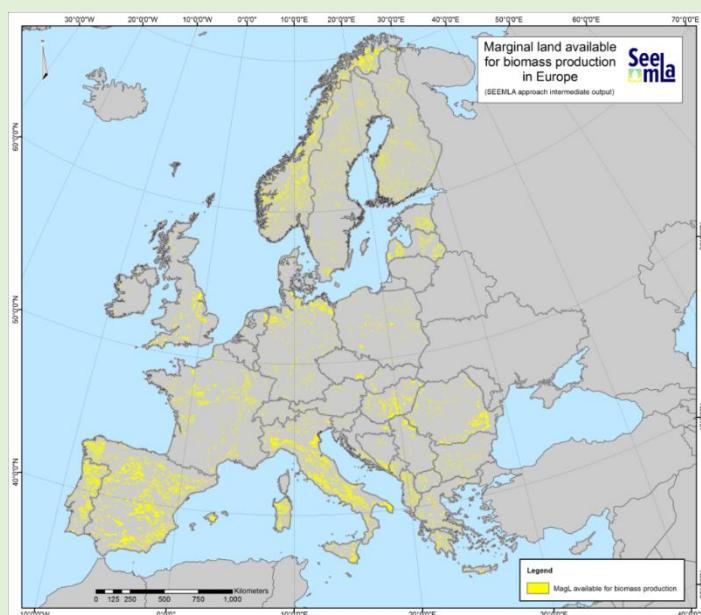


Image 2. Marginal land available for biomass in Europe - preliminary results of the GIS tool

Marginal land that is available for biomass production can only sustain specific bioenergy crops, depending on climatic zone and marginality factors, due to the ecological requirements of the plants.

1 - Mueller, L., Schindler, U., Behrendt, A., Eulenstein, F., & Dannowski, R. (2007). *The Muencheberg Soil Quality Rating (SQR): FIELD MANUAL FOR DETECTING AND ASSESSING PROPERTIES AND LIMITATIONS OF SOILS FOR CROPPING AND GRAZING (Vol. 2014)*. Muencheberg, Germany.

Within the SEEMLA context wood species (Black pine, Calabrian pine, Basket willow, Poplar and Black locust) as well as herbaceous plants (Switchgrass, Miscanthus and Giant reed) are considered as bioenergy crops. Currently alternative exploitation scenarios are being evaluated through Life Cycle Assessment (LCA). LCA will determine the sustainability of each scenario, considering also the results of the pilot sites that have been established in Germany, Greece and Ukraine. The next step will be to incorporate the results of the LCA into the SEEMLA tools at the end of the project (December 2018).

The SEEMLA tools incorporate various aspects of marginal land (definition, ecology, policies, exploitation & environmental - socioeconomic impact, sustainability, etc.). They have resulted from the synthesis of the outputs of all the SEEMLA work packages, carried out by the Democritus University of Thrace. The SEEMLA team is continuously improving the SEEMLA tools to provide support to various stakeholders regarding MagL exploitation for biomass production. The final versions will be released next December but we will keep you posted on the progress made.

Authors: Despoina Vlachaki, Nikos Gounaris, Elias Dimitriadis, Spyros Galatsidas



SEEMLA pilot cases: read the updates from the national sites

One of the key activities of the Seemla project, is the one related to the exploitation and performing experimental case studies for evaluating and optimizing biomass production tools for MagL under practical conditions. This work package will provide a practical approach that will be developed and refined during the project. The SEEMLA approach will be developed in the following European regions: Lusatia, in Germany, East Macedonia and Thrace, in Greece, as well as Vinnitsa, Poltava Volyn and Lviv in Ukraine. [READ THE UPDATES HERE](#)

November 28/30, 2017: SEEMLA National Workshop, Project Meeting & Field trip

In November 2017, a three-day joint event of SEEMLA partner project took place in Thessaloniki and near Komotini, Greece. The event started on Tuesday, November 28rd, 2017, at Thessaloniki, to Mediterranean Palace Hotel, with the National Workshop: "Exploiting the potentialities of biomass production on MagLs in the Mediterranean region". The workshop have emphasized on topics such as energy, bioenergy, production & use of biomass, nature conservation and environment protection and it is directed to experts and prospective customers, who act in such areas of interest. [READ MORE](#)

SEEMLA: 5th project meeting in Thessaloniki, Greece

In combination the 4th national workshop and the 5th project meeting of the H2020-funded project SEEMLA was hosted by the Greek partners on the 28th and 29th November 2017 in Thessaloniki. The project meeting gathered all Consortium partners to summarize the works carried out so far and to organize the upcoming tasks and events until the project's end in December 2018. The next 6th project meeting will be organized in combination with the 2nd international symposium in May 2018 in Copenhagen, which will be a side-event of the EUBCE 2018.

18th Congress of Hellenic Forestry Society & International Workshop

The Democritus University of Thrace – DUTH participated to the 18th Congress of Hellenic Forestry Society & International Workshop that held in Edessa city from 8 to 11th of October 2017. During the event, attended from more than 400 environmental scientists from Greece and Balkan countries, DUTH made two different presentations about biomasses: "Development of a Local Biomass Supply Chain in Rodopi Mountain Range National Park" Gounaris, Karachristos, Kechagioglou, Galatsidas for Bioeparks project.

Also, a poster entitled "Tools development for defining and evaluation of MagLs for biomass production in Europe" (Galatsidas, Gounaris, Dimitriadis, Vlachaki) was presented in the Congress venue.

IFEU participated at the 2nd International Bioeconomy Congress in Stuttgart

The 2nd International Bioeconomy Congress in Stuttgart, held on 12–13 September 2017, was an interdisciplinary expert and stakeholder meeting dedicated to the systemic approaches of Bioeconomy, organized by the Ministry of

FNR and SEEMLA at the DBG Conference in Göttingen

From 4-6 September, 2017 the Conference of the German Soil Society (DBG) has been held in Göttingen, Lower Saxony. FNR participated in the exhibition with a booth, and was also represented with oral presentation about the H2020 funded project SEEMLA, by the coordinator Wibke Baumgarten and SEEMLA partner BTU Cottbus, namely Werner Gerwin. [READ MORE](#)

Project partner IBC&SB's on a field trip to visit a SEEMLA pilot case

On September 5, IBC&SB's – partners of the SEEMLA project – visited the pilot site in Vinnytsia region (Ukraine). The pilot site has been established last spring 2017 on the site of a former landfill of solid household waste. [READ MORE](#)

Upcoming events in SEEMLA – Save the date!

1/4 February 2018 – 7th Agrotica Exhibition in Thessaloniki

SEEMLA Partner Democritus University of Thrace (DUTH) - Department of Forestry and Environmental Management and Natural Resources will present the project during the 7th Agrotica Exhibition, the largest trade fair of the agricultural economy sector in the Balkans and SE Europe.

14/17 May 2017 – EUBCE 2018, 26th European biomass conference & exhibition in Copenhagen

The EUBCE is the leading platform for the collection, exchange and dissemination of scientific and industrial know-how in the field of biomass. This event combines one of the largest biomass science and technology conferences with a high quality industry exhibition, attracting biomass professionals from around the globe. SEEMLA second international Symposium will be held during the Conference. Stay tuned for more information!

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 691874.

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