Sustainable farm Management Aimed at Reducing Threats to SOILs under climate change

Fact Sheet

Project information

SMARTSOIL

Grant agreement ID: 289694

Project website

Status
Closed project

Start date
1 November 2011

End date
31 October 2015

Funded under:
FP7-KBBE

Overall budget:
€ 3 748 935,20

EU contribution
€ 2 989 480

Coordinated by:
AARHUS UNIVERSITET
Denmark

Objective

Farming practices that lead to declining returns and inputs of carbon (C) to soils pose a threat to soil functions by reducing availability of organic matter for soil microbes and by affecting soil structure, and soil C stocks that are key to regulating greenhouse gas emissions. SmartSOIL focuses on arable and mixed farming systems in Europe and will develop an innovative approach using the soil C flow and stocks concept to assess the impact of C management on crop productivity, soil organic C (SOC) stocks and other ecosystem services. SmartSOIL will identify and develop options to increase C stocks and optimise C use (flows) whilst maintaining sustainable SOC stocks. The flow and stocks concept will delineate short- versus long-term management effects on vital soil functions through meta-analyses of data from European long-term experiments (LTEs), as well as new measurements within LTEs. The new understanding will be used to improve existing soil and crop simulation models and test the models against independent LTE data. The models will then be used to derive a simplified model to estimate the short- and long-term effects of management on crop productivity and SOC storage. Scenarios of future management systems in Europe for improved productivity and enhanced SOC sequestration will be evaluated under current and future climate. The cost-effectiveness of alternative policy measures and options for managing SOC flows and stocks for improved productivity and SOC storage will be assessed based on the simplified model. SmartSOIL will develop a decision support tool (DST) to enable farmers, advisors and policy makers to
discuss and select the most appropriate and cost-effective practices for particular farming systems, soils and climates. SmartSOIL will engage key stakeholders in case study regions and the wider EU in the development of the DST, guidelines and policy recommendations, and will inform the scientific and user community on progress and results.

Field of Science

/social sciences/economics and business/economics/production economics/productivity
/engineering and technology/environmental engineering/energy and fuels/fossil energy/gas
/agricultural sciences/animal and dairy science
/social sciences/economics and business/economics/sustainable economy
/social sciences/sociology/governance/public services

Programme(s)

FP7-KBBE - Specific Programme "Cooperation": Food, Agriculture and Biotechnology

Topic(s)

KBBE.2011.1.2-01 - Sustainable management of agricultural soils in Europe for enhancing food and feed production and contributing to climate change mitigation

Call for proposal

FP7-KBBE-2011-5

See other projects for this call

Funding Scheme

CP-FP - Small or medium-scale focused research project

Coordinator
AARHUS UNIVERSITET

Address
Nordre Ringgade 1
8000 Aarhus C

Activity type
Higher or Secondary Education Establishments

EU Contribution
€ 648,360

Website
Contact the organisation

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Britta Breinbjerg Andersen (Ms.)

THE UNIVERSITY COURT OF THE UNIVERSITY OF ABERDEEN

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Higher or Secondary Education Establishments

EU Contribution
€ 369,804,25

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KOBENHAVNS UNIVERSITET

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Higher or Secondary Education Establishments

EU Contribution
€ 356,400

Website
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<td>UNIVERSITA DEGLI STUDI DI FIRENZE</td>
<td>€170,825</td>
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<td>ECOLOGIC INSTITUT gemeinnützige GmbH</td>
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<td>Pfalzburger Strasse 43-44 10717 Berlin</td>
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UNIVERSIDAD POLITECNICA DE MADRID
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€ 142 460

SRUC
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€ 256 887

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EU Contribution
€ 234 360
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<td>Ul. Nowoursynowska 166 02 787 Warszawa</td>
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<td>LE GROUPE-CONSEIL BAASTEL SPRL</td>
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<td>Rue Des Colonies 11 1000 Bruxelles</td>
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<td>AGRARGAZDASAGI KUTATO INTEZET</td>
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<td>€ 39 720</td>
<td>Zsil 3-5 1093 Budapest</td>
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