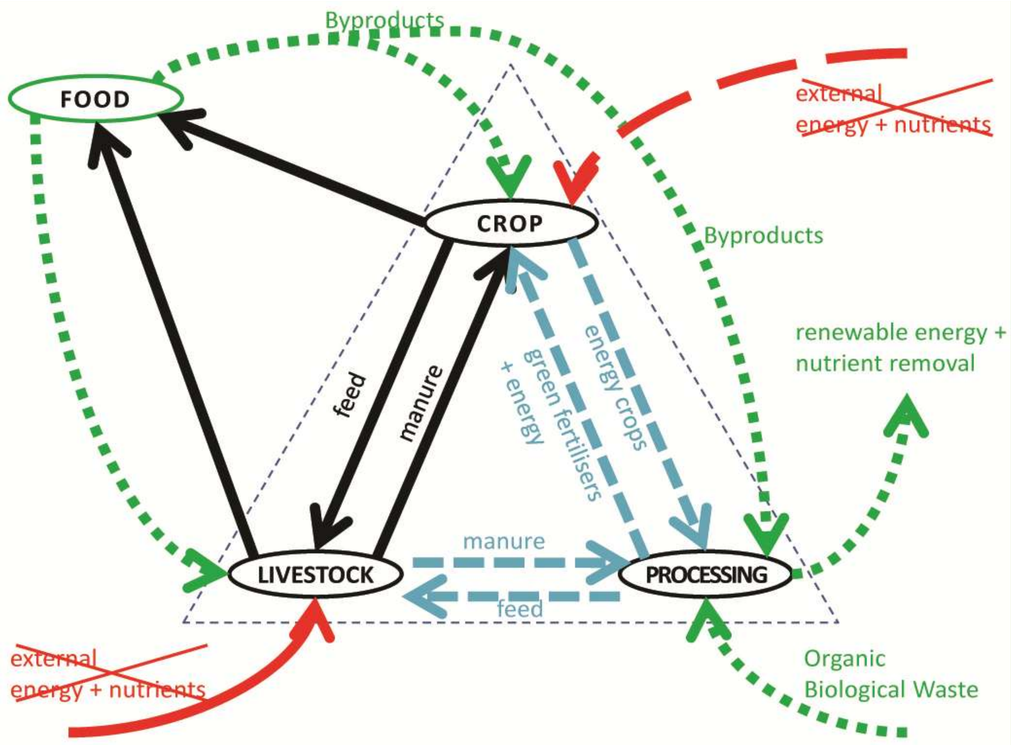
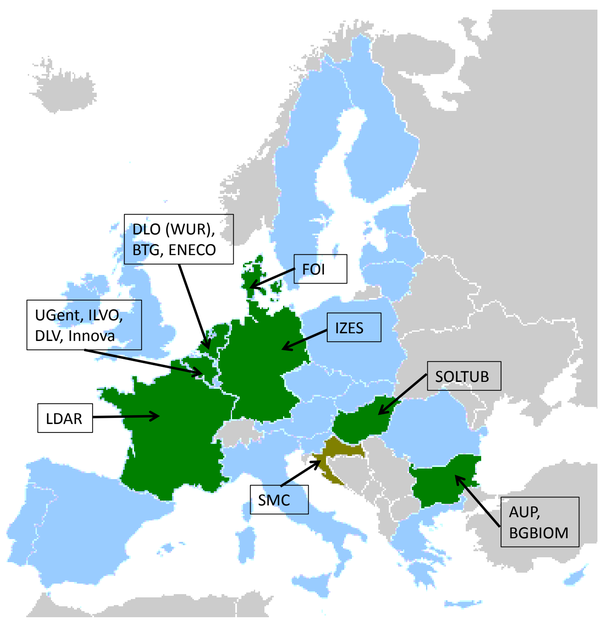
Improved Nutrient and Energy Management through Anaerobic Digestion

Funded by the EC under the 7th framework programme

INEMAD in short

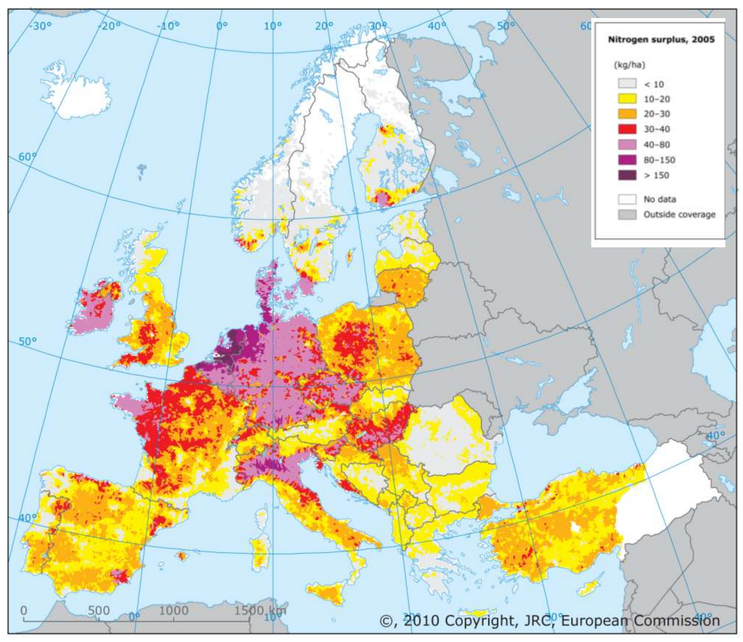
- **Focus**: innovative strategies to reconnect livestock and crop production farming systems through new flows of energy and materials.
- **Context**: coping with recycling, greenhouse gas (GHG) mitigation, and transition from a fossil to a bio-based economy.
- **Leading principle of INEMAD**: triangular enlargement of the traditional farming systems with a “processing” system to increase agricultural productivity while reducing external energy input and closing the nutrient cycle.





EU member states, actively present in current proposal

Active dissemination to candidate member



Estimated nitrogen surplus across Europe (Source: European Commission - Joint Research Centre)

Stakeholder involvement

People dealing with the problem on a daily basis

↳ Sparkling ideas

↳ Innovative methodologies for INEMAD

- **FARMERS:** Arable and livestock farmers, farmer unions, extension services/advisors;
- **PROCESSING SYSTEMS:** Energy and technology companies, animal feed companies, companies that process organic waste from cities and produce compost, professional associations;
- **POLICY SYSTEMS:** National policy makers (ministries of agriculture, environment, spatial planning, rural development and finance), European policy makers (DG Regio, DG Agriculture), regional and local government, lobbyists, logistic firms, stakeholders from farming and processing systems.

Work packages

WP 1: development protocols for stakeholder involvement that will be used in WP2, WP3 and WP4.

WP 2: options for improved nutrient management at farm level: optimal use of new flows of fertilizers obtained from innovative forms of processing.

WP 3: techniques for nutrient management at the processing level: technical and economic optimization of biomethanisation and the reprocessing of the digestate to valuable green fertilizers or transportable rest products.

WP4: interaction between firms: optimization through models resulting in optimal location of plants, transport of biomass or exchange of fertilizer between farms.

WP 5: legal aspects and policy advice on nutrient cycling: existing legislation about fertilizers, urban planning, fertilization standards, subsidies and systems for the development of renewable energy.