

Co-Benefits for Climate Mitigation and Nutrition Security due to Organic Agriculture and Healthy Consumption Patterns

Major Outcomes of selected studies
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Research Field and Project Overview (Outline)

- **Nutrition Ecologist**
- Center for Global Change and Sustainability at **BOKU Vienna** (University of Natural Resources and Life Sciences) and FiBL Austria
- **Research Fields:** Sustainable consumption patterns, climate impact assessment, organic agriculture
- **Selected projects (2018):**
 - 100% Organic Agriculture in Austria** – Feasibility and Consequences
https://www.mutawerde.at/mutawerde/uploads/2018/05/FiBL_gW/N_Bericht_100P-Bio_Finalversion_21Mai18.pdf
 - Austrian and European Alternatives to Palm Oil and Soy** from Tropical Regions – Possibilities and Consequences
 - Healthy, Organic and Inexpensive** – Consequences of a Modified Shopping Basket on Costs and Climate Change

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100% Organic Agriculture in Austria

- Calculation of **energy demand of the Austrian citizens** (8,77 Mio. people)
- Conservative **yield gap** of 34% between organic and conventional agriculture in Austria
- **Comparison of demand with entire energy production of the Austrian agriculture**
- Assessment of **status quo, 100% organic agriculture and 3 scenarios** (including reduction of meat consumption and/or avoidable food waste)
- **Impact on GHGs** (-12 to -39%), health, biodiversity and economic costs

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Can Organic Agriculture meet Demand of Energy need of the Austrian Population?

Scenario results (Billions kcal)

100% organic agriculture	6 599
Scenario 1 (entirely organic, reduced meat consumption by -64%)	8 240
Scenario 2 (entirely organic, reduced food waste by 50%)	7 290
Scenario 3 (scenario 1 and 2 combined)	8 931
Demand of Austrian population	6 816

(Schlatzer and Lindenthal, 2018)

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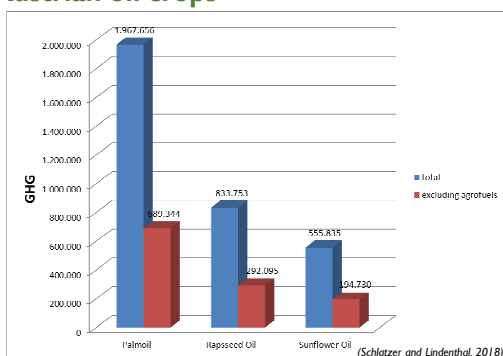
Austrian and European Alternatives to Palm Oil and Soy

- **Import of palm oil**, mainly for **agrofuels**
- **high dependency** of Austria (resp. EU) on **soy feed imports** (500.000 t), mainly from overseas
- **Deforestation, biodiversity loss and human impact** in Brazil and Argentina (soy), Indonesia and Malaysia (palm oil)
- Calculation of potential of enhancing Austrian resp. European **alternatives** to palm (**rapeseed, sunflower**) and soy imports
- Assessment of alternatives on GHG, land use in Austria and biodiversity

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Greenhouse Gas Emissions (GHG) of imported palm oil compared to alternative Austrian oil crops



Healthy, Organic and Inexpensive

- **Organic products** are **often more expensive** than conventional
- Assessment of annual **expenditures of an average family** of four
- based on Austrian data sets and official health reports
- Assessment of **different scenarios (conventional, organic, healthy)**
- **Impact** of different shopping baskets on **GHG and costs**

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Food related Greenhouse Gas Emissions of a Family of Four per Week (kg CO₂-e)

