AgriClimateChange – Climate protection for farmers

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ENERGY TRANSITION

- CoAct – activated carbon instead of compost
- COALESCCE – citizen energy for Europe
- SocialRES: Together we make energy
- Photovoltaic Networks – Schwarzwald-Baar-Heuberg
- Energy region – efficient heating networks

AGRICULTURE & CLIMATE

- LIFE AgriAdapt – Sustainable adaptation of farming to climate change
- Clean Air Farming – Reducing ammonia and methane emissions from agriculture
- AgriClimateChange – Climate protection for farmers

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- LIFE Biodiversity in standards and labels for the food sector
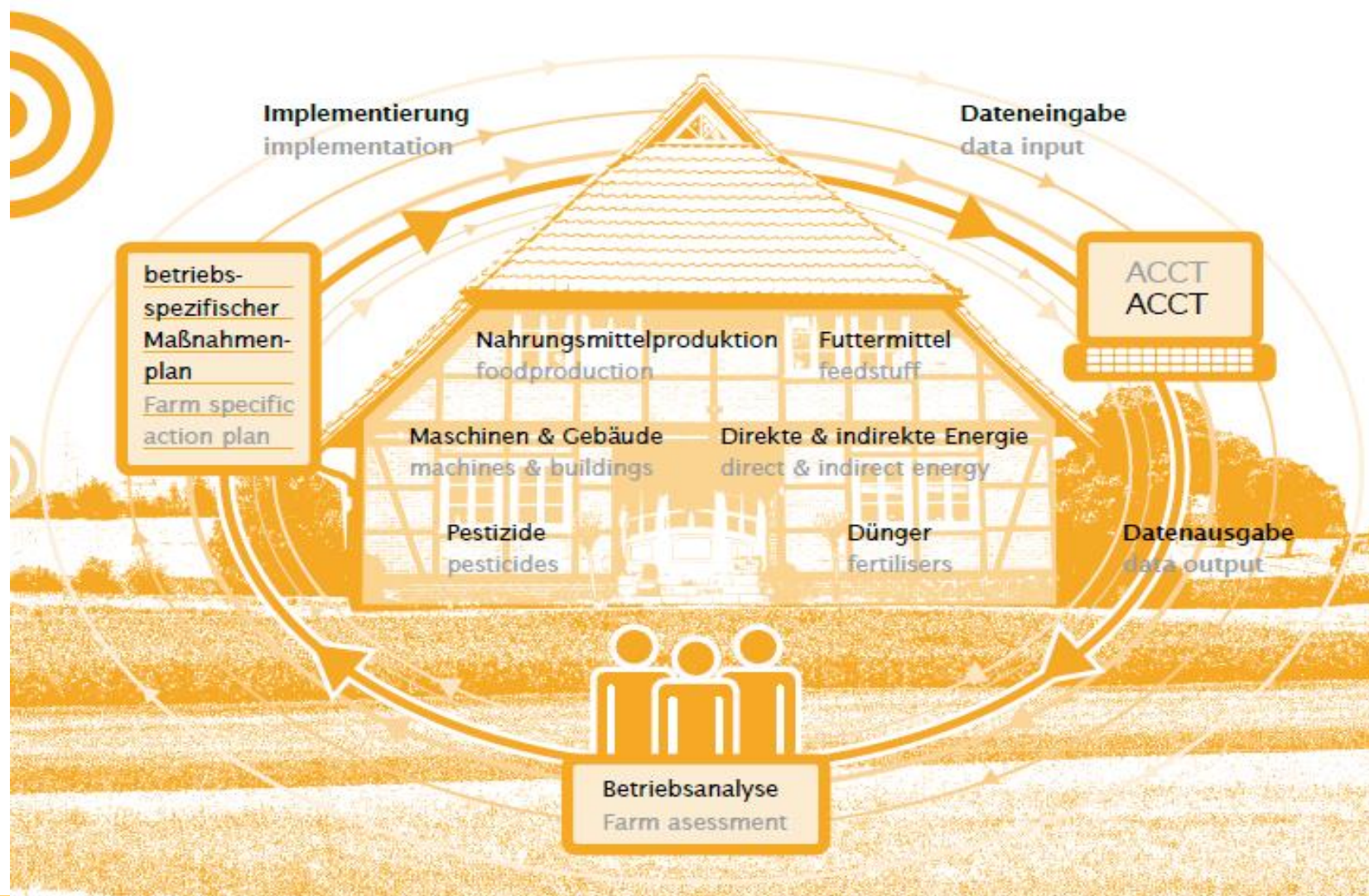- LIFE BooGI-BOP: Biodiversity-oriented premises in Europe

- People – Bees – Biodiversity
- Small water bodies for the Lake Constance region
- Model orchards for the promotion of biological diversity
- Pro Planet – Apple project at Lake Constance
- Living Lakes

BUSINESS & BIODIVERSITY

NATURE & LAKE CONSERVATION

References

- EU-LIFE+-Project AgriClimateChange 2010-2013
  - Development of software ACCT
  - Tested on 120 (24) farms
- Since 2012 cooperation with AgroCO2ncept in Switzerland (25 farms)
- 2012-2014 various other projects in Germany
- Since 2014 lecture and excursion at ETH Zurich
- Since 2016 cooperation with dairy sector (25 farms)
- Since 2018 Train the Trainer
- Since 2018 Development of method for regions and bigger entities

→ **About 200 assessments performed and 100 farms advised**
→ **Monitoring and evaluation over a period of 8 years**

The ACCT-Method

ACCT-Tool

Energy-balance

Aufteilung der Energie pro Posten				pro ha LN	
betriebliche Nutzung		Posten	GJ	GJ/ha	Anteil
Zufuhr	Direkt	Brennstoffverbrauch	301	5,2	31%
		Andere Kraftstoffe	7	0,1	1%
		Strom	187	3,2	19%
		Energie / Wasser	0	0,0	0%
		Andere direkte Energien	0	0,0	0%
	Indirekt	Bereitstellung der Energie	0	0,0	0%
		Zukauffutter	200	3,5	20%
		Dünger und Bodenverbesserungsmittel	32	0,5	3%
		Pflanzenschutzmittel	0	0,0	0%
		Saatgut	10	0,2	1%
		Jungtiere	50	0,9	5%
		Maschinen	85	1,5	9%
		Gebäude	14	0,3	1%
		Andere Zukäufe / Tiere + Kunststoffmaterialien	97	1,7	10%
		ZUFUHR	**984**	**17,1**	**100%**
Entnahme		Milch	798	13,9	53%
		Fleisch	80	1,4	5%
		Kulturen	0	0,0	0%
		Strom	414	7,2	28%
		Wärme	209	3,6	14%
		andere		0,0	0%
		ENTNAHME	**1501**	**26,1**	**100%**

GHG-balance

Overview on GHG-emission and C-sequestration

Derzeitige Situation (tCO2eq / Jahr)	Scope 1 Interner Umfang (direkt Betrieb)	Scope 2 Mittelbarer Umfang (indirekt Strom)	Scope 3 Globaler Umfang (indirekt sonstiges)	Total	
Emissionen aus der eingesetzten Energie	14	2	36	52	24%
abgegebenes CH4 und N2O aus der Tierhaltung	126	k.A.	k.A.	126	58%
N2O-Emissionen aus den landwirtschaftlichen Böden	30	k.A.	9	39	18%
Kohlenstoffspeicherung in Boden und Hecken	-14		0	-14	-6%
Gesamt tCO2eq netto / Jahr	**156**	**2**	**45**	**203**	**94%**
	77%	1%	22%	100%	
Erneuerbare Energien	0	0	0	0	0%
das sind:	in tCO2 / ha LN:	5,22	0,06	1,50	6,79
	in tCO2 / GVE:	5,22	0,06	1,50	6,78

Development of method for regions/companies

First approach „farm based" (ACCT analysis)

Problems/restrictions:
- Time consuming
- Cost intensive

New concept
→ based on representative farms and upscaling
→ Formation of clusters in the whole group (pilot farms)
→ Selection of representative farms per cluster
→ ACCT analysis of representative farms for baseline definition
→ Upscaling due to statistical data
→ Monitoring: ACCT analysis after 3 years on pilot farms
→ Evaluation: ACCT analysis after 6/10 years on pilot farms
→ Incentive based on few selected measures - not on direct success

Real life examples

1. AgroCO2ncept (Switzerland)

- General aim: 20% reduction of GHG-emissions
- 25 farms in a valley formed an initiative
- Remuneration from ministry of 12 defined measures
    - precise description how to perform the action
    - Risk compensation
    - Additional cost remuneration
    - Success indicator
- No measure is allowed to be supported by any other programm
- ACCT analysis on every farm (years: 1;3;6;8)

Problems/restrictions:
- Farmers focus on measures with highest financial benefit
- Most efficient measures are left out if no remuneration is offered
- Very bureaucratic

→ General aim will probably not be achieved!

Real life examples

2. Cooperation with dairy company (Germany)

- General aim: implementation of effective climate measures on as many farms as possible
- 6000 dairy farms in 5 federal states
- Planned remuneration from dairy company of 2-3 selected measures
  - Clear aim (e.g. increase of lactation periods; reduction of synthetic fertilizer…)
  - Flexible way of performance
  - Remuneration for performing the measure but not on real GHG effect
- Measures need to be easily proven and monitored
- ACCT analysis on representative farms in 5 clusters (approx. 30) (years: 1;3;6)
- Upscaling of results for the clusters

Problems/restrictions:
- No personal consultancy for farmers
- Not all GHG reduction potentials will be realized

→ **Need to be accompanied by information and training opportunities!**
→ **Applicable also for regions!**

Contact

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