



Mitigation measures in the Polish agriculture

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Ministry of Agriculture and Rural Development | Poland

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Structure

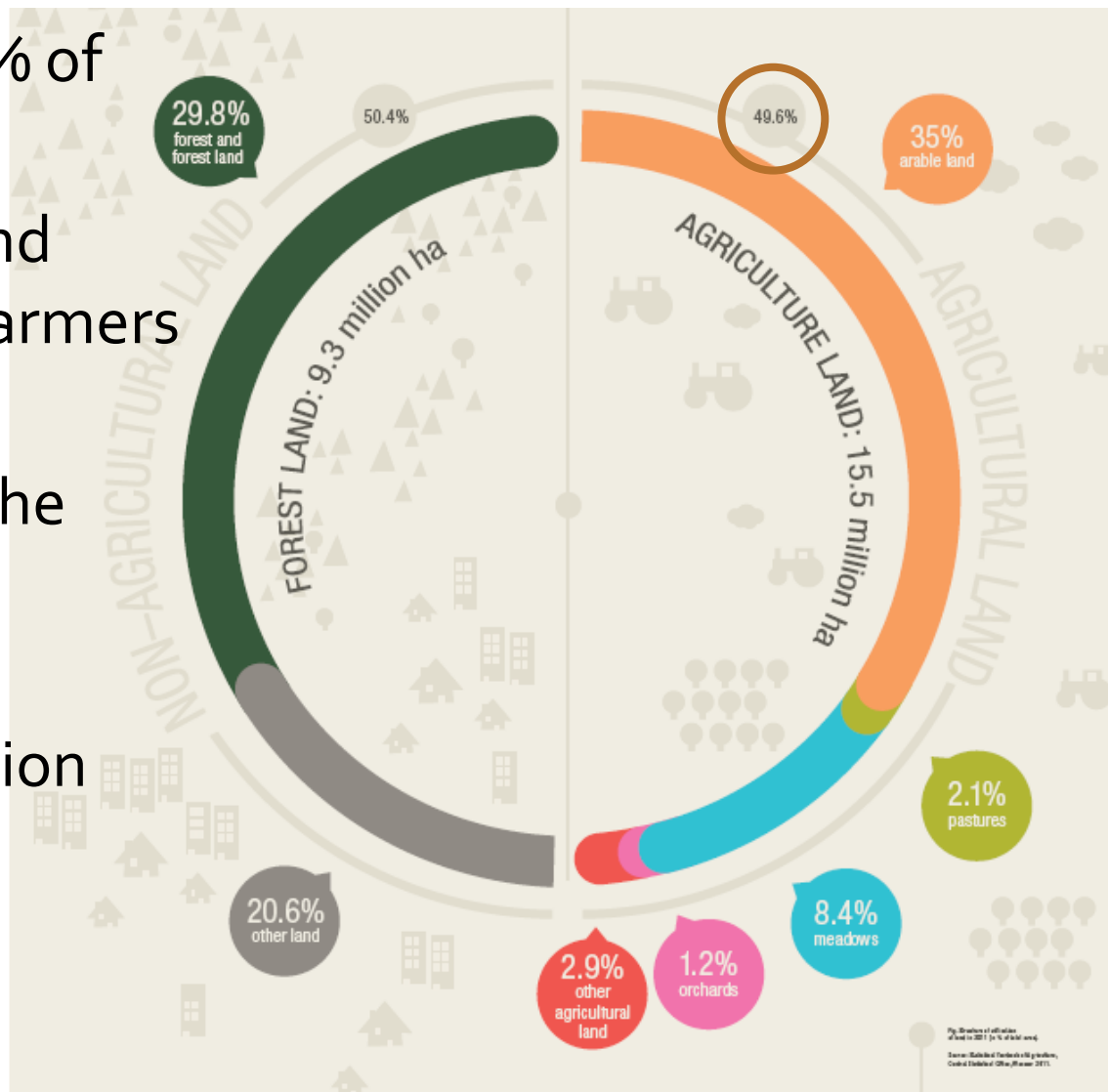


- Introduction: Polish agriculture at glance
- Greenhouse gas emissions in the Polish agriculture
- Mitigation measures

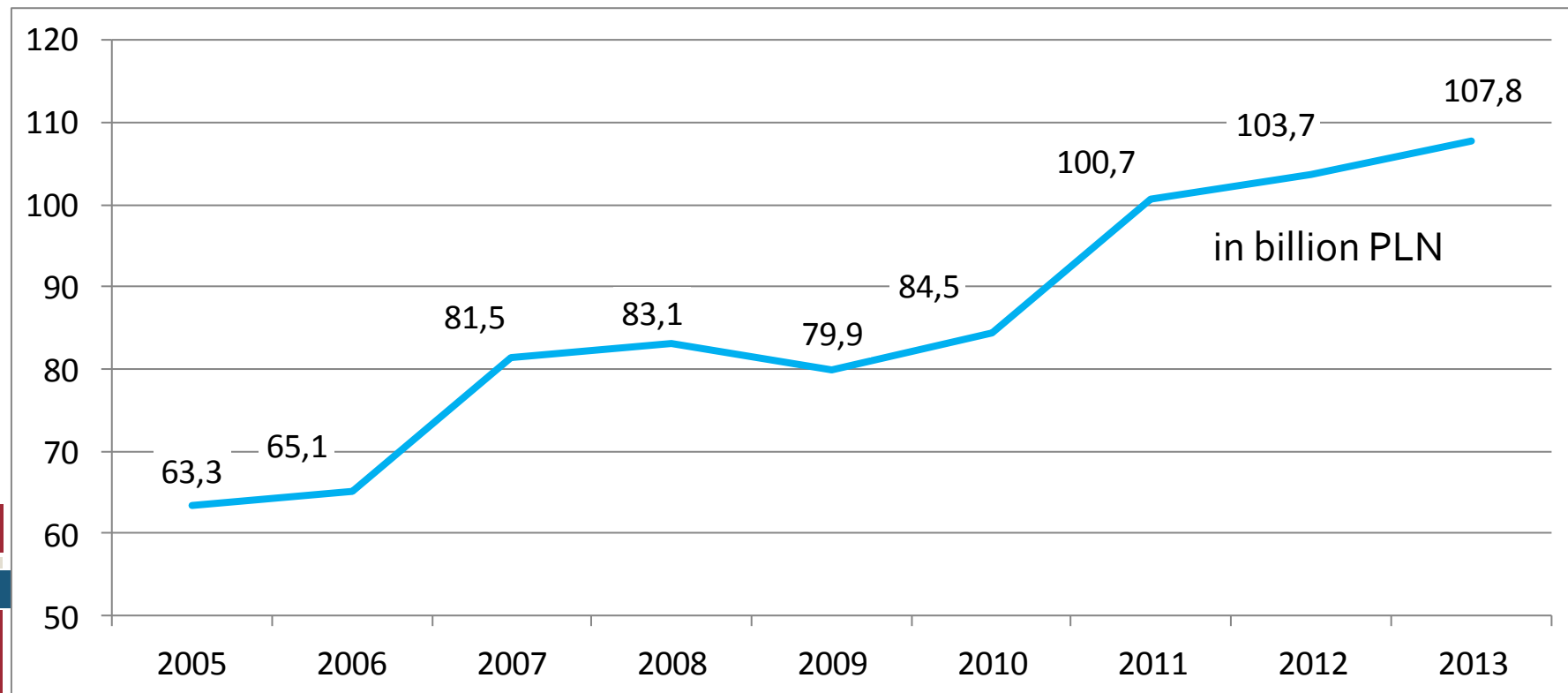


Key facts about Polish agriculture

- Agricultural land 49,6% of total country area
- 88% of agricultural land utilized by individual farmers
- 2nd in the EU-27 (after Romania) in terms of the number of agricultural holdings [2,2 millions]
- Nearly 40% of population live in rural areas (14,9 million)

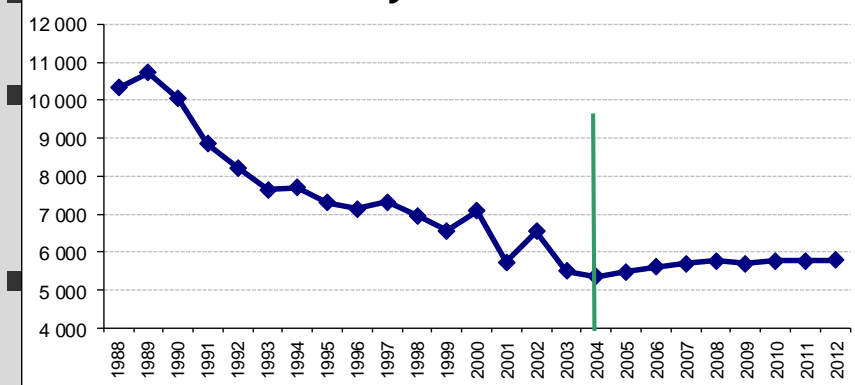


Gross agricultural output

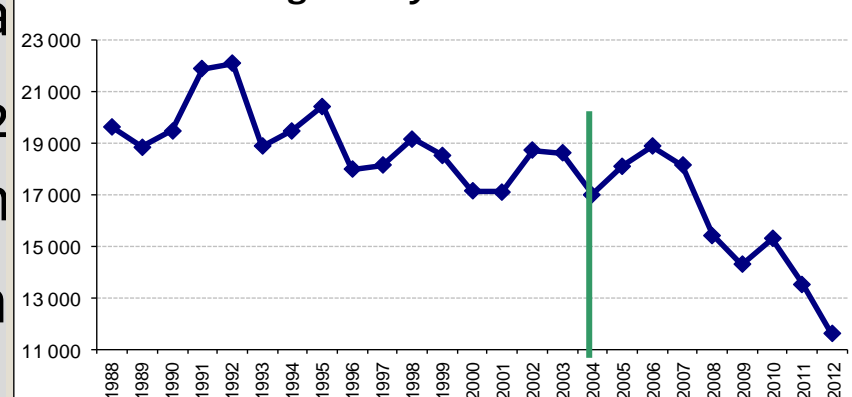


GHG emissions in the Polish agriculture

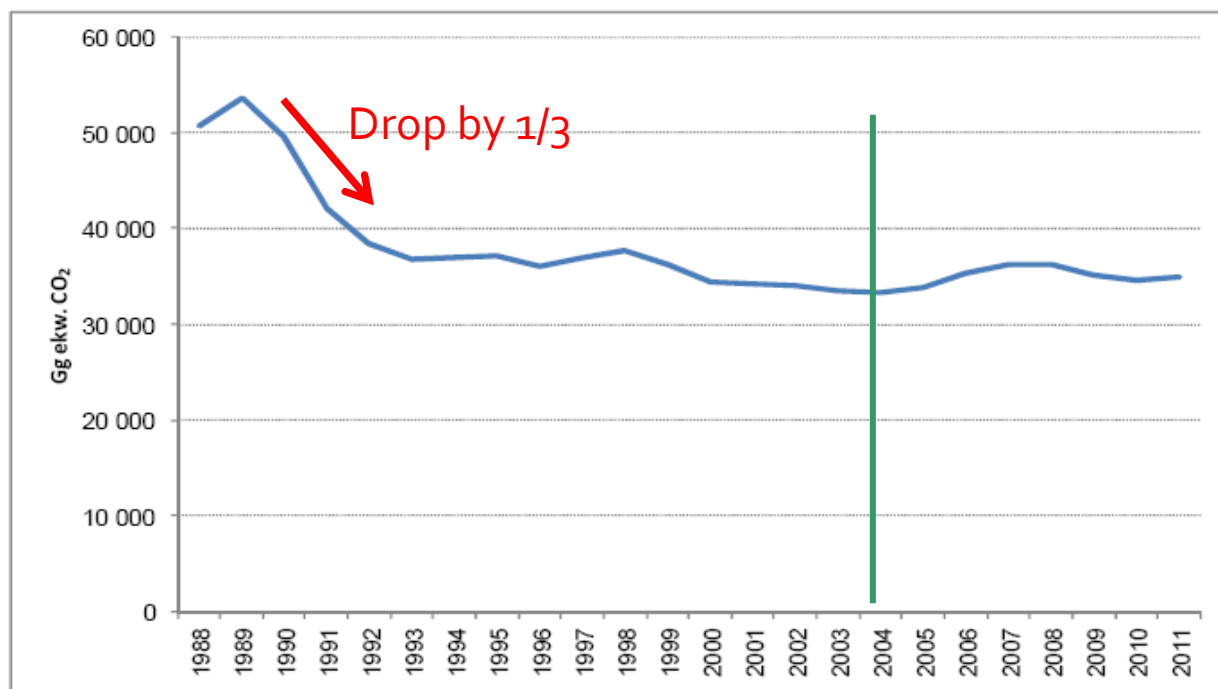
Cattle in years 1988-2012



Pigs in years 1988-2012

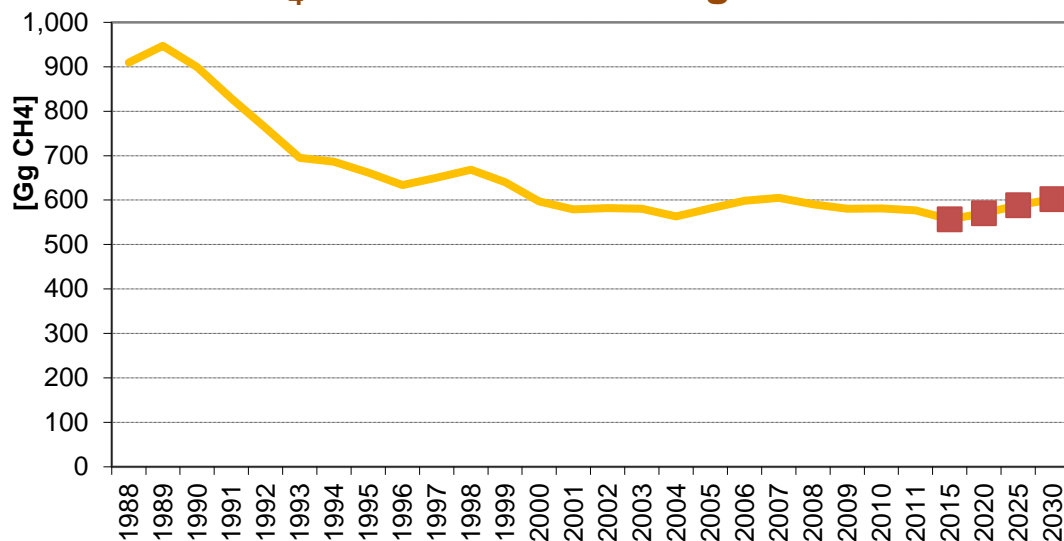


GHG emissions in Polish agriculture in CO₂ equivalent

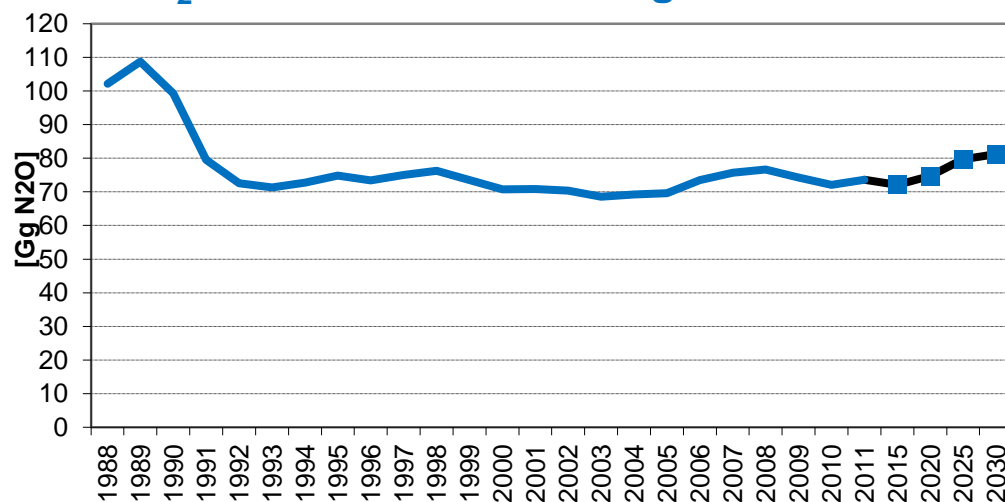


GHG emissions in the Polish agriculture

CH₄ emission trend in agriculture

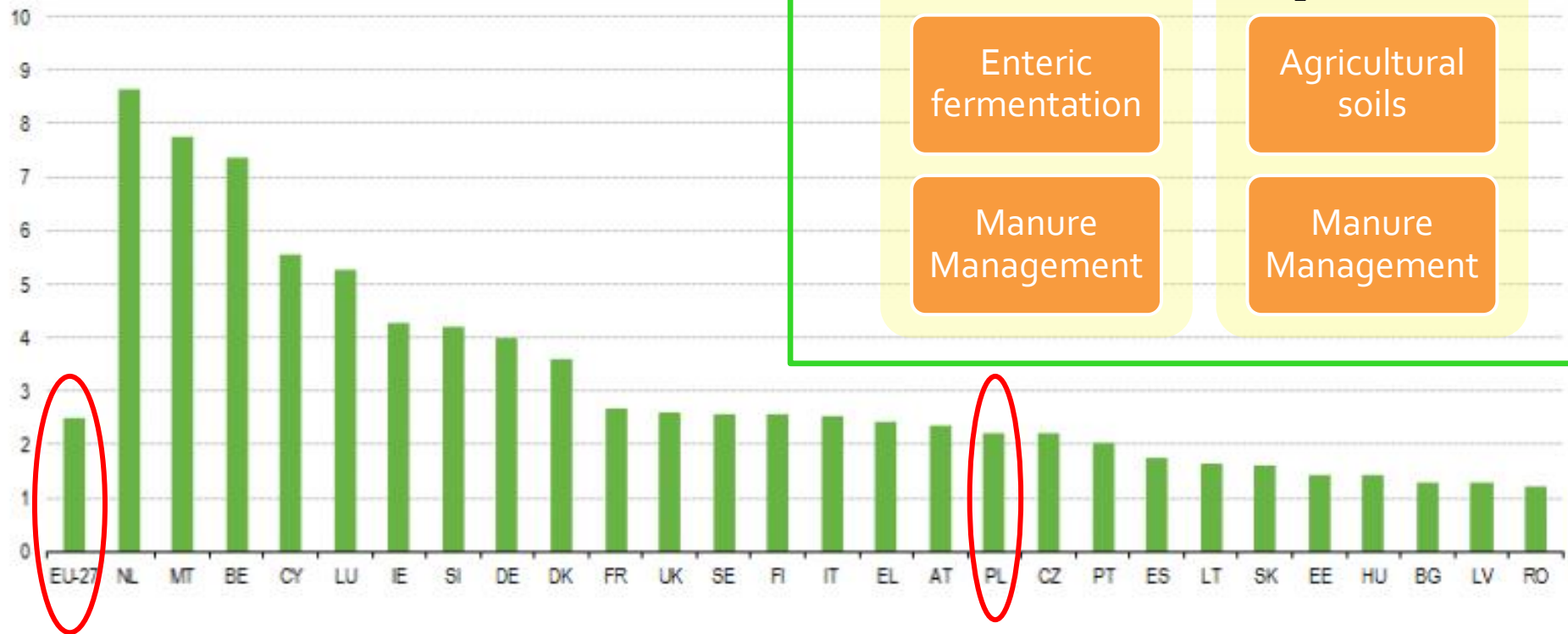


N₂O emission trends in agriculture



Sources and intensity of GHG emissions

Aggregated emissions of CH₄ and N₂O
2010 (EU 27)
per Utilised Agricultural Area
(kilotonnes CO₂ equivalent per 1000 ha)



Share of agriculture
in total CH₄ and N₂O emissions

Methane (CH₄)
34,1%

Enteric
fermentation

Manure
Management

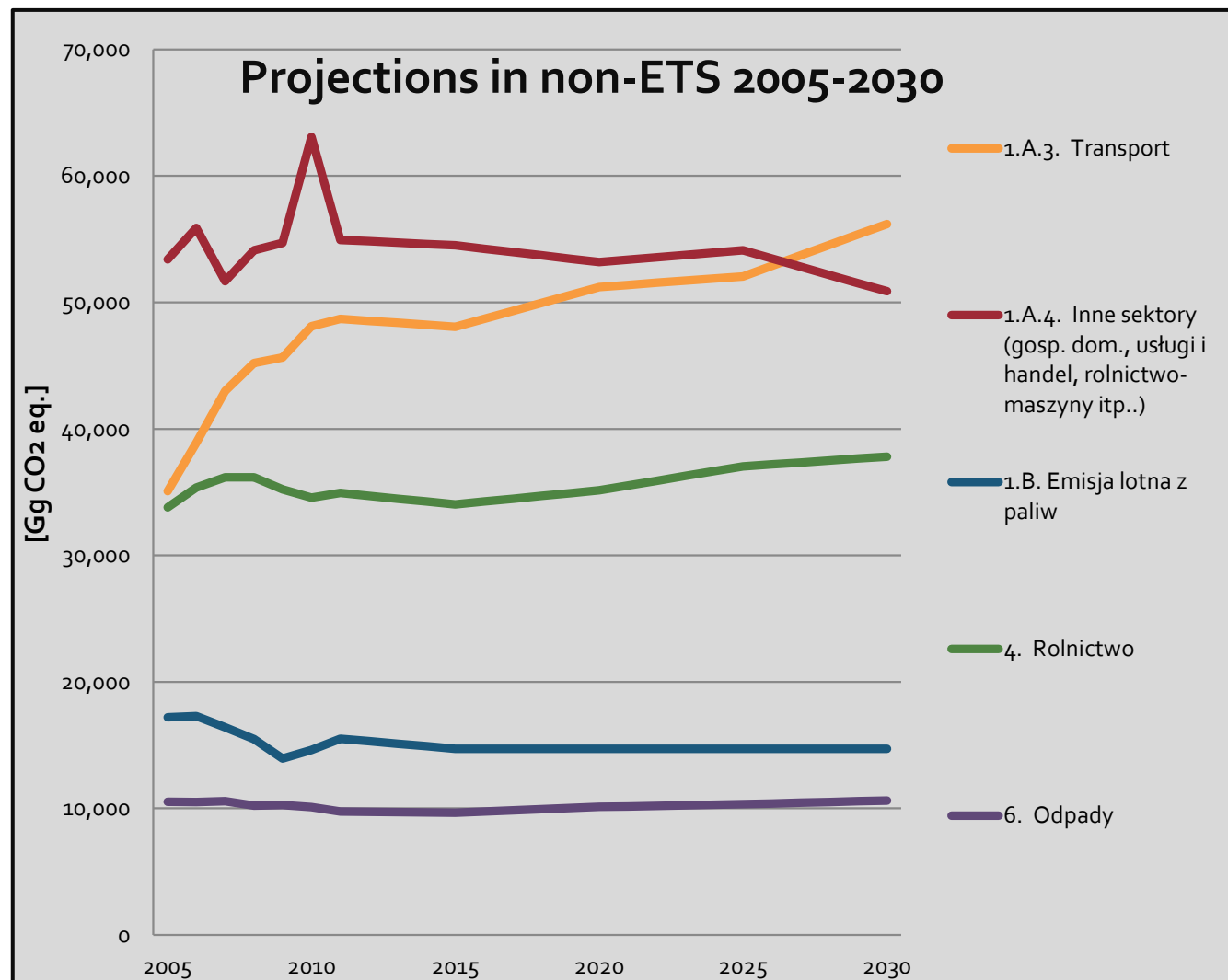
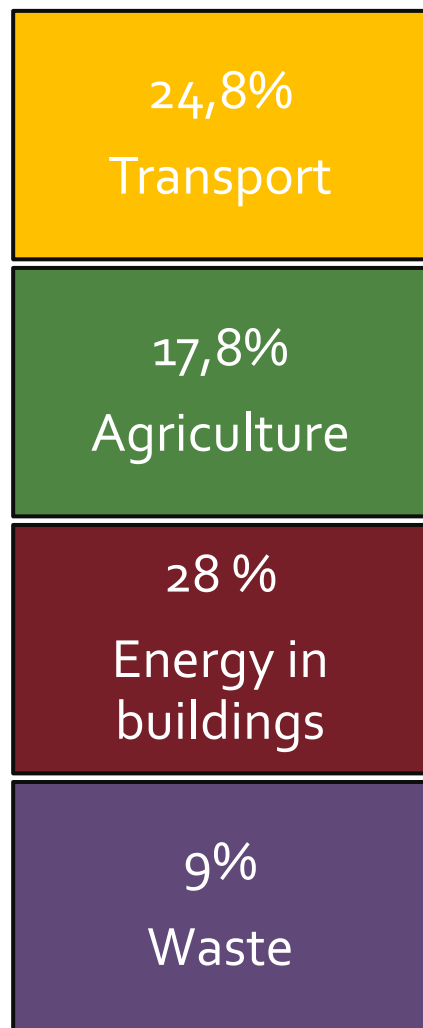
Nitrous Dioxide
(N₂O) 83,8%

Agricultural
soils

Manure
Management

'Non ETS' sector in Poland

Indicative non ETS structure



Source: KOBIZE, 2014



Mitigation measures in agriculture in Poland



Policy



- 2020 target for Poland for non ETS +14 %
- National Strategy for Sustainable Development of Rural Areas, Agriculture and Fishery 2012-2020
- National Adaptation Plan until 2020 (with a prognosis up to 2030)
- Direct Payments (single area payment scheme)
- Rural Development Programme
- Programmes under the ERDF (water retention, low carbon economy also in rural areas)
- National Policy (e.g. Fertilizer and Fertilization Act, Water Act, Environmental Protection Act)

} CAP

Mitigation in relation to Direct Payments

2007-2013



- Income support, diminishing production risks
 - 1,4 million of beneficiaries
 - Promotion of the GAEC and cross compliance
 - 87,2% of UAA covered with direct payments
- 14 212 thousands of ha = area under GAEC, cross-compliance
- In 2010 – introduction of special payments
 - for cultivation leguminous crops
 - for small holdings (up to 10 animals) in order to maintain extensive grazing of sheep and cattle (some regions of Poland)

High coverage



GAEC and cross compliance

GAEC

- Minimum soil cover
- Minimum regimes for PP
- Minimum land management reflecting site specific conditions (buffer strips, areas on slopes)
- Ban of burning agricultural land
- Ban of tillage with heavy agricultural equipment during water saturation of the soil profile

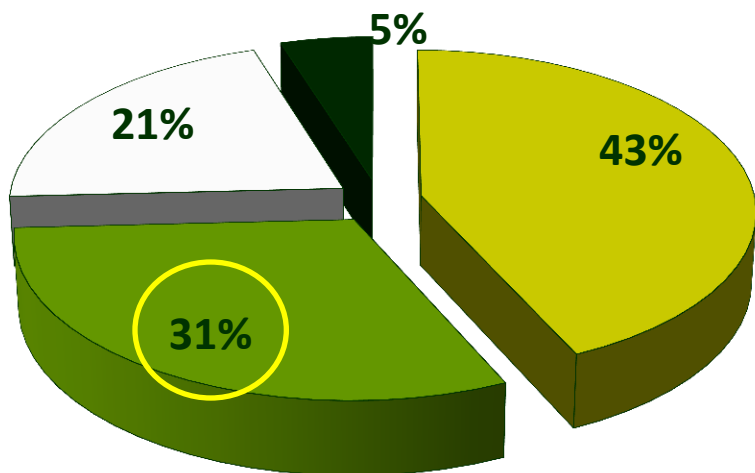
Cross-compliance

- Protection of wild birds, plants & habitats,
- Ways of using the waste water sludge in agriculture
- Protection against pollution of nitrates from agriculture

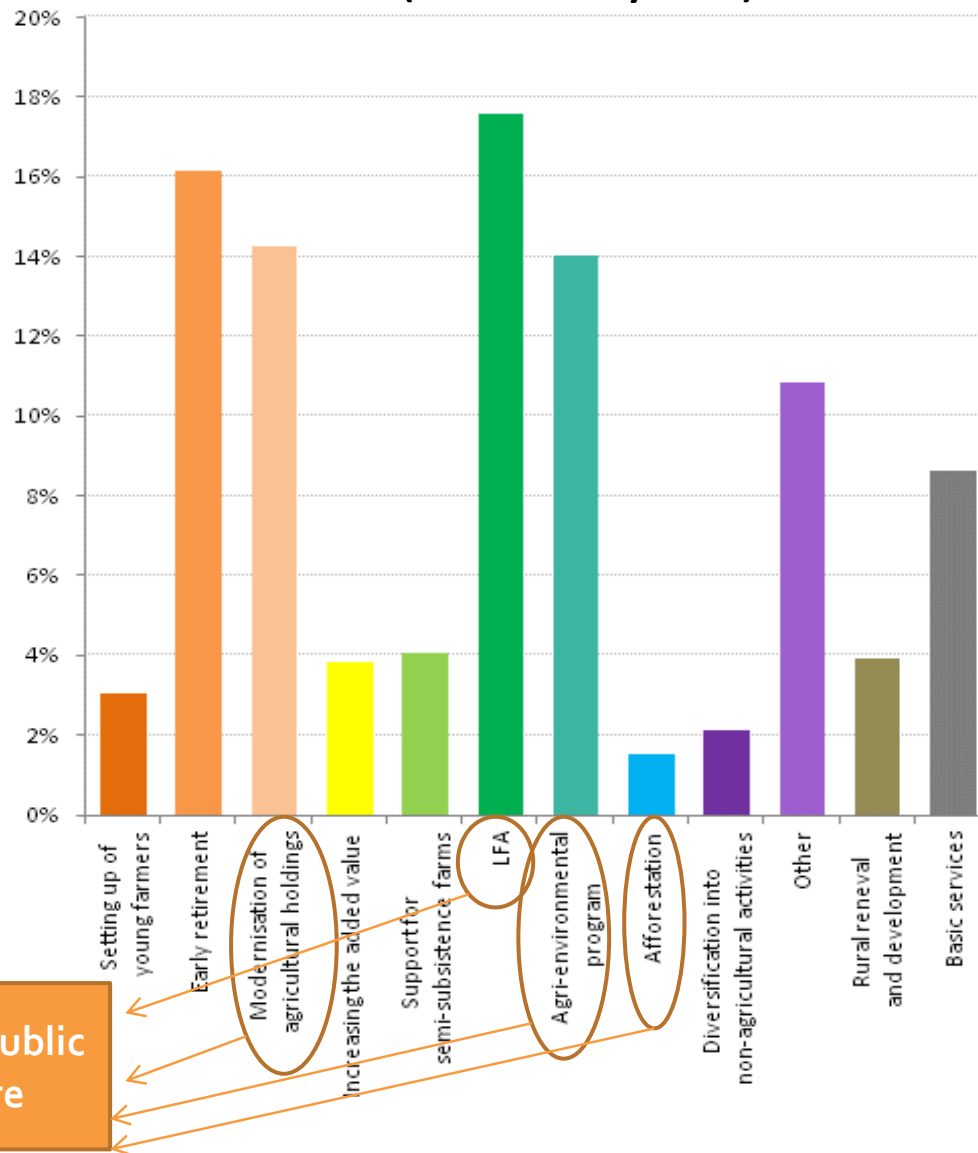
Climate actions in rural development 2007-2013

Payments from public funds under RDP
2007-2013 (as of January 2014)

Structure of RDP 2007-2013
in Poland



- Axis 1. Improving the competitiveness of the agricultural and forestry sector
- Axis 2. Improving the environment and the countryside
- Axis 3. Improving the quality of life in rural areas and encouraging diversification of the rural economy
- Leader



Agri-environmental measure: 2007-2013

Agri-environmental sub-measures (2007-2013) entail mitigation (M) and adaptation (A)

- Sustainable agriculture **A+M**
- Organic farming **M**
- Extensive grasslands **M**
- Protection of endangered bird habitats outside and inside NATURA 2000 **M**
- Maintenance of endangered genetic pool of farm animals and agricultural crops **A**
- Protection of soil and water **A+M**
(intercropping, winter crops, catch crops)
- Buffer strips **M**



General rules: fertilization (national law)

- **All farmers:** storage of liquid manure for minimum of 4 months (if not: a penalty)
- Storage of solid manure: obligatory →
- Integrated permit →
- Fertilization plan →
(within the AEM as well)
- Limit of doses
- More strict rules of fertilization on NVZs
- Manure, if applied, needs to be covered or mixed with the soil at the latest the next day after the application
- Improvement of fertilization efficiency: Awareness raising campaign

Farms with poultry
up from 40 000 units;
pigs up from 2000 units
(above 30 kg)
or 750 units of sows
[obliged to manage 70% of
manure on the farm]



General rules: fertilization

LIMITS	
170 kg/N/ha	All farmers: national legal Act
150 kg/N/ha	Arable land within the AEM: sub-measure on sustainable agriculture
120 kg/N/ha	Permanent grasslands within the AEM: sub-measure on sustainable agriculture
Lower fertilization due to poor natural soil conditions	LFA (results of the scientific analysis)
85 kg/N/ha 170 kg/ha	NVZs on meadows and pastures other lands on NVZs
60 kg/N/ha or ban of fertilization	Within AEC (protection of habitats inside and outside NATURA 2000)

70 000 storage tanks modernized or built from RDP 2004 -2006

Effects of policies implementation

2,7 M of ha

- Total area of permanent pastures and meadows under direct payment support
- 84% of the total meadows and pastures in Poland

18,1 % of UAA

- under Agri-environmental measure

50% of UAA in GAEC

- under LFA payments

11,7 % of UAA

- under NATURA 2000

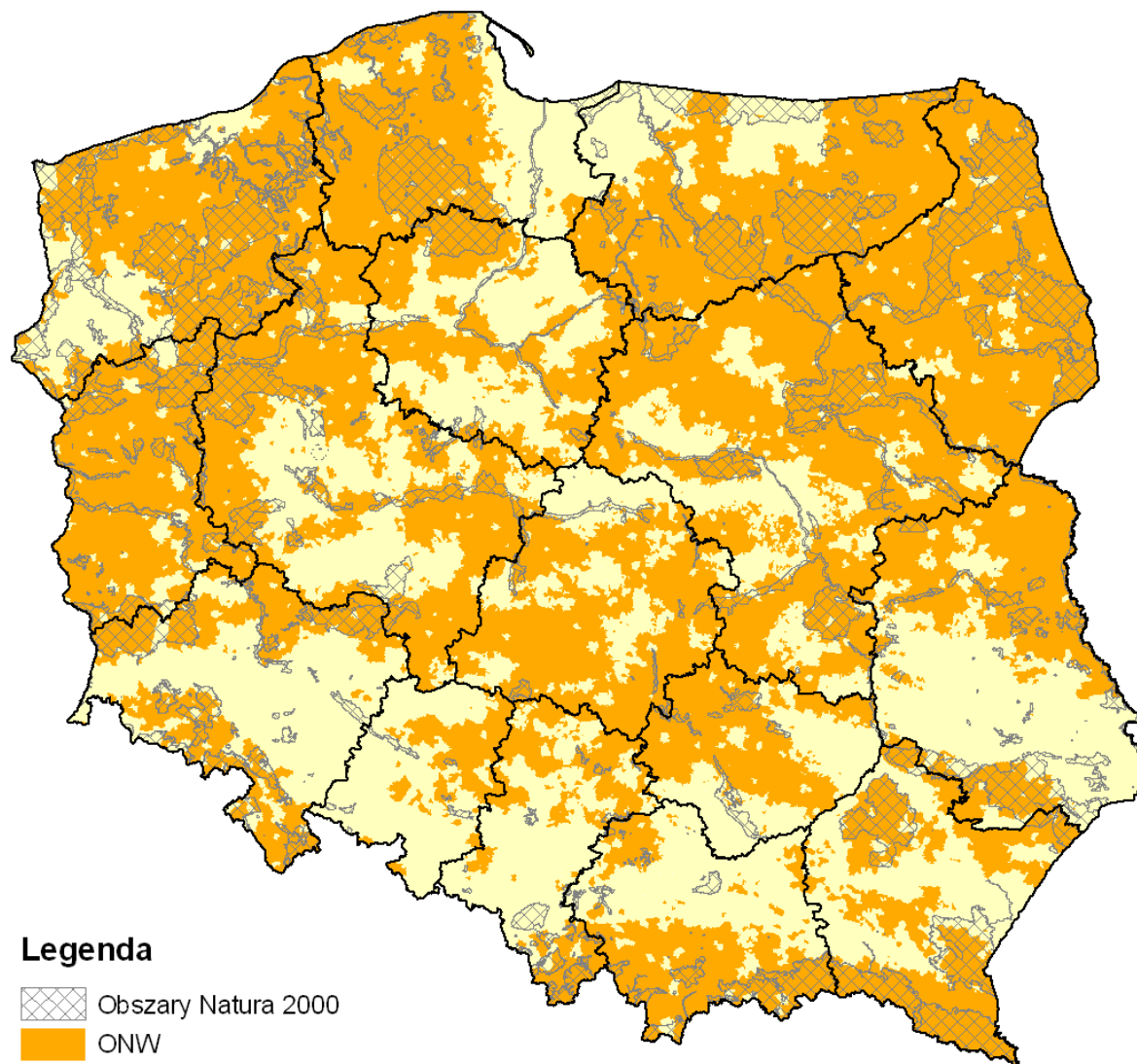
72 000 of ha

- under afforestation measure



4,1 % of UAA

- under organic farming

NATURA 2000 areas in and outside LFA



Legenda

-  Obszary Natura 2000
-  ONW

Regions in Poland	% Natura 2000 areas located	
	In LFA	Outside LFA
dolnośląskie	79,9	20,1
kujawsko-pomorskie	80,9	19,1
lubelskie	56,6	43,4
lubuskie	94,3	5,7
łódzkie	68,5	31,5
małopolskie	80,9	19,1
mazowieckie	95,3	4,7
opolskie	0,0	100,0
podkarpackie	82,8	17,2
podlaskie	98,1	1,9
pomorskie	89,0	11,0
śląskie	55,1	44,9
świętokrzyskie	43,3	56,7
warmińsko-mazurskie	55,0	45,0
wielkopolskie	83,4	16,6
zachodniopomorskie	79,6	20,4
Polska	79,4	20,6



Ongoing research relating to mitigation

- Further research on:
 - Types of farming (strip tillage, no tillage, direct saw, direct fertilization) and mitigation potential
 - Improvement of animal feeding techniques and feed management
 - Types of breeding systems (bedding or non bedding)
 - Improvement of animals productivity (a cow example)



New Rural Development programme

RDP 2014-2020

Adaptation + Mitigation

- Knowledge transfer and information actions
- Advisory services
- Quality schemes for agricultural products, and foodstuffs
- Investments in physical assets
- Restoring agricultural production damages by natural disasters and catastrophic events and introduction of appropriate prevention actions
- Farm and Business Development
- Basic services and village renewal in rural areas
- Setting-up producer groups
- Investments in forest area development and improvement of the viability of forests
- Agri-environmental-climate measure
- Organic farming
- Designation of areas facing natural and other specific constraints
- Co-operation
- LEADER

Priority of
investments
on NVZs

c.a. 33%
contribution
to the EARDF

Renewable Energy in agriculture

- Some support under the RDP (measure: Modernization of agricultural holdings/Investments in physical assets)
- National funding: Green Investment Scheme (Managed by National Fund for Environmental Protection and Water Management)
 - Minimum cost of investment: 5 millions PLN
 - Form of support: loan or subsidy
- 55 Biogas plants in Poland (0.5 – 2.4 MWe)

In total = 64MWe



Biogas Giżyn



Biogas Borzeciczki, 2012

Government	Percentage
Current government	85%
Previous government	15%

-
- | Government | Percentage |
|---------------------|------------|
| Current government | 85% |
| Previous government | 15% |



Input data for projections

Specification	Unit
Area of farmland*	k ha
Total sown area*	k ha
Area of utilised soils*	k ha
Consumption of nitrogen fertilisers*	k tons
Mean annual milk field per cow**	kg/year
Cattle population**	k units
Including milk cows**	k units
Sheep population**	k units
Horse population**	k units
Swine population**	k units
Poultry population**	k units
Cultivation area of papilionaceous plants (total)	k ha
Cultivation area of other than papilionaceous plants*	k ha
Area of organic soils under cultivation*	k ha

Thank you for your attention



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Photo: J. Kozyra