

# EU Climat initiative: impact on agriculture and rural economy of Latvia

European Economic and Social Committee's Public hearing

"Implications of climate and energy policy on the agricultural and forestry sectors"

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# General conclusions (5)

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- **The meaning of 1 % to decrease GHGEA** (Greenhouse gas emissions from agriculture) in 2030 as compared to the level of 2012:
  - Decline in agriculture output by ~ 10,5 MEUR
  - Decrease of value added in agriculture by ~ 2,5 MEUR;
  - **Additional decrease in agriculture employment by ~ 0,6 thsd AWU;**
  - Decrease of UAA for production by ~ 12 thsd. Ha
  - 1 % point of GHGEA from 2005 level equals to ~325 KEUR “GHG additional tax”, when CO2 market price is 15 EUR/t



# Evaluation

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- **Done**

- **August – October 2014**

- **Based on assumption**

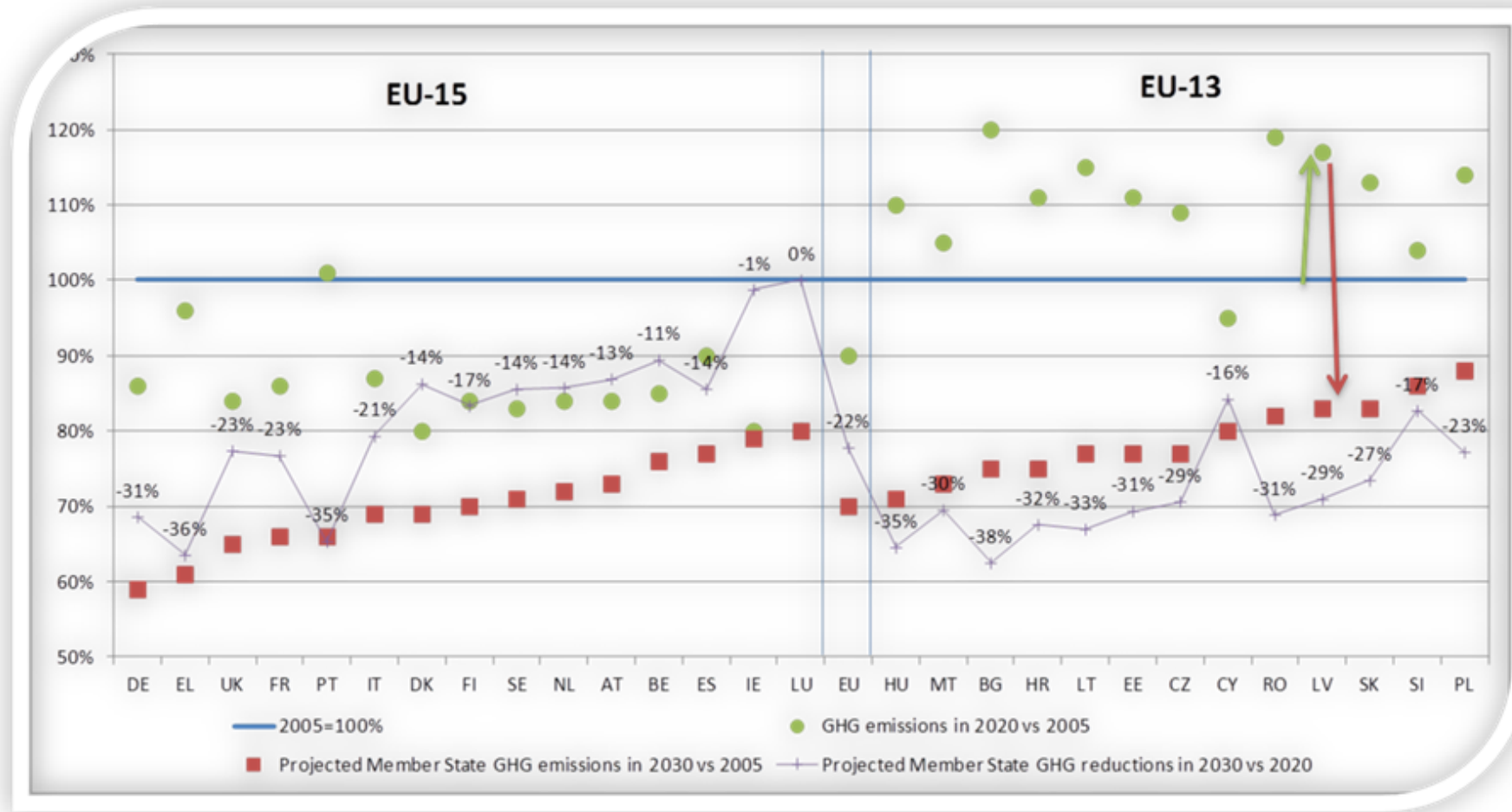
- **40% target for GHG:** total GHGE should be decreased by 40% (compared to 1990):

- By 30% (as compared to the level of 2005) from non ETS sectors

- Agriculture is a step in an intermediate agri-food production chain, where the up- and down stream sectors are the rest ones

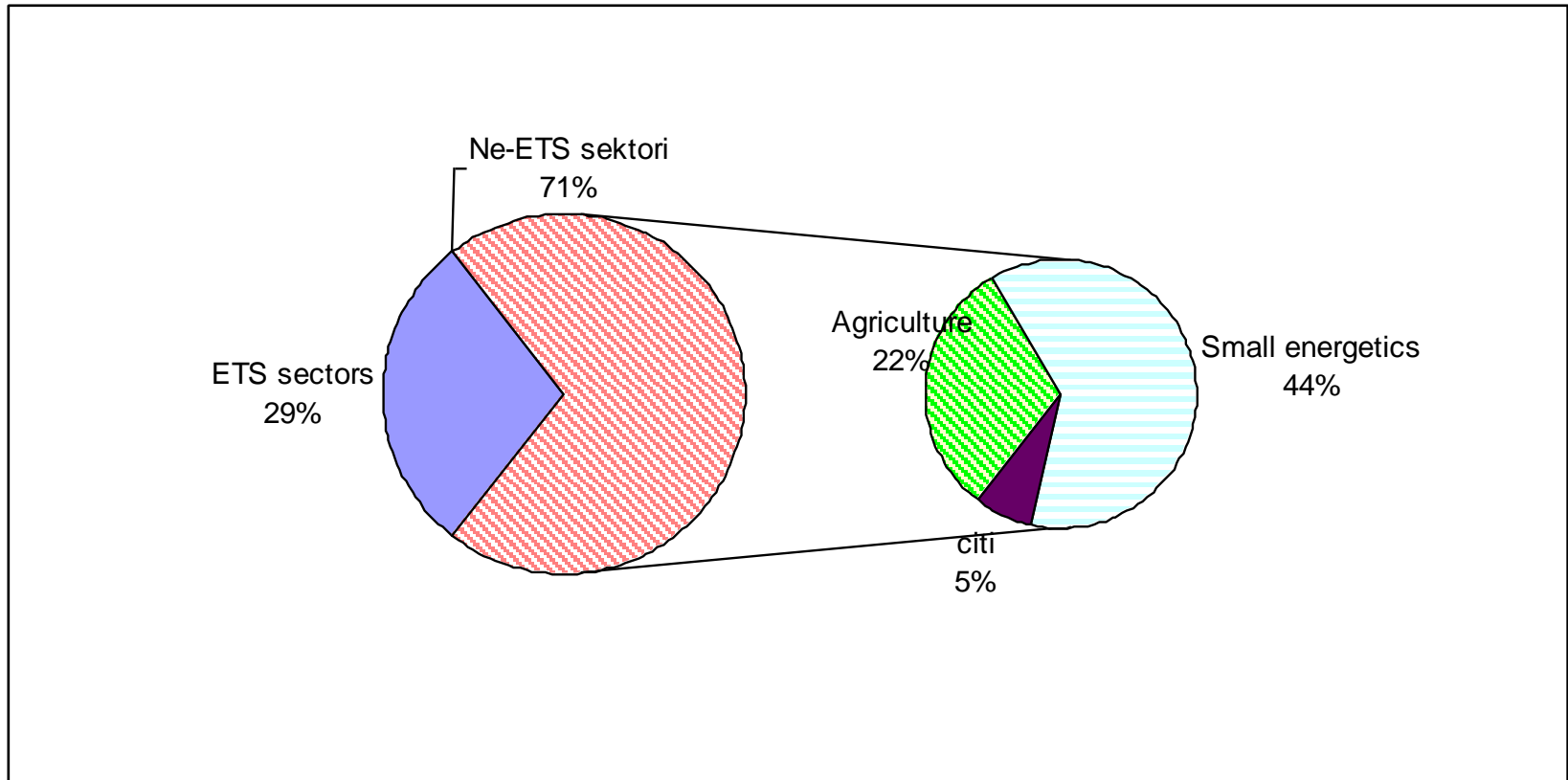


# The 2020 and 2030 Targets for non-ETS sectors as compares to the level of 2005 and to the 2020 target

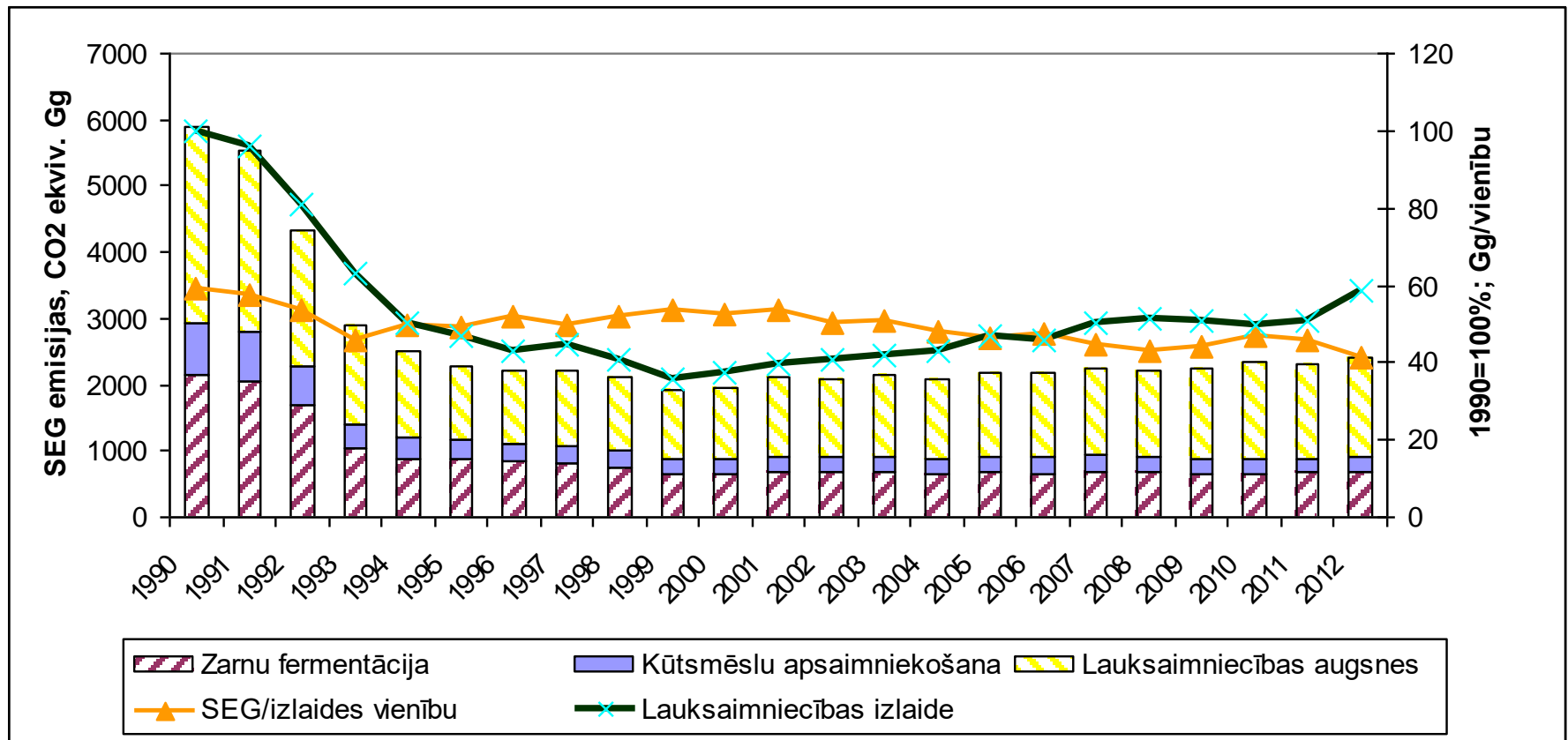


Source: Jānis Reķis, FEI

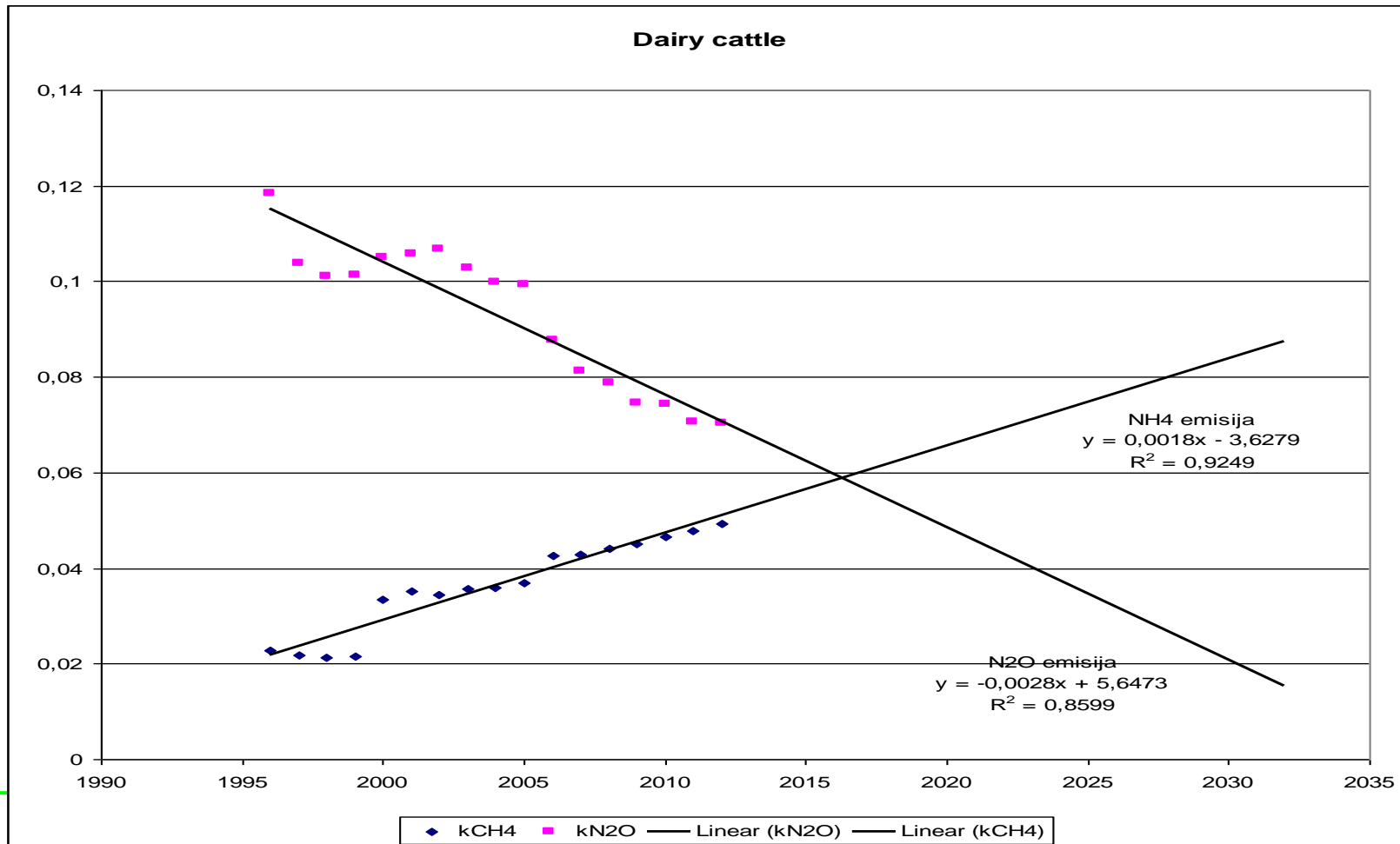
# The share of agriculture in the total volume of GHGE in Latvia in 2012



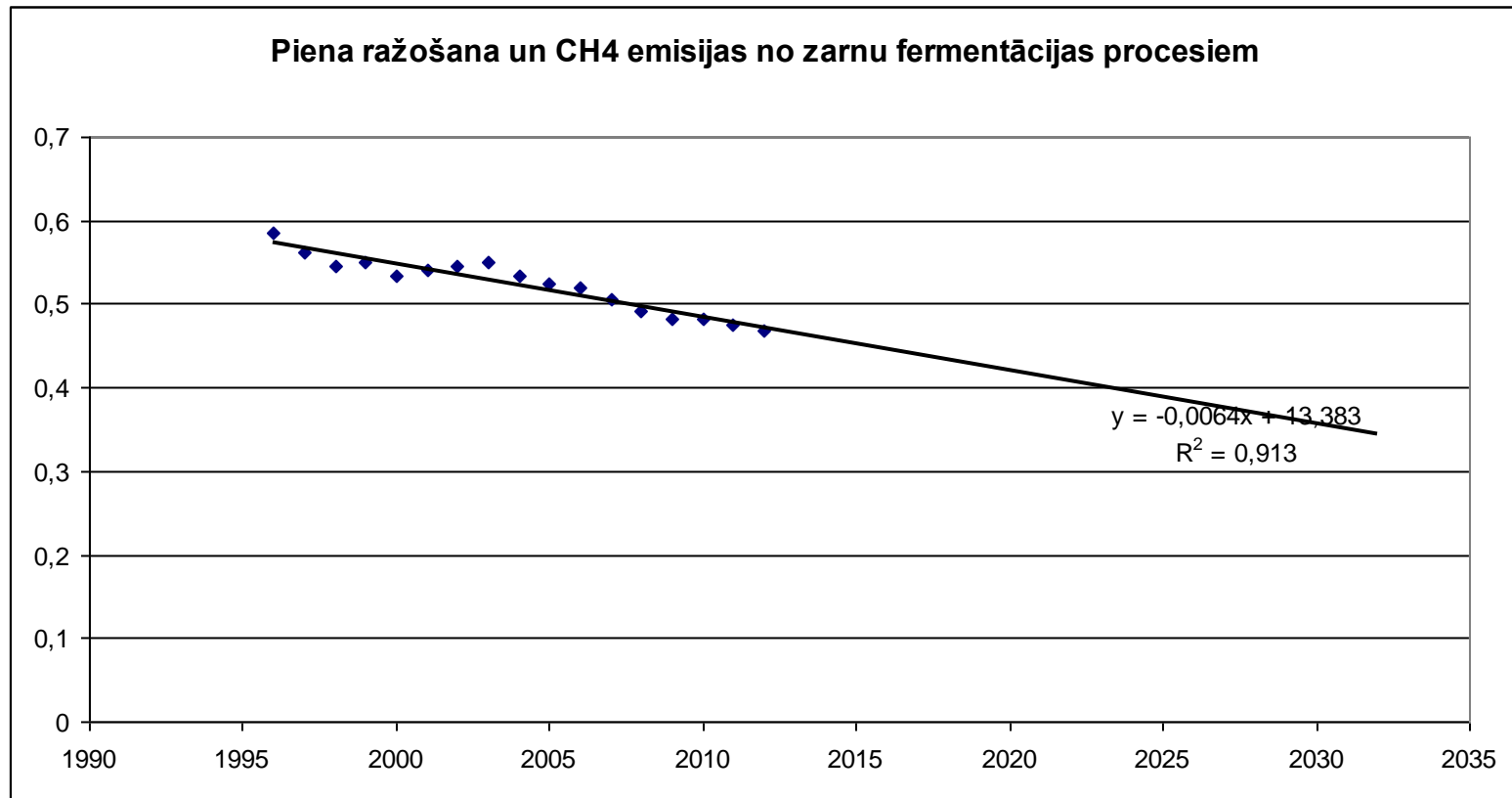
# GAO (1990=100%) un GHG emissions (thsd. t CO2) from agriculture: 1990-2012



# Milk production and GHGEA from manure management: 1995- 2012



# Milk production and CH4 emissions from enteric fermentation: 1995-2012





# National ag-policy background

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- **Latvia has defined an agpolicy goal – to come back with agricultural production on 1,9-2,0 Mha in 2020 (as compared to ~ 1,3 Mha in 2012)**
  - GAO might increase at least by 80% in 2030, as compared to 2012
  - **Additional GHGE will be produced in agriculture inevitably**
    - ~ 130 % from the GHGEA level of 2012 might be reached in 2020 (~144% from 2005)
    - ~ **190 %** from the GHGEA level of 2012 might be reached in 2030 (~**212% from 2005**).



# Evaluation approach

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- 2030 GHGE forecasts from 2013
  - Agriculture output –
    - Total
    - By sectors
  - GHGE rates by agricultural sectors
- Agriculture output
- Agriculture value added
- Productivity in Agriculture and employment
- Up- and down- stream industries
  - Productivity and employment



# Scenarious

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- BASE
  - Forecasts, reported to EC in (AO and GHGE)
- III Scen
  - 2020 = GHGEA +17% from 2005
  - 2030 = 2020
- II Scen
  - 2030 = GHGAE - 4% from 2005
- I Scen
  - 2030 = GHGEA -10% from 2005



# GHGEAE limits for different scenarios, Gg CO2 per year

	2005	2012	2020	2030	2020/ 2012=%	2030/ 2012=%	2030/ 2005=%
<b>Bāzes scenārijs</b>	2 176	2 420	3 142	4 625	130	191	213
<b>Sarunu versija - 10%</b>	2 176	2 420	2 546	1 958	105	81	90
<b>Sarunu versija - 4%</b>	2 176	2 420	2 546	2 089	105	86	96
<b>EK pamatiniciatīva - 30%</b>	2 176	2 420	2 546	1 523	105	63	70
<b>Pieticīgais +17%</b>	2 176	2 420	2 546	2 546	105	105	117



# Results

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## ■ Indicators

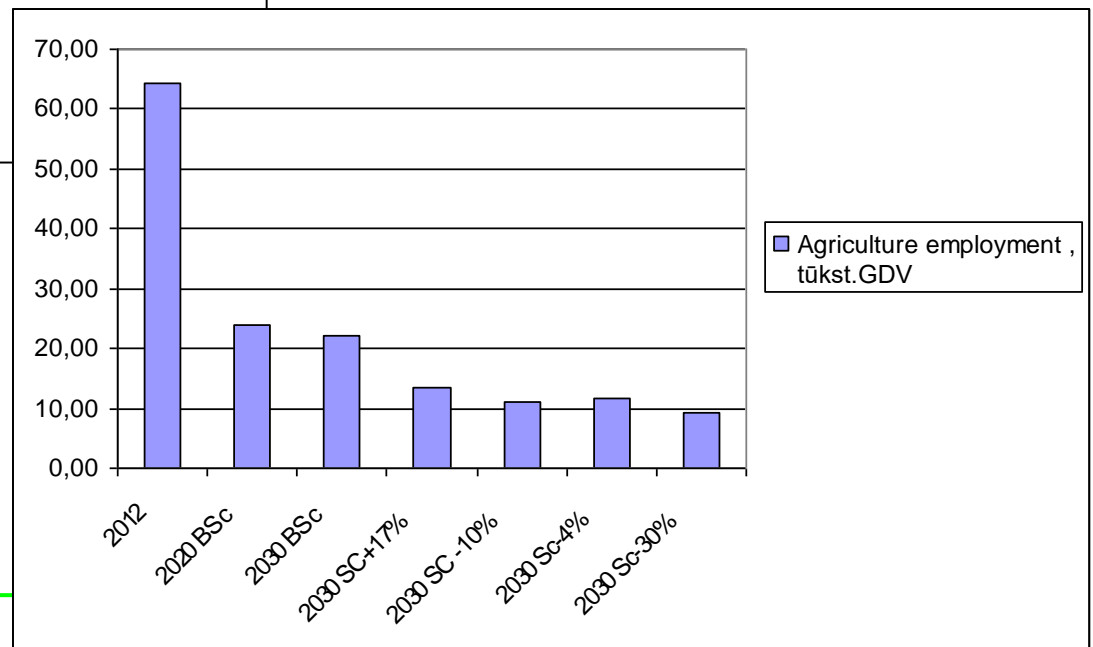
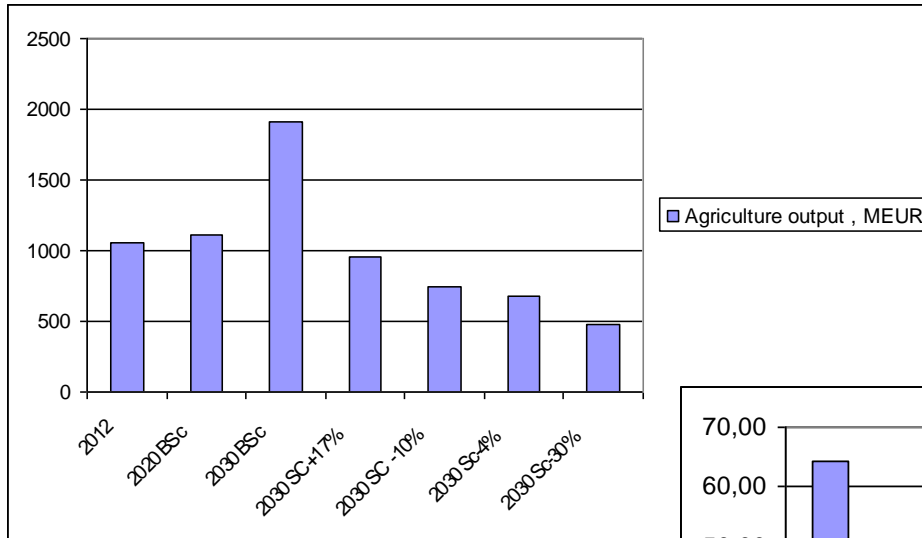
- Agriculture output
- Value added in Agriculture (VAA)
- Employed
  - in Agriculture
  - in processing (down-streams)
  - In up- streams
- Monetary evaluation of the exceeding volume GHGE over the limits

## ■ Values

- Absolute
- Deviation from Base Scenario



# Value added and employment: agriculture



# GAO under different scenarios – as % from 2012 levels

	2020	2020	2030	2030	2030	2030	2030
	BSc	Visi. Polit.	BSc	SC +17%	SC-4%	SC-10%	SC-30%
Livestock	141	110	193	96	74	68	48
Crop	132	103	174	87	68	62	44
Agriculture total	136	105	182	91	70	65	46
Use of the Agriculture potential, %	100	78	100	50	39	36	25



# Agricultural output and employment (agriculture and agrifood sectors)

		2012	2020	2020	2030	2030	2030	2030	2030
		actual	BSc	All scen	BSc	SC +17%	SC-10%	SC-4%	SC-30%
Agriculture output	MEUR	1052,0	1426,8	1109,6	1910,7	952,0	741,4	681,2	480,6
VA from Agriculture	MEUR	250,4	473,2	397,7	588,3	360,2	295,7	310,0	248,0
Agriculture employment	Thsd	64,4	23,8	20,0	22,2	13,6	11,2	11,7	9,4
Agrifood VA	MEUR	533,2	922,1	761,4	1167,4	681,5	544,2	574,7	442,6
Employed in Agrifood	Thsd	86,1	40,9	33,8	38,9	22,8	18,1	19,2	14,8
<b>Decrease of employment, compared to Base Scenario</b>	Thsd				<b>7,1</b>	<b>16,1</b>	<b>20,8</b>	<b>19,8</b>	<b>24,1</b>
	%				<b>17%</b>	<b>41%</b>	<b>53%</b>	<b>51%</b>	<b>62%</b>





# Some conclusions

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- **The meaning of 1 % to decrease GHGEA (Greenhouse gas emissions from agriculture) in 2030 as compared to the level of 2012:**
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  - **Additional decrease in agriculture employment by ~ 0,6 thsd AWU;**
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# Some conclusions (2)

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- Decrease of GHGEA limits by 10% (from the 2005 level) will lead:
  - Low level (36 %) of the use of Latvia's potential to produce agricultural production (source for food production)
  - Lost of ~ 600 MEUR VA in total agrifood sector
  - Lost of ~ 11 thsd. (53%) of **employment potential agriculture**
  - Lost of ~ 21 thsd. of **employment potential in agrifood sector**



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**Is it a “right price”  
to pay for...?**

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