



MINISTARSTVO ZAŠTITE OKOLIŠA I PRIRODE

Izrada nisko-ugljične strategije razvoja
-sektorska radionica - poljoprivreda

Višnja Grgasović

20. rujna 2012. Zagreb



Okvirna konvencija UN-a o promjeni klime (UNFCCC)

OSNOVNI CILJ:

Uspostaviti stabilnost koncentracije stakleničkih plinova u atmosferi na Razini koja će spriječiti opasno antropogeno uplitanje u klimatski sustav.

Takvu razinu treba postići u vremenskom roku dovoljnom da se ekosustavima omogući prirodna prilagodba klimatskim promjenama, da se osigura da proizvodnja hrane ne bude ugrožena i da se omogući daljnji gospodarski razvoj na održiv način.

Stranke moraju štiti klimatski sustav na dobrobit sadašnjih i budućih generacija čovječanstva na temelju pravednosti i sukladno njihovim zajedničkim, ali različitim obvezama i mogućnostima.

UNFCCC PRIHVAĆENA NA SUMMITU U RIO DE JANEIRU 1992.

190 DRŽAVA RATIFICIRALO UNFCCC

REPUBLIKA HRVATSKA STRANKA OD 1996. GODINE

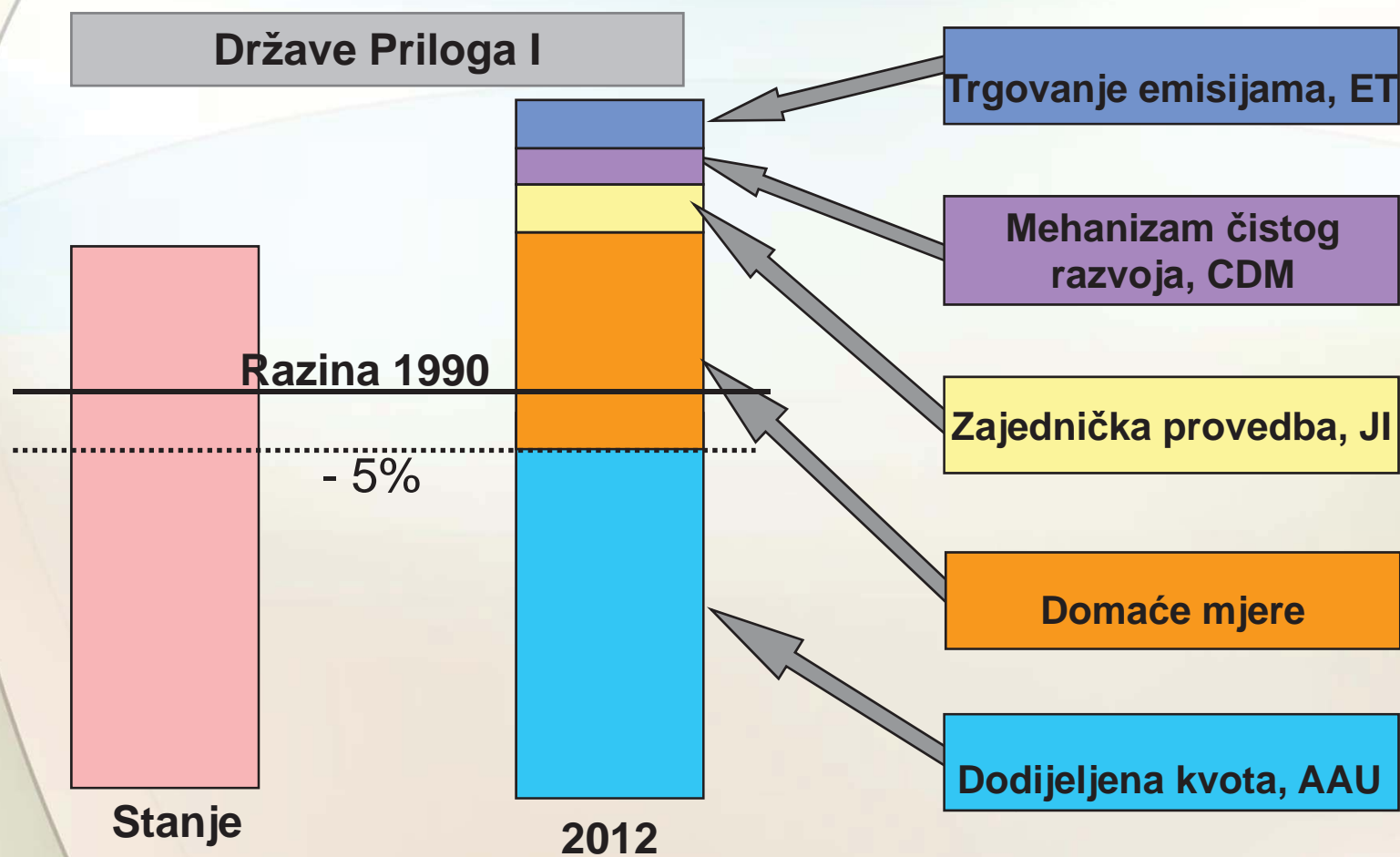


Kyotski protokol

- **Usvojen u Kyotu, 1997., stupio na snagu 16. 02. 2005. godine**
 - **179 država ratificiralo Kyotski protokol**
 - **Obvezuje stranke iz Priloga I. na prosječno smanjenje emisija od 5% u odnosu na baznu 1990. godinu u razdoblju 2008.-2012. godine**
 - **Države provode domaće mjere smanjenja GHG emisija koje se nadopunjuju primjenom fleksibilnih mehanizama: CDM, JI i ET**
-
- **Hrvatski sabor ratificirao je Kyotski protokol 27. travnja 2007.**
 - **Hrvatska je stranka Kyotskog protokola od 28. kolovoza 2007.**
 - **Hrvatska djeluje u okviru Dodatka B Kyotskog protokola te je u obvezi smanjiti GHG emisije za najmanje 5% u odnosu na 1990. godinu u obvezujućem razdoblju 2008-2012**



Kyotski protokol: Mehanizmi i mjere



PUE



Pregovori, razdoblje 2013.-2020.

- Pregovori teku od 2005 godine
- Razvijene države: jedinstveni sporazum, preuzimanje vodeće za razvijene države na smanjenju emisija, ograničenje za države s ubrzanim razvojem,
- Nerazvijene: NAMAS, za države van Priloga I,
25-45 %, smanjenje za države Priloga I,
- Durbanska platforma

- EU je postala svjetski predvodnik u borbi za zaštitu klime
 - -20% u propisima,
 - -30% , uvjetovano
 - komparabilni ciljevi za razvijene, adekvatni za države s ubrzanim razvojem

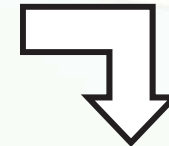
- Hrvatska, apsolutno postavljeni cilj, uspostavljen sukladno obvezama koje će imati kao članica EU,



**EU Cilj smanjenja emisija:
-20% u usporedbi s 1990**



-14% u usporedbi s 2005



EU ETS

-21% u usporedbi s 2005

Non ETS sektori

-10% u usporedbi s 2005



ciljevi 27 zemalja članica , od -20% do +20%

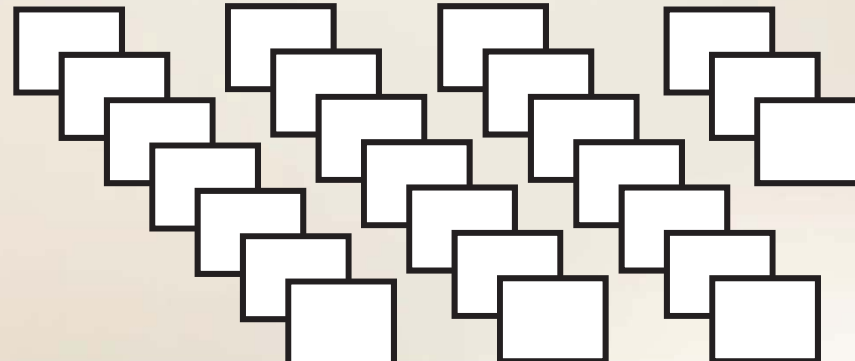
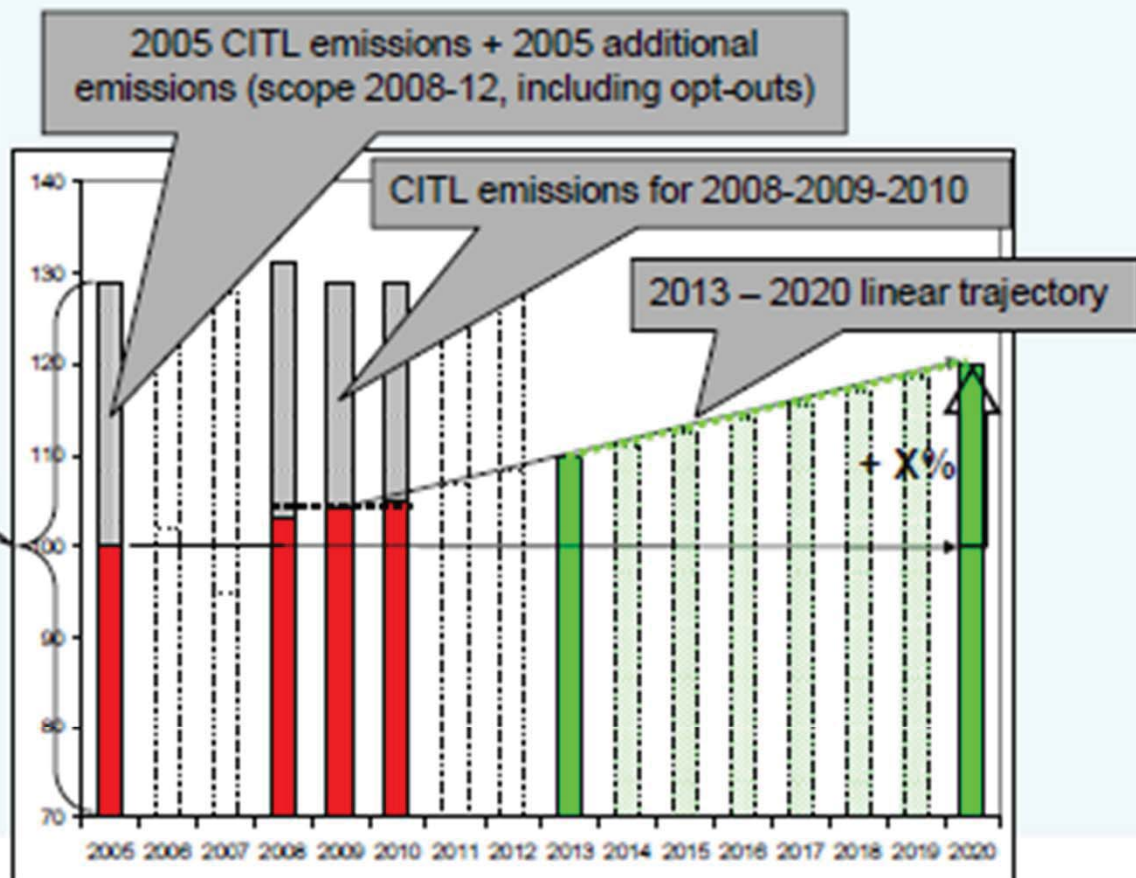


Illustration of the method for MS with a positive emission limit for calculating initial 2013-2020 AEA⁸

Total emissions of 2012 greenhouse gas inventories for the years 2005, 2008, 2009 and 2010, excluding LULUCF and CO₂ emissions from 1.A.3.a Civil Aviation



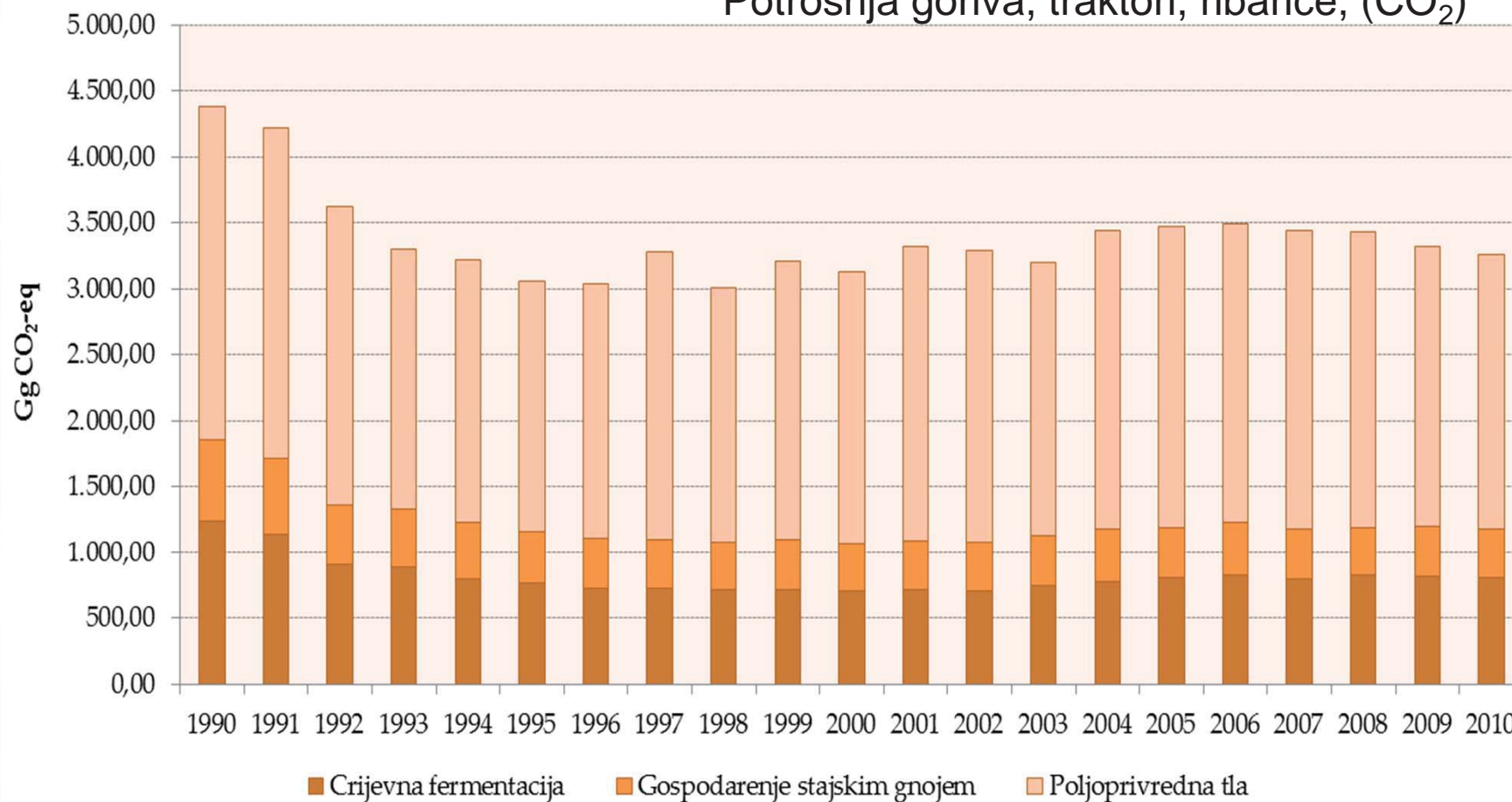
Source	Emissions and removals of GHG (Gg CO ₂ -eq)								
	1990	1995	2000	2005	2006	2007	2008	2009	2010
Energy	22,538	17,102	19,332	22,537	22,716	24,045	22,826	21,574	20,880
Industrial Processes	3,801	2,011	2,852	3,279	3,428	3,611	3,577	2,970	3,231
Solvent and Other Product Use	117	109	109	197	224	246	236	151	151
Agriculture	4,381	3,055	3,130	3,478	3,498	3,597	3,478	3,366	3,265
Waste	612	744	656	748	863	892	932	998	1,071
Total emission (excluding net CO₂ from LULUCF)	31,449	23,021	26,080	30,239	30,728	32,392	31,050	29,058	28,598
Removals (LULUCF)	-5,603	-6,675	-1,881	-7,666	-7,754	-7,732	-8,349	-8,140	-8,295
Total emission (including LULUCF)	25,845	16,346	24,199	22,572	22,974	24,660	22,701	20,919	20,303

31.322 Mt emisija u baznoj godini
 29,756 Mt obveza -5%

U 2008. smo 1,2 Mt iznad obveze
 U 2009. smo 0,89 Mt ispod obveze
 U 2010. smo 1,158 Mt ispod obveze

POLJOPRIVREDA

Stoka - Crijevna fermentacija (CH_4)
Gospodarenje stajskim gnojem (CH_4 , N_2O)
Poljoprivredna tla (N_2O)
Potrošnja goriva, traktori, ribarice, (CO_2)



Trend emisije iz poljoprivrede

POLJOPRIVREDA

Emisije stakleničkih plinova iz poljoprivrede

Godina	Emisija metana / Gg CH ₄			Emisija didušikovog oksida / Gg N ₂ O		
	Crijevna fermentacija	Gospodarenje stajskim gnojem	Ukupno	Gospodarenje stajskim gnojem	Poljoprivredna tla	Ukupno
1990	59,14	10,89	70,03	1,23	8,15	9,39
1991	54,23	10,69	64,92	1,15	8,09	9,23
1992	43,08	8,09	51,17	0,91	7,32	8,23
1993	41,96	8,32	50,27	0,89	6,34	7,23
1994	37,94	8,35	46,29	0,83	6,42	7,25
1995	36,53	7,52	44,05	0,78	6,11	6,89
1996	34,82	7,41	42,24	0,73	6,23	6,96
1997	34,63	7,28	41,91	0,72	7,04	7,76
1998	34,14	7,17	41,31	0,70	6,21	6,91
1999	33,97	7,94	41,92	0,72	6,80	7,52
2000	33,42	7,38	40,79	0,70	6,65	7,35
2001	34,25	7,42	41,67	0,70	7,20	7,90
2002	33,79	7,53	41,32	0,69	7,14	7,83
2003	35,34	7,89	43,23	0,72	6,69	7,41
2004	36,75	8,51	45,25	0,73	7,32	8,05
2005	38,37	7,41	45,78	0,72	7,40	8,12
2006	39,09	8,57	47,65	0,75	7,31	8,05
2007	37,70	7,93	45,62	0,72	7,29	8,00
2008	39,05	7,59	46,65	0,68	7,22	7,90
2009	38,82	8,21	47,03	0,68	6,83	7,51
2010	38,48	7,96	46,45	0,68	6,83	7,51

EU Agriculture GHG emissions by source

(including CO₂ from energy but not from LULUCF)



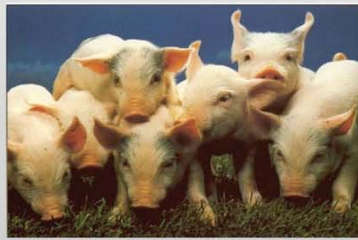
**N₂O-
Agricultural
Soils
44%**

N fertilizers, manure



Eructed by ruminants
(80% cows)

**CH₄- Enteric
Fermentation
26%**



**N₂O- Manure
management
6%**

**CH₄- Manure
management
9%**

Storage, manipulation of
sludge
(50% pigs, 45% cows)

**CO₂- Energy
use
15%**

Fuel (tractors,
machinery...),
electricity...

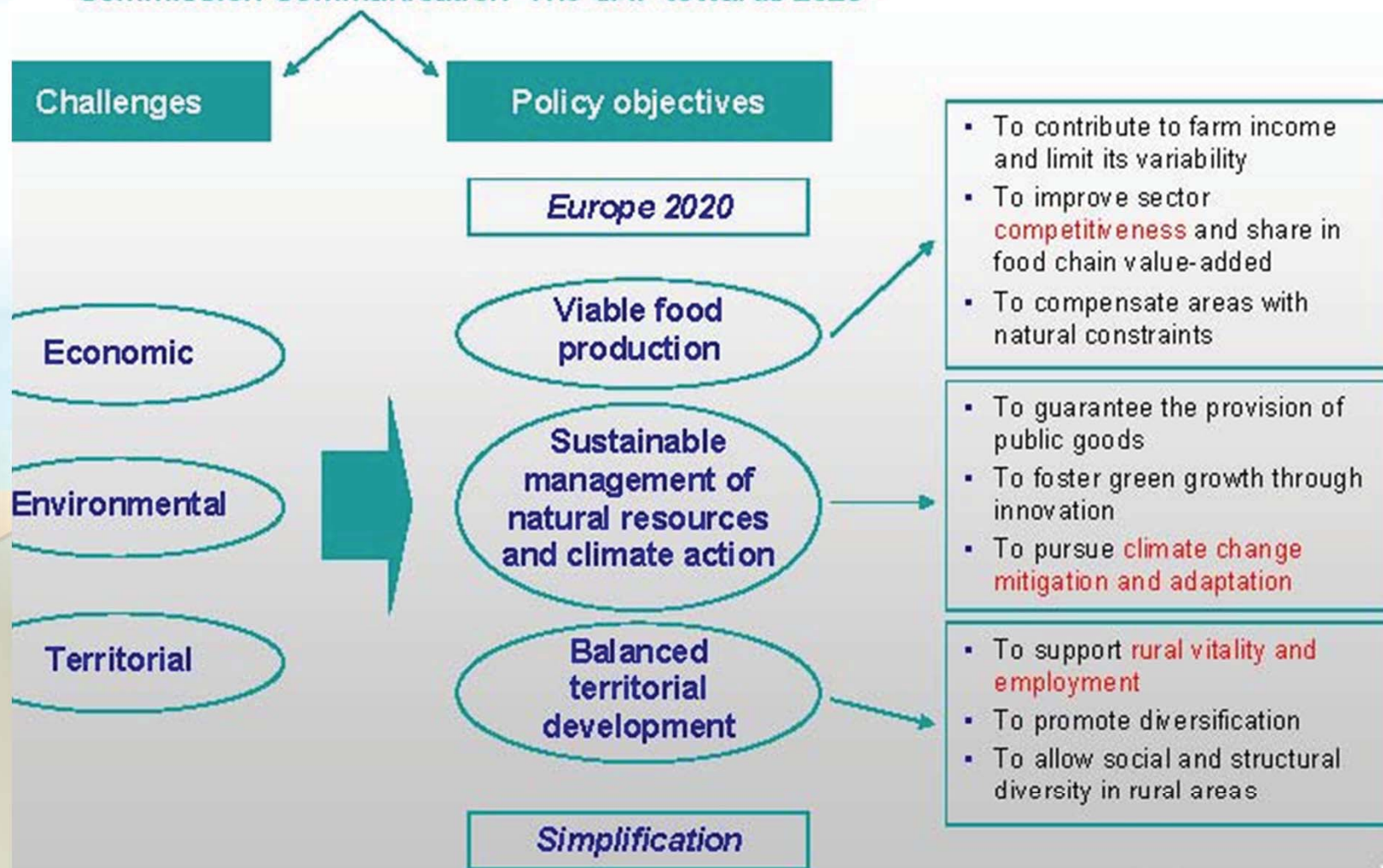
Source: AEE

Outline

- Climate change challenges for EU agriculture and forestry
- CAP Post 2013
 - Objectives
 - Direct payments new measures
 - Rural Development new measures
 - Cross compliance new measures
- Concrete examples of synergetic effect of measures
- Budget
- Agenda

What objectives for Europe ?

Commission Communication 'The CAP towards 2020'



CAP legislative package

- Main elements of the legislative framework for the CAP 2014-2020:

- Direct payments regulation
- Single CMO regulation
- Rural development regulation
- Horizontal regulation



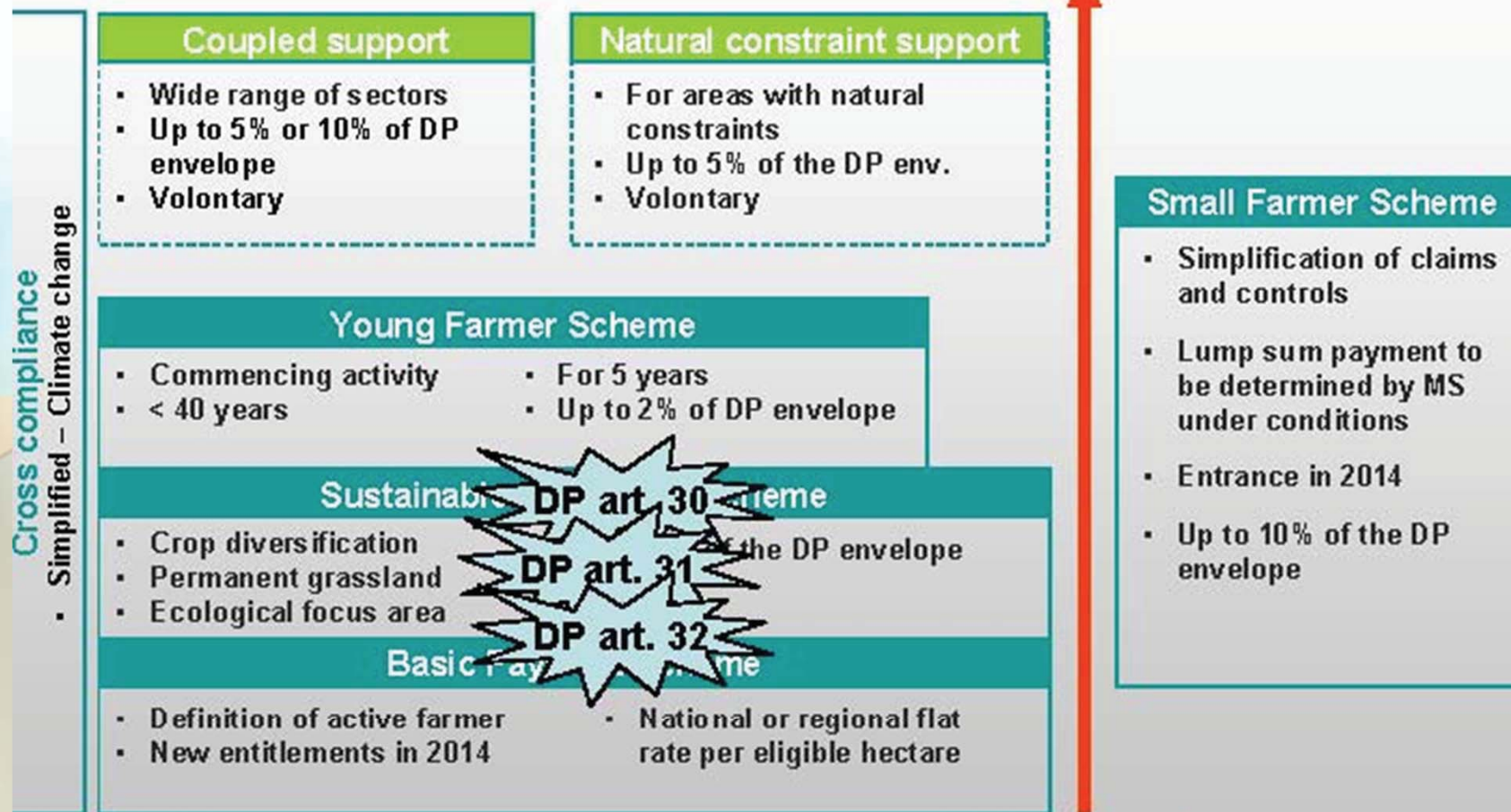
- Other elements

- Transitional regulation for DP in 2013,
- article 43(3) regulation,
- wine transfer regulation

New design of direct payments for farmers

Degressivity and Capping
(all layers except Green Payment)

Convergence Inter/intra MS



Rural development in a new framework

CAPI/EU policy objectives

Europe 2020

Viable food
production

Sustainable
management of
natural resources
and climate action

Balanced
territorial
development

Simplification

- **Single framework for EU funds**
 - Common Strategic Framework (CSF)
 - Partnership Contracts
 - Performance framework
- **Rural development regulation**
 - Six priorities for rural development
 - Around 20 measures (without axes)
 - Programming
 - Financing
 - **Monitoring and Evaluation**
 - European Innovation Partnership 'Agricultural productivity and sustainability'



The Rural development regulation

Europe 2020 in rural areas : Six priorities with areas of intervention

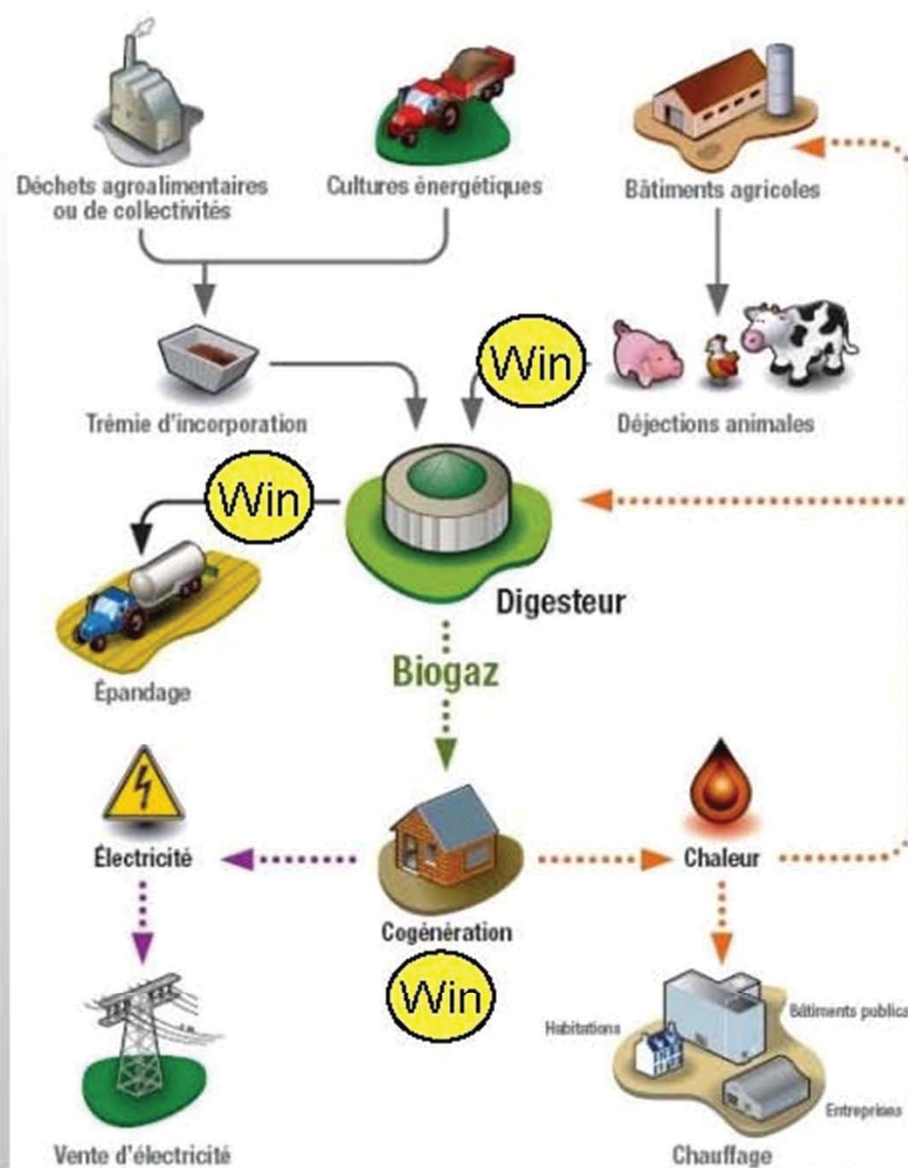
1. Foster **knowledge transfer and innovation** in agriculture, forestry and rural areas
2. Enhance competitiveness of all types of agriculture and enhance farm viability
3. Promote food chain organization and **risk management** in agriculture
4. **Restore, preserve and enhance ecosystems** dependent on agriculture and forestry
5. **Promote resource efficiency and support the shift towards a low carbon and climate resilient** economy in agriculture, food and forestry sectors
6. Promote social inclusion, poverty reduction and economic development in rural areas

In the RD Reg.:



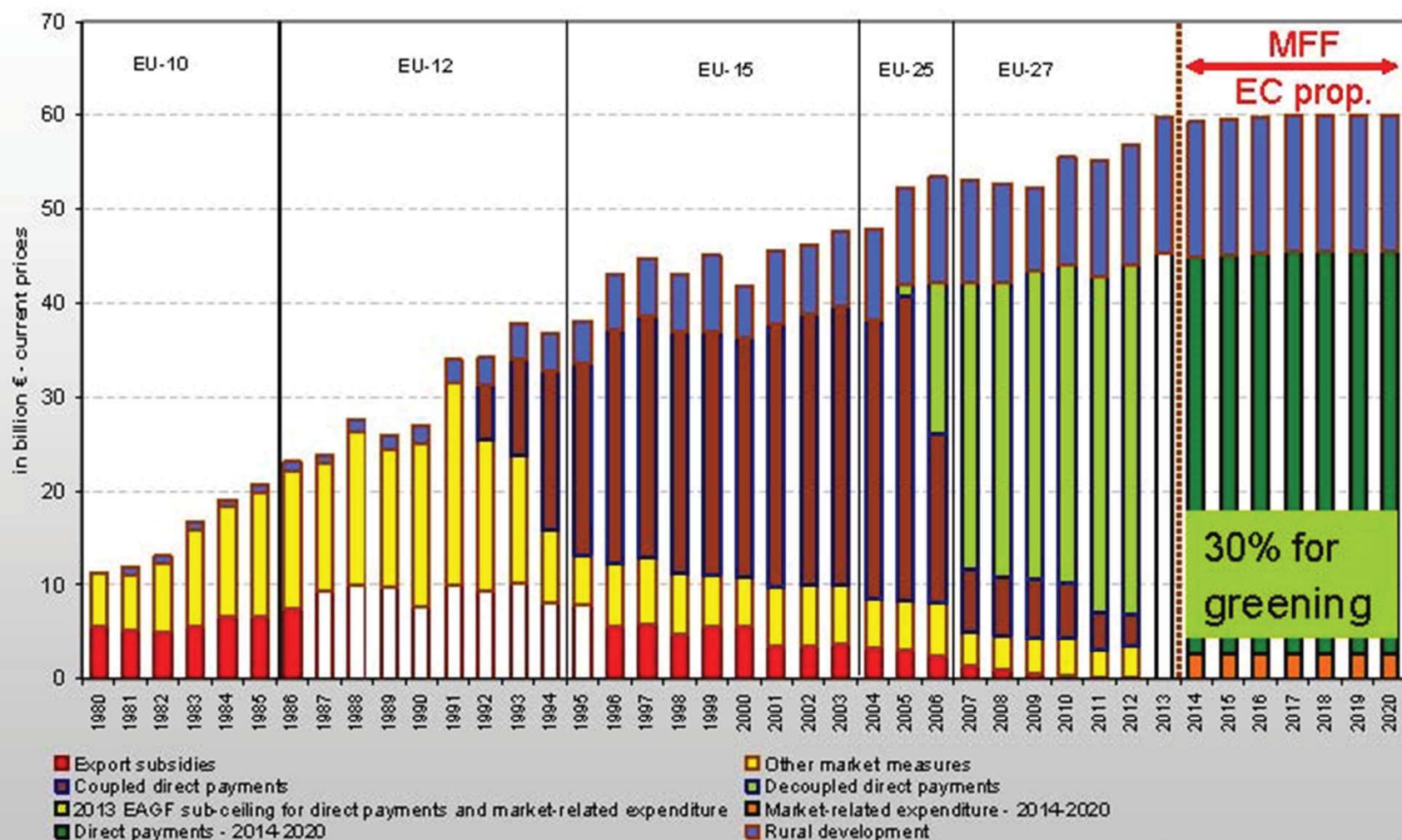
Mitigation:
Example
of fossil fuel substitution

Biogas
from manure
the perfect
win/win/win



EU level: CAP expenditure and MFF Commission proposal

(CAP expenditure and CAP reform path, in current prices)

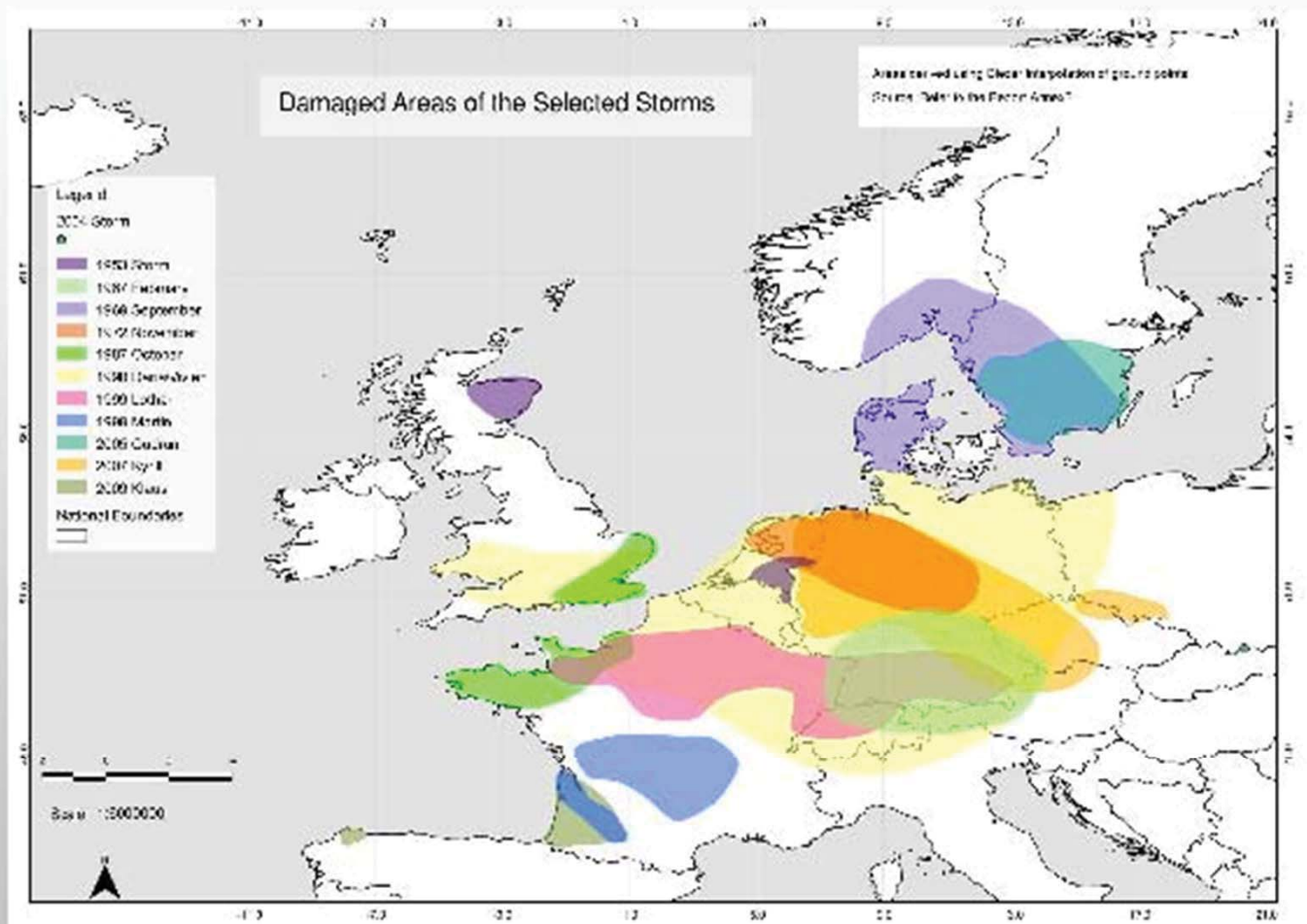


- **MFF Commission proposed levels for 2014-2020**

- Pillar I – Direct payments and market expenditure	€281.8 bn
- Pillar II – Rural development	€89.9 bn
Total Pillar I and II	€371.7 bn
- Food safety	€2.2 bn
- Most deprived persons	€2.5 bn
- Reserve for crisis in the agricultural sector	€3.5 bn
- European Globalisation Fund	Up to €2.5 bn
- Research and innovation on food security, the bio-economy and sustainable agriculture	€4.5 bn
Total additional funds	€15.2 bn
Total proposed budget for the period 2014-2020	€386.9 bn

Source: Commission Communication 'A budget for Europe 2020' – COM(2011) 500 final, part II.

Greening in second pillar: ex: Potential restoration

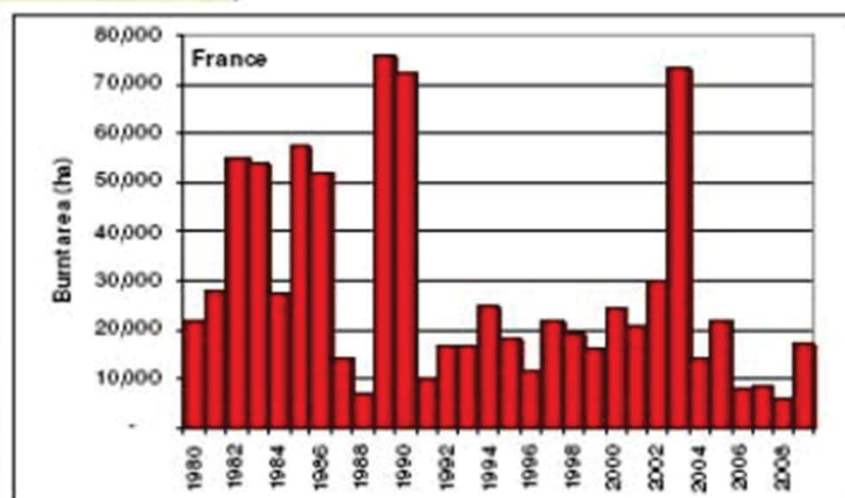
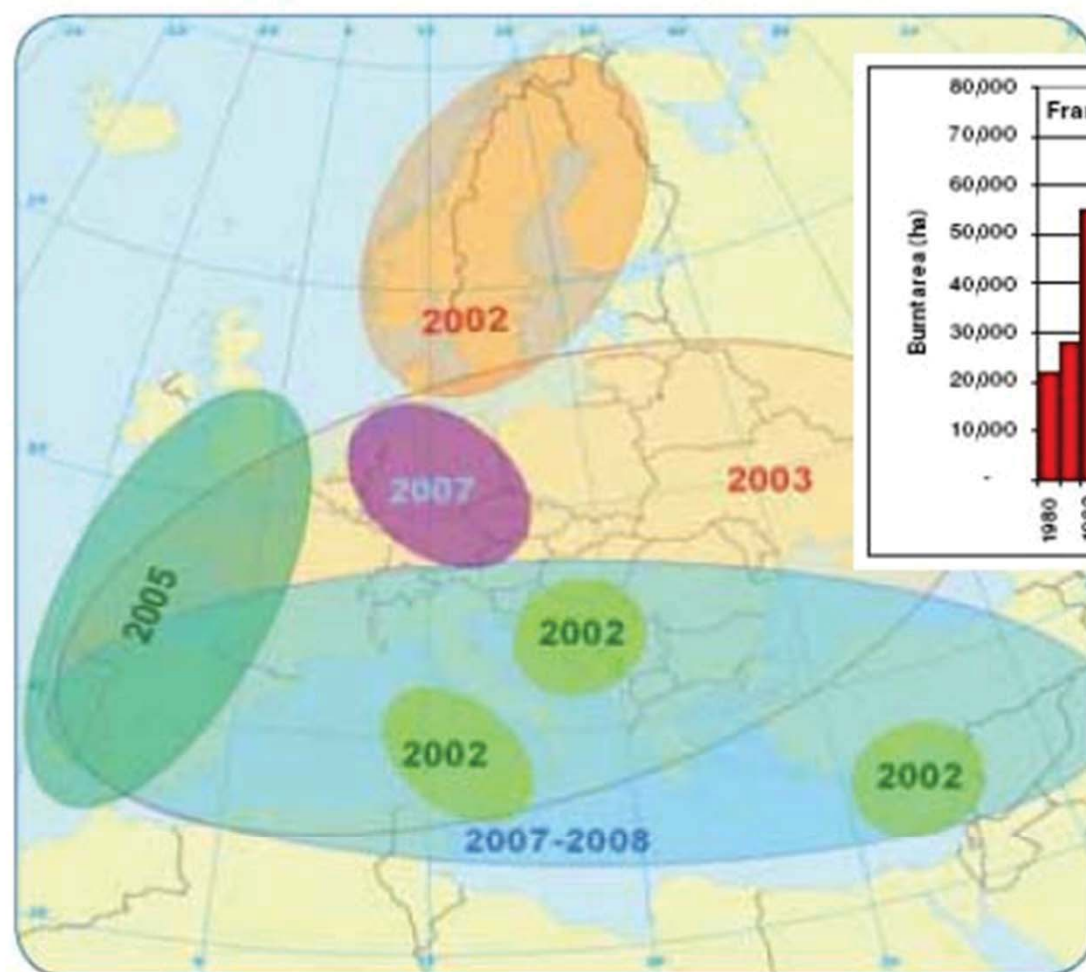


European Commission
Agriculture and
Rural Development

Source: EPI

Greening in second pillar: ex: Potential restoration and fire prevention

Main drought events in Europe



Source: ETCLUSI (Adapted from Tallaksen, 2007)

Table 9 Effect of a selection of mitigation measures on carbon sequestration in agriculture

	Potential implementation cost	Probability of implementation [†]	Global mitigation potential (Smith <i>et al.</i> , 2008) (tCO ₂ eq./ha/yr)
Catch crops	Low	High	0.29 - 0.88
Reduced tillage	Low	Medium (low in some areas)	0.15 - 0.70
Residue management	Low	High	0.15 - 0.70
Extensification	Medium	Low	1.69 - 3.04
Fertiliser application	No	Medium (already done in some areas)	0.26 - 0.55
Fertiliser type	Low	Medium (already done in some areas)	0.26 - 0.55
Rotation species	No	Medium	0.29 - 0.88
Adding legumes	Low	High	0.26 - 0.55
Permanent crops	Variable	Low (reduces flexibility)	1.69 - 3.04
Agroforestry	Medium	Low (reduces flexibility)	0.15 - 0.70
Grass in orchards & vineyards	Medium/high	Low	1.69 - 3.04
Optimising grazing intensity	Low / medium	Medium (already done in some areas)	0.11 - 0.81
Length and timing of grazing	Medium	Medium	0.11 - 0.81
Grassland renovation	Low	High	0.11 - 0.81
Optimising manure storage	Medium / high	Medium	
Manure application techniques	Medium	Medium	1.54 - 2.79
Application of manure to cropland versus grassland	Low	Medium	1.54 - 2.79
Organic soil restoration	Medium / high	Medium	36.67 - 74.33

[†] Based on potential uptake by farmers

Source: Climsoil study Dec 2008



Europe
Agriculture
Rural

Where we are with the CAP reform process

12 April – 11 June 2010	Public debate (EU citizens and organisations)
19-20 July 2010	Public conference
18 November 2010	Commission Communication 'The CAP towards 2020'
23 November 2010 – 25 January 2011	Consultation on Impact assessment (stakeholders)
29 June 2011	Commission proposals on the EU budget 2014-2020*
12 October 2011	Commission legal proposals on the CAP The legal proposals are accompanied by an <u>impact assessment</u> that evaluates alternative scenarios for the evolution of the policy on the basis of extensive quantitative and qualitative analysis
 2011-2013	<i>Debate in the European Parliament and the Council</i>
<i>By the end of 2013</i>	<i>Approval of Regulations and implementing acts</i>



* Multiannual Financial Framework

For further information

- **Agriculture and climate change**
http://ec.europa.eu/agriculture/climate_change/index_en.htm
- **The CAP after 2013**
http://ec.europa.eu/agriculture/cap-post-2013/index_en.htm
- **EU agriculture and CAP reform**
http://ec.europa.eu/agriculture/index_en.htm
- **Economic Analysis and Evaluation**
http://ec.europa.eu/agriculture/analysis/index_en.htm
- **Agricultural Policy Analysis and Perspectives**
http://ec.europa.eu/agriculture/analysis/perspec/index_en.htm



Mjere u Hrvatskoj

Mjere

- kontrola ispunjenja cilja ograničenja emisije do iznosa nacionalne alokacije
- definiranje kratkoročnih i dugoročnih ciljeva smanjenja emisija
- prilagodba klimatskim promjenama
- povećanje udjela biogoriva u cestovnom prijevozu

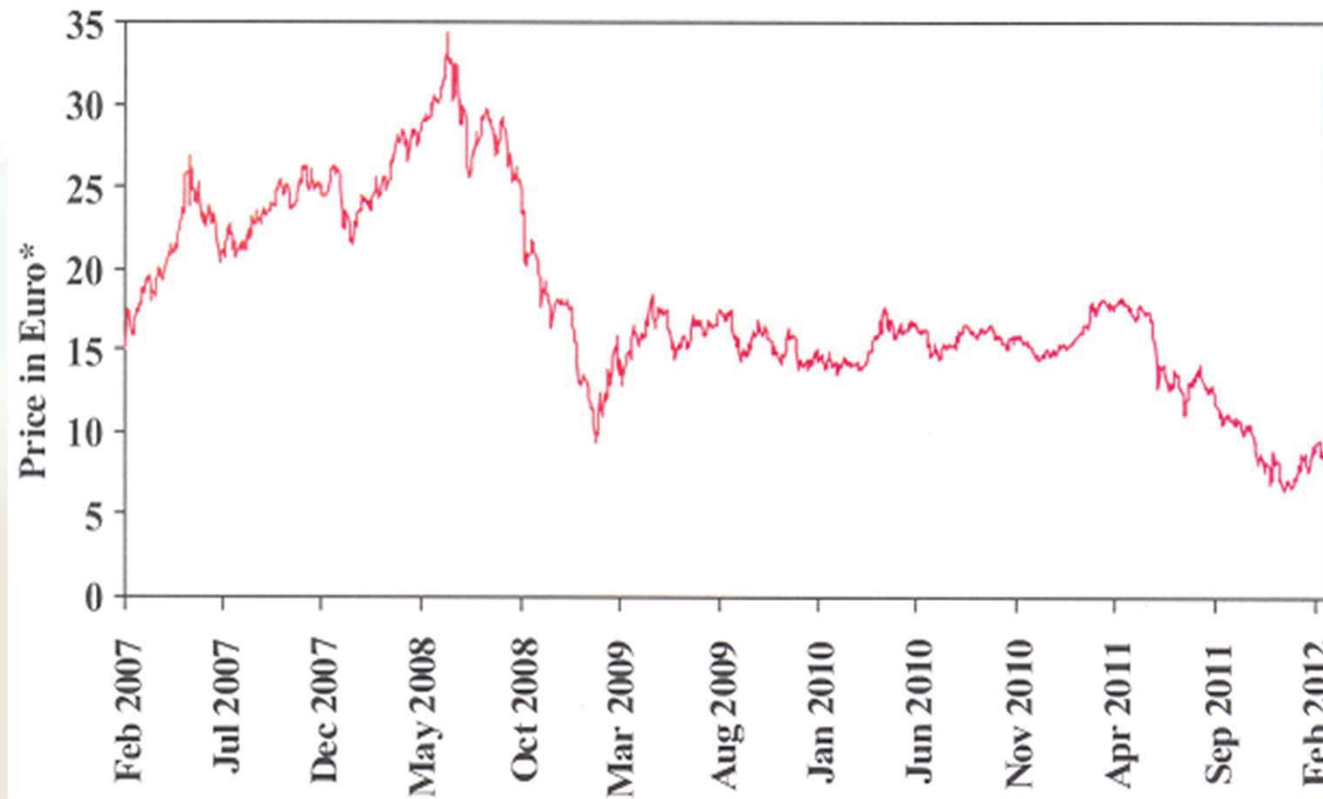
Glavni instrumenti provedbe

- Zakon o zaštiti zraka*
- Uredba o praćenju emisija stakleničkih plinova i mjera za njihovo smanjenje u RH*
- Plan zaštite zraka, ozonskog sloja i ublažavanja klimatskih promjena*
- Niskouglična strategija razvoja*
- Akcijski plan za prilagodbu klimatskim promjenama*
- Zakon o biogorivima za prijevoz*
- podzakonski propisi*

Zakon o zaštiti zraka NN 130/11

- **Za svaku godinu u razdoblju od 2013. do 2020., količina emisija stakleničkih plinova koja se ispušta iz sektora koji nisu obuhvaćeni sustavom trgovanja emisijskim jedinicama ograničava se do visine nacionalne godišnje kvote koja je utvrđena propisom Europske unije - +11% do 2020 u odnosu na 2005.**
- **Ispunjavanje obveze ograničenja emisija do visine nacionalne godišnje kvote u nadležnosti je središnjih tijela državne uprave nadležnih za poslove zaštite okoliša, graditeljstva, gospodarstva, energetike, poduzetništva, poljoprivrede, šumarstva, turizma, prometa i razvitka**

Cijene CO2 u EU-ETS-u



Zakon o zaštiti zraka NN 130/11

- (1) Prilagodba klimatskim primjenama podrazumijeva procjenu štetnih utjecaja klimatskih promjena i poduzimanje primjerenih mjera s ciljem sprječavanja ili smanjenja potencijalne štete koje one mogu uzrokovati.
- (2) Prilagodba klimatskom promjenama obavlja se provedbom mjera prilagodbe u sljedećim sektorima koji su izloženi utjecaju klimatskih promjena: hidrologija i vodni resursi; poljoprivreda; šumarstvo; biološka raznolikost i prirodni kopneni ekosistemi; biološka raznolikost i morski ekosistemi; upravljanje obalom i obalnim područjem; turizam i ljudsko zdravlje.
- izrađuju se scenariji utjecaja i ranjivosti te procjena mjera prilagodbe
- -modeliranje, procjenu ranjivosti i utjecaja te mjera prilagodbe provodi se za razdoblje do 2030. godine , a provode ih TDU i druga tijela javne vlasti nadležna za poslove meteorologije, zaštite okoliša, poljoprivrede, ribarstva, šumarstva...

- **Akcijski plan određuje ciljeve i prioritete za provedbu mjera prilagodbe klimatskim**
- **sadrži: načela i mjerila za određivanje ciljeva i prioriteta, ocjenu stanja, bazni scenarij bez utjecaja klimatskih promjena, ocjenu utjecaja klimatskih promjena, ocjenu scenarija s uključenim mjerama prilagodbe, ocjenu potrebnih podataka i istraživanja, prioritetne mjere i aktivnosti, integriranje mjera prilagodbe u sektorske razvojne planove, način provedbe mjera, redoslijed ostvarivanja mjera, rok izvršavanja mjera, obveznike i koordinaciju provedbe mjera.**
- **nositelj izrade Akcijskog plana MZOIP u suradnji s središnjim tijelima državne uprave i drugim tijelima javne vlasti**
- **Akcijski plan donosi Vlada za razdoblje od deset godina**
- **tijela državne uprave i druga tijela javne vlasti dužna su svake tri godine izvješćivati MZOIP o provedbi Akcijskog plana**

HVALA NA PAŽNJI



<http://klima.mzoip.hr/>