Global Economy

Entity	Models	Options	2010	2020	2030
EU-enlargement and trade arrangements (WTO)					
Countries in EU	GTAP/IMAGE/CLUE		EU-25	+Romenia + Bulgaria + Turkey	(+ some FSU-states and some republics of former Yugoslavia)
Trade arrangements		**yes**			
EU - Turkey	GTAP	**yes**	Customs Union	Turkey enters EU	no further arrangements
EU - Former Soviet Union	GTAP	**yes**	no specific arrangements	elimination of bilateral tariffs in manufacturing	same as 2020
EU - USA	GTAP	**yes**	no specific arrangements	no specific arrangements	no specific arrangements
EU - Latin America and Carribean, Middle East, Africa	GTAP	**yes**	no specific arrangements	no specific arrangements	no specific arrangements
Trade / WTO		**yes**			
Export subsidies	GTAP	**yes**	25% reduction	50% reduction as compared to 2010	abolished for all sectors
Import tariffs	GTAP	**yes**	25% reduction	50% reduction as compared to 2010	abolished for all sectors
Non-tariff barriers for agricultural products (SPS, TBT…) between trade blocks (see footnote *)	GTAP	**yes**	situation 2001	no further arrangements	no further arrangements
Domestic support in agriculture		**yes**			
Intervention prices	GTAP	**yes**	25% reduction as compared to post MTR CAP reform levels	safety net just below average world market price levels	abolished
Production quota (milk)	GTAP	**yes**	level as decided for 2003 MTR CAP reform and agreed with Acceeding Countries	abolished	-
Production quota (sugar)	GTAP	**yes**	as decided in the 2003 reform	abolished	-
Coupled payments	GTAP	**yes**	25% reduction after full incorporation in decoupled single farm payment scheme	-	-
Decoupled payments (single farm payment scheme; partial, full, regional implementation)	GTAP	**yes**	EU: implementation of 2003 CAP reform, 2010: same decoupling in all scenarios	fully decoupled and reduced by 50%	abolished for all sectors
Rural development funds (2nd CAP pillar)	LEITAP		Downscaling and added to agricultural income	same as 2010	same as 2010
Compulsory set-aside of arable land (excl. organic farms)	GTAP/IMAGE/CLUE	**yes**	Abolished in EU15 from current level to 0% between 2008 and 2012 (equal change per year) 50% of area in set-aside is released as available area for arable land. Never introduced in EU10	abolished	abolished
% of set-aside land used for biofuel cultivation			5%	15%	20%
Demography	GTAP/IMAGE				
Global population					
Population EU-25, including distribution within countries (NUTS 2)			Distribution based on EUROSTAT projections HIGH variant	same as 2010	same as 2010
Distribution of population within NUTS2 regions (increase/decrease)(dense: > 500 inh/km2; intermediate: 60-500 inh/km2; thin <60 inh/km2) (average of circle with radius 3 km)			Increase in population is concentrated in the most densely populated areas of both the dense and intermediately populated areas. Decreases in population take place in the thinly populated areas		

Global Economy

Entity	Models	Options	2010	2020	2030
Macro-economic growth	GTAP/IMAGE				
Global / global region			numbers from CPB study adjusted for individual EU25 countries based on EU-study (EPC projection of age-related expenditure)	same as 2010	same as 2010
EU-25: per country			numbers from CPB study adjusted for individual EU25 countries based on EU-study (EPC projection of age-related expenditure)	same as 2010	same as 2010
Agro-technology (including introduction of GMO's)					
Effects on productivity growth (irt FAO projection)**	GTAP/IMAGE				
EU25 + CEEC			5%	5%	5%
Turkey			0%	0%	0%
Consumer behaviour					
Preference for products from own IMAGE region	GTAP		no specific arrangements	-	-
Consumption of animal protein from meat	GTAP		endogenous GTAP outcome	endogenous GTAP outcome	endogenous GTAP outcome
Change in built-up area per person per year (including all built-up area: residential/services/recreation/industry/infrastructure)	CLUE		+3 m2 per person per year (approx. double the average value of trend during 1990-2000 over all EU countries)	same as 2010	same as 2010
EU and national policies					
Nature development (EU)					
Area (EU)	GTAP/IMAGE/CLUE		Area nature is determined by interplay of change in agriculture/built-up area and natural succession, mimimal area determined by protected areas	same as 2010	same as 2010
Protected areas	CLUE		Forest & semi-natural & recently abandoned >agriculture not allowed in Natura2000 locations; all other conversions allowed in Natura 2000 locations, including urbanization/abandonment		
Policy measures to control fragmentation	CLUE		Incentives aimed at limiting fragmentation of natural areas leading to stronger separation of land use functions	same as 2010	same as 2010
Efforts to establish ecological corridors at national and international level			no	no	no
Agro-biodiversity	CLUE		No specific arrangements; agriculture within NATURA2000 may be abandoned	same as 2010	same as 2010
Local patches of (semi-)natural areas	CLUE		No specific efforts	same as 2010	same as 2010

Global Economy

Entity	Models	Options	2010	2020	2030
Less favoured areas		**yes**			
Area (classification criteria)	CLUE	yes	LFA concept completely abolished		-
Incentives/compensation for farmers	CLUE	yes	partial compensation; i.e. moderate resistance to land use change	compensation to farmers abolished	-
Land policies					
Shifts in permanent pasture area	CLUE		Fully allowed, dynamic land allocation possible. Tendency to concentrate pasture preferably in most productive areas	same as 2010	same as 2010
Shifts in arable cropping patterns	CLUE		Tendency to concentrate pasture/arable crops preferably in most productive areas	same as 2010	same as 2010
Effect of population pressure on natural succession of abandoned land	CLUE		High pressure in densely populated areas due to recreational uses/hobby farming etc. Conversion of recently abandoned to semi-natural takes longer (years added to 'natural' succession time per population pressure class 1: 100 years (no succession) 2: 30 years 3: 25 years 4: 5 years 5: 0 years Due to grazing it is assumed that succession is retarded by 5 to 10 years depending on livestock density in neighborhood. If the mean density of land-based systems in the neighborhood (circle radius 3 km) exceeds 75 LSU/km2 it is assumed that succession (both stages) is retarded by 10 years; if livestock density is between 30 LSU/km2 it is assumed that succession (both stages) is retarded by 5 years. Succession in Natura 2000 locations is not retarded	same as 2010	same as 2010
Effects of active nature restoration on succession	CLUE		No	No	No
Erosion risk	CLUE		No specific measures	No specific measures	No specific measures

Global Economy

Entity	Models	Options	2010	2020	2030
Energy crops		**yes**			
Crops for biofuels (sugarbeet, potatoes, coleseed), coppice, firewood	GTAP/IMAGE/CLUE	**yes**	Outcome IMAGE	Outcome IMAGE	Outcome IMAGE
Crop residues / manure (ethanol, methane…)	?	**yes**	5%	30%; larger farmers can process manure efficiently at their location	60%; uptake of new technologies leads to growth of farms with fermentation installations on site; new technologies develop faster in GE scenario than in TM scenario
Proportion of bio-energy in energy consumption	GTAP/IMAGE/CLUE	**yes**	0 Mton; no obligations	0 Mton	0 Mton
Proportion of bio-fuels in transport fuel consumption	GTAP/IMAGE/CLUE	**yes**	0% obligation; implemented only if competitive with fossile fuel	same as 2010	same as 2010
Import restrictions / tariffs for bio-fuels	GTAP/IMAGE	**yes**	no restrictions	same as 2010	same as 2010
Environmental legislation, public health, animal welfare etc. (incl. cross-compliance, good agricultural practices)	GTAP/IMAGE/CLUE		loose interpretation of directives and regulations	no further developments	-
Land conversion policy					
Large cities	CLUE		no restrictions; in practice, growth of urban centres is favoured in this scenario	same as 2010	same as 2010
Provincial towns	CLUE		no incentives or restrictions	same as 2010	same as 2010
Small villages	CLUE		no particular incentives or restrictions; loose regulations combined with high incomes may lead to proliferation of second houses	same as 2010	same as 2010
Focus of growth	CLUE		No restrictions/spatial urban planning. Autonomous focus of growth of urban centres. High incomes combined with loose regulations may lead to proliferation of second houses in green areas Sprawled growth	same as 2010	same as 2010
Nature and urbanization	CLUE		No restrictions for conversions into residential	same as 2010	same as 2010

* Regional blocks:
1 Netherlands / Rest of EU15 / CEEC / Baltic countries / Rest of Europe;
2 Canada / USA / Central America / South America;
3 Oceania;
4 Japan;
5 East Asia / South-east Asia;
6 South Asia;
7 Former Soviet Union;
8 Middle Arfica / South Africa
9 Turkey / Middle East / North Africa;
10 Rest of World.

** Effects on productivity growth are the resultant of a combination of environmental constraints and technology development.