

# **Integration of Environmental Aspects into Agricultural Policy: the Case of the European Union<sup>1</sup>**

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## **1. Introduction**

This paper gives an overview on the Common Agricultural Policy (CAP) from the perspective of the integration of environmental aspects. It starts with a description of recent developments of the policy framework, followed by a brief reflection follows concerning the implications of certain CAP elements on various topics of the integration strategy.

## **2. The Policy Framework of the Common Agricultural Policy**

As regards the domestic priorities for EU agriculture, the centre of attention is the improvement of competitiveness and using the opportunities provided by expanding world markets. Important concerns in this respect are continued structural adjustments in primary production, high standards of food safety and quality, efficient and environmentally sound technologies, and efficient marketing structures.

The CAP reform under Agenda 2000 represents a further important and wide ranging reform of the Common Agricultural Policy. This is reflected in the range of sectors involved: cereals, oilseeds, beef, milk and wine. If the market organisations for fruit and vegetables, tobacco and olive oil are taken into account (which were recently reformed), almost the total value of the Union's agricultural output is affected by these reforms.

Agenda 2000 sets the architecture for European agricultural policy for the coming years and consolidates the shift that took place during the 1992 reform. To understand the scale of this change it is necessary to place it in a historical context.

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<sup>1</sup> The view presented in this contribution are those of the author and do not necessary represent those of the Commission.

### **2.1. The Early Days of the CAP**

Since its inception in the 1960s and throughout the 1970s and 1980s market price support was the dominant form of support for most agricultural products in the European Community. During the 1970s and 1980s productivity and production rose. It became increasingly difficult to avoid the build-up of surpluses. It therefore became necessary to apply supply control mechanisms to curb overproduction such as the introduction of the milk quotas in 1984 and the stabilisers in 1988 (policies which provided an automatic link between price reductions and production when the latter exceeded certain thresholds).

### **2.2. The 1992 Reform**

During the 1980s the realisation grew that the disadvantages of price support, i.e. support linked to the volume of production, were increasingly outweighing any advantages. The need for administratively complicated supply controls constrained the efficient development of agriculture. Budgetary expenditure on intervention stocks and export subsidies continued to increase (despite supply controls).

The demand for agricultural commodities was being eroded by high prices, excessive production intensity was damaging the environment, and the policy was not particularly effective in supporting farm income. This prepared the ground for a major policy shift in the early nineties leading to the 1992 CAP reform decision based on the following principles:

- a substantial reduction in the prices of a number of key agricultural products (cereals and beef) to make them more competitive both within the Community and on world markets;
- compensation for the price cuts in the form of hectare or headage payments with upper limits based on historic data and not linked to output;
- implementation of measures to limit the use of the factors of production (set aside of arable land and stocking rate criteria for livestock);
- introduction of accompanying measures to the market reforms promoting environmentally friendly farming, afforestation and early retirement.

The 1992 decisions also included a major reform of the tobacco sector (ending of intervention and limitation of support to quotas per variety), the ending of price support for oilseeds and protein crops with a shift to area payments and a reduction in the intervention price for butter.

### **2.3. CAP Reforms under Agenda 2000**

The Agenda 2000 embodies a two pronged approach, continued market reform and development of a second pillar to the CAP englobing structural, environmental and rural policy. The main elements of reforms in both parts of the CAP are outlined in the following sections.

#### **2.3.1. Reforms of Market Organisation under Agenda 2000**

The reforms under Agenda 2000 followed the insight that market policy cannot continue to assume the function of permanent intervention. Therefore, action was undertaken to limiting the role of intervention to that of a safety net in cases of substantial price drops. If the period of the reform since 1992 is taken as a whole, support prices for cereals will have fallen by 45% and beef by 35%.

The reforms cover a wide range of areas from legislative and administrative simplification, through the integration of environmental concerns to changes in budgetary management. The

Commission's proposals were based on an analysis and a forecast of market developments, in the EU and world-wide. In particular for cereals and beef, these analyses showed clear risks of increasing production surpluses post 2000.

As regards key commodities, the main changes can be summarised as follows:

- For cereals support prices have been cut by 15%. This reduction will be phased in from 2000. These cuts are partially compensated. Oilseeds payments are aligned on those of cereals. Compulsory set-aside is retained with a basic rate of 10%.
- The support level for beef has been reduced by 20%. Public intervention will be replaced by a system of private storage. Intervention buying plays only a role as a low-level safety net and as a possible ad hoc measure in the case of a crisis. These changes will be phased in from 2000. The system of premia has been modified to place more emphasis on regional differences and extensification.
- The support price for milk, SMP and butter will be reduced by 15%. This will be phased in from 2005 with a 1.5% increase in quotas. Five member states will receive special quota increases from 2000. The future of the regime will be reviewed in 2003 with the aim of phasing out the current arrangements.

Direct payments have played an important role in encouraging European farmers to adapt to new conditions. Together with an integrated rural development policy they account for 80 % of total CAP expenditures, whereas only 20 % are foreseen for market interventions.

Reflecting the increasing weight of direct payments a Regulation on Common Rules has been established. Among other aspects, this regulation includes provisions on modulation and cross-compliance both being optional on the side of Member States.

- Under the Article on modulation, Member States are authorised to reduce direct payments up to 20 % following the application of criteria such as low labour input, overall prosperity, and total amounts of payments granted.
- The article on "cross-compliance" authorises Member States to cut payments as a penalty for not complying with environmental legislation or specific environmental requirements established on the basis of the named regulation.

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### **2.3.2. Building the second Pillar of the CAP: Rural Development Policies**

The main fields of intervention of the newly established rural development policy can be broadly summarised under three headings:

- Measures to help strengthen the competitiveness and viability of the agricultural sector;
- Measures to improve the living conditions and economic opportunities in rural areas, particularly for those communities closest to changes in agricultural structures;
- Measures to promote good environmental practices as well as the provision of services linked to the maintenance of habitats, biodiversity and landscape.

### **Promoting Competitiveness and Viability**

One of the most important measures for the improvement of the competitiveness of holdings is support for investment. This helps farmers to modernise buildings and equipment, improve the quality of management and develop alternative production potential on the farm, particularly in higher value added products. Investments to improve veterinary and phytosanitary hygiene, reduce environmental problems and promote animal welfare are also supported.

The conditions for EU support have been clarified and simplified. Part-time farmers are now fully eligible for support. Specific sectoral restrictions have been abolished. The general principle remains that investment is only possible in sectors where additional production has clear market outlets. But this is now applied on a programme by programme basis.

A second set of measures to improve competitiveness and develop new markets focus on the improvement of processing and marketing structures for agricultural products. Here again, there is scope to help farmers improve their orientation to consumer expectations particularly as regards quality, safety and traditional/organic production methods.

Basic and advanced vocational training is available to farmers who wish to improve their expertise in business management, technology, or new production processes. This can help enhance productivity, production quality and, indeed, the environmental performance of their holding. The possibility of vocational training has been extended to all persons active in the farming and forestry sector, and covers also forest management and general further education.

The improvement of the age structure of the agricultural labour force can be supported further by early retirement programmes and the helping the establishment of younger farmers. These measures have been simplified and made more attractive.

A range of measures can be undertaken to improve land, to consolidate holdings, to manage water resources intended for agriculture, or to support infrastructure associated with the agricultural development. These are also intended to help strengthen the agricultural competitiveness.

### **Improving living conditions and economic opportunities for rural communities**

The second group of rural development measures concerns above all the improvement of living conditions as well as economic opportunities for rural communities outside the core area of agricultural production and marketing. Support is therefore available for the diversification of economic activities, both on and off-farm, ranging from increasing the range of local products to the development of craft activities and agri-tourism.

Forestry is recognised as an important part of development in rural areas development and is supported. In addition to traditional investment grants for modernisation and rationalisation, a new aid for the sustainable management of forests and forestry resources has been introduced. Where forests play a special role in environmental protection, as a buffer zone, or indeed protection from natural disasters such as fires, support is once again available.

An improvement of the economic conditions and the quality of life in rural areas is also to be achieved by a better access to basic services and infrastructure facilities. Appropriate measures can also be taken for the redevelopment and renewal of villages and the maintenance of rural cultural heritage.

As mentioned earlier, it is essential to ensure that in those areas eligible for support in the form of regional development programmes (the so-called Objective 1 and 2), rural development and regional development measures work effectively together.

### **Promoting Environmental Objectives**

The third group of measures concerns environmental objectives and the preservation of the countryside. Behind this lies the goal of sustainable agriculture and forestry, which reflects the broader concern of sustainable development in rural areas.

Sustainable agriculture means ensuring that the benefits of natural resources and Europe's unique environmental heritage are available to future generations. Addressing the environmental dimension of the CAP includes at one level measures reducing the negative environmental impact of agriculture (e.g. investment aid for environmentally sound production methods, beef extensification premia). On the other, measures aim to secure the positive effects of farming activities on maintaining the rich rural landscape and biodiversity.

The core of the Community's agri-environmental strategy within the CAP is targeted agri-environmental measures which reward farmers for environmental services in rural areas, over and above good agricultural practice and environmental legislation. The inclusion of such measures into all rural development programmes implemented by Member States is compulsory.

Lying close to questions of viability, compensatory allowances are granted to less favoured areas with a view to compensate for natural disadvantages and, thereby, to ensure continued farming in those areas. This measure has an important environmental dimension in as far as farming plays an important role in providing non-commodity outputs such as landscape, agri-tourism or other rural amenities. Beyond this, compensatory allowances can also be granted to farms operating in Natura 2000 areas and subject to area-specific environmental constraints. An important additional change has been to shift from headage payments to area payments.

### **2.4. Sustainability: A Key Motive of the CAP Reform under Agenda 2000**

Looking at the Agenda 2000 reforms from the perspective of sustainability, it can be summarised as follows:

- As regards the *economic dimension* of sustainability, a first-order condition was the shift from permanent *intervention* towards intervention as *safety net*. This makes EU commodities internationally more competitive. The changes are complemented by *rural development policies* becoming the second pillar of the CAP. Rural development programmes include measures improving the *competitiveness* of EU agriculture (investment aid, measures improving marketing and processing, training etc.)
- As regards the *social dimension*, disruptive pressures on the farm sector resulting from cuts in support prices are compensated through direct payments. The *social viability* of both rural areas and the farm sector is supported by *rural development measures*. An important concept in this respect is that of "*diversification*" of income source for farm households.
- As regards the *environmental dimension*, the general context is given by the Common Rules Regulation which obliges Member States to undertake appropriate environmental measures. In fulfilling their obligation, Member States have several options at their

disposal: agri-environmental measures, environmental legislation, and specific environmental requirements. The latter two options can be enforced by cutting direct payments granted under the Common Market Organisations. Further environmental elements not explicitly mentioned in the Common Rules Regulation are the beef extensification premia and payments for Less Favoured Areas (which can be used to finance the implementation of Natura 2000).

## **2.5. Strategy Papers on “Sustainable Agricultural and Rural Development”**

Sustainable development has become a main motive of the more recent developments of the CAP. The concept and the directions pursued in this respect refer to Agenda 21 and, in particular, chapter 14 on “Sustainable Agriculture and Rural Development”. Annex 1 to this document includes a list of references to the concept of sustainability as taken from strategy papers and legal texts.

The key strategy paper has been “Agenda 2000: For a Stronger and wider Union” which outlined in its agricultural chapter the directions of the CAP reform and the need for promoting sustainable rural development. Agenda 2000 was adopted in March 1999 by the European Council in Berlin.

Following the adoption of Agenda 2000, the Agriculture Council endorsed in October 1999 an *Integration Strategy* which was presented in December 1999 to the Helsinki European Council, in line with the overall integration process started by the European Council at Cardiff in June 1998.

The integration strategy of the Agriculture Council follows the directions established in February 1999 by the Commission *Communication “Directions towards sustainable agriculture”* COM (1999) 22, which had developed the environmental context for the Agenda 2000 proposals and underlined the need for a continuous process of integration and monitoring of progress.

In January 2000, the Commission presented its *Communication “Indicators for the Integration of Environmental Concerns into the Common Agricultural Policy”* COM (2000) 20, following a request of the Agricultural Council. This communication presents a framework of agri-environmental indicators with a view to provide the means for monitoring the implementation of the integration strategy and improving transparency, accountability, and evaluation.

In discussing COM (2000) 20, the Agricultural Council underlined that it is important to broaden the approach and to fully cover sustainable development, which includes the integration of the economic and social dimensions of sustainability. The request is being taken up in a currently prepared Commission Working Document. This working document presents a “*A Framework for Indicators for the Economic and Social Dimensions of Sustainable Agriculture and Rural Development*”. It is foreseen to present this paper at the Gothenburg Summit in June 2001.

### 3. Links between the CAP and some Key Issues

#### 3.1. Impact of the reduction of production

Using farming practices constituting a risk for the environment is neither a direct result of the CAP, nor is it automatically associated, as often claimed, with certain types of “industrialised” agriculture. It is a result of farmers seeking to reduce production costs (e.g. by using cheap feeding stuff) or increasing yield. As regards the most actual issue of BSE, cases have been observed in all size categories and types of dairy farms. For dairy, the so-called “industrial agriculture” is anyway not sufficiently dominant to be responsible for major similar considerations to apply to using pesticides. Whereas it is true that price support has the effect of encouraging higher levels of pesticides, data from countries such as New Zealand which underwent a strict policy of liberalisation, show that cuts in price support are reflected in lower levels of inputs used. However, as time goes on, technical developments (high yield varieties requiring higher pesticide levels) and - as has been the case in the EU after the 1992 CAP reform - favourable market price developments can take over again the role as a driving force for increasing application levels.

It should be noted in this context that efficient and modern production methods are by no means bad or dangerous as such. They help farmers to contribute to a rational use of scarce resources and to stay in business against an ever-increasing competition from third countries. Of course, where cost-reducing practices prove unsafe for consumers or the environment, they have to be banned, as it was the case with feeding meat and bone meal to ruminants.

Nevertheless, indirect effects can be triggered by certain CAP measures. This includes the incentives that price support might provide for the intensification of farming, e.g. in terms of increasing pesticide use. Intensification effects might also result from certain investment aids.

Such risks have been significantly reduced by Agenda 2000 which, on the one hand, cuts price support (taking away the incentive for excessive input use) and, on the other, makes support under rural development programmes conditional on the “*compliance with minimum standards regarding the environment, hygiene and animal welfare requirements*”.

#### 3.2. Climate Change and Clean Energy

Within the EU, agriculture is a major source of both CH<sub>4</sub> and N<sub>2</sub>O, accounting for some 50% of N<sub>2</sub>O and 40% of CH<sub>4</sub> emissions in 1990. Between 1990 and 1995, agricultural emissions of both *gases* fell by about 6%, due principally to changes in agricultural practices and production following the reform of the Common Agricultural Policy (CAP).

There are three main sources of emissions of greenhouse gas emissions from agriculture (approximate *contribution* in CO<sub>2</sub> equivalent in 1995).

- N<sub>2</sub>O emissions from soils (49%);
- CH<sub>4</sub> emissions from enteric fermentation (35%);
- CH<sub>4</sub> and N<sub>2</sub>O emissions from manure management (15%).
- Other (1%).

Soil emissions of N<sub>2</sub>O come from the application of both mineral N fertilisers and organic N in animal manure. Enteric fermentation is the anaerobic fermentation of polysaccharides and other components of animal feeds in the gut of ruminant animals (the rumen) by micro-organisms.

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Food enters the rumen where it is fermented to volatile fatty acids (VFA), carbon dioxide and methane. Both methane and nitrous oxide can be emitted from manure. Methane emissions depend on the animal's diet, manure management and the climate.

The 1992 CAP reforms have already had an impact on a number of parameters that affect these emissions. On the livestock side there have been changes in types and number of livestock, and an enhancement of the trend towards improved livestock productivity. On the arable side, the shift from production based support mechanisms to direct area based payments, has led to pressure to optimise the use of inputs economically, and a general reduction in fertiliser use. Agenda 2000 has reinforced these trends.

The projections of baseline emissions for the agricultural sector are made on the basis of projections of livestock numbers. Based on the implementation of Agenda 2000 policies, the projected baseline trend is a reduction of 7% in methane by 2010 and 11% for N<sub>2</sub>O.

Underlying the change in emissions from livestock (enteric fermentation and manure) is a reduction in the number of cattle and an increase in the output of pig and poultry products. Production in the cattle sector is constrained by supply management with increasing efficiency providing a reduction in emissions. A relaxation of this supply control would halt or even reverse this downward trend, depending on its magnitude.

Another link between agriculture and climate issues is that of bio-fuels. The environmental merit of biomass is founded on its carbon cycle. Biomass emits in combustion not more CO<sub>2</sub> than assimilated during growth. This requires, however, that the energy-balance of the process as a whole remains positive (i.e. energy use for tractors, transport, fertilisers, pesticides, etc.). This condition can in general be assumed as given.

The CAP includes only few elements favouring renewable energies. Rural Development Programmes include investment aid also applicable to technologies making use of bio-mass. Furthermore, they include aid for planting fast growing trees for combustion. Apart from this, farmers get permission to grow renewable resources on set-aside land.

Given the still existing gap between the price for fossil fuels and biofuels, there was some reluctance to opening a line new of farm subsidies in favour of biofuels. It is in this perspective that the Communication "Directions towards Sustainable Agriculture" (COM (1999) 22) stated that *"developing the non-food sector would need to be combined with appropriate fiscal measures."*

### 3.3. Natural Resources

Agriculture can have both negative and positive effects on the quality of natural resources.

- The negative environmental effects from agriculture on natural resources include the pollution of soils and water with nitrate (nitrogen balance surplus) and pesticides. Main concerns in this respect are the quality of drinking water, the eutrophication of surface water, and the implication of adverse chemical reactions in soils for erosion. Negative impacts of agriculture include other drivers for erosion such as inappropriate rotations, soil compaction, and overgrazing.
- Positive impacts of agriculture reflect the antropogenic origin of many high nature value landscapes. The ecological value of such landscapes depends on the continuation of appropriate types of land use. A deterioration of the economic basis of farming would, therefore, lead to the abandonment or marginalisation of land use, in particular in naturally

handicapped regions. The abandonment or marginalisation of land use would not only threaten the cultural value of the European landscapes. In many cases, it would be accompanied by soil erosion and loss of bio-diversity.

Negative environmental effects are regulated through a range of general environmental legislation (drinking water, ground water, surface water, chemicals, organic pollutants etc.). A sector-specific approach has been applied in the form of the EU *Directive on Nitrate Pollution from Agricultural Sources (91/676/EEC)*. The objectives of this directive are twofold: reducing water pollution by nitrates from agricultural sources and preventing further such pollution.

As regards the CAP and the efforts to integrate environmental requirements, the respect of such environmental legislation is supported through two main mechanisms:

- The respect of minimum environmental requirements is a condition for receiving support under the Rural Development Programmes. This rule holds also for agri-environmental measures which are not applicable to matters regulated by mandatory environmental legislation. The respect of the latter is considered to form part of “good farming practice” and agri-environmental measures grant payments only for commitments going beyond the “reference level” of good farming practice.
- In addition to this, Member States can make use of the option of linking direct payments granted under the Common Market Organisation to the compliance with mandatory or specifically defined environmental requirements (cross compliance).

Whereas measures aiming to avoid negative effects of agriculture normally shift the compliance costs to the farmers, a different approach is pursued where farmers - through engaging privately owned factors of production (e.g. land, labour, machinery) - provide environmental services. This approach is in particular applied to the maintenance of high nature value landscapes and biodiversity as well as to applying precautionary measures concerning the preservation of natural resources (water, soils).

The key environmental approach in this context is the agri-environmental measures which remunerate farmers on a voluntary, contractual basis for providing environmental services. Member States have to include agri-environmental measures into their rural development programmes. Another rural development measure to be mentioned here is the LFA scheme which promotes the continuation of farming and, thereby, environmentally relevant land management. A specific type of compensatory allowances can support the implementation of area-specific environmental policies (e.g. Natura 2000).

Whereas the integration of the environment into the CAP is a key requirement, it will not solve all environmental problems. Often, problems arise due to the non-application of existing environmental legislation (e.g. nitrate directive, FFH) and as a result of technical and economic development which exists independently from the CAP. Therefore both environmental integration and a strict application of environmental policies have their own responsibilities and must complement each other in meaningful way.

As regards the future perspectives, changes in agricultural structures resulting from increasing competitive pressures from global markets are expected to lead to a dichotomy in the development of land use. An increasing concentration of production in regions with a good infrastructure and a high productive capacity on the one side and, on the other, marginalisation

of the land use in areas disadvantaged by nature would be a realistic scenario that could have considerable negative environment implications.

Where the environmental functions of sustainable agriculture is no more ensured on the basis of private economic interest, more efforts would have to be undertaken with respect to providing such public goods through targeted agri-environmental measures.

### **3.4. Land Use**

In quantitative terms, the bigger proportion of the land used is rural areas. Strengthening the economic viability of rural areas is the very basis for providing the means for preserving their social and environmental functions. These include important balance functions for overloaded centres of dense development, particularly through the preservation of a region's ecological integrity, as buffer zones, and recreation areas.

The significance of agriculture for Sustainable Rural Development is to a large degree based on agriculture being the most important user of land. Consequently agriculture experiences the confrontation with manifold interests relating to land.

- A key concern is a state of the rural environment and landscapes that correspond to society's cultural and esthetical values. This is not only a matter of the primary objective of "resource protection". It refers also to a series of secondary objectives such as the attractiveness of rural areas as a place to live in and for leisure activities and tourism.
- Another concern is the cultural identity of a certain region that is closely linked to farm structures and architecture, pattern of land use, local food processing, and handcrafts. Again, agriculture can assume functions beyond the narrow role of food production having important secondary economic effects (tourism, increasing the attractiveness of rural areas as a living space).
- As regards the narrowly defined economic functions of the farm sector, one can state that agriculture is to a diminishing degree a determining factor of the rural economy. In view of further increases of productivity within primary production, important perspectives for farm households with respect to employment and job creation would lie in the diversification of income sources (processing at primary stage, marketing of local products, rural tourism, rural handicraft, decentralised energy supply, local service capacities, environmental services etc.).

Many of the valued features of agriculture and rural areas do not come by default but require appropriate policies. The key to this is an integrated rural development policy, the second pillar of the CAP, which operates across the Union and accompanies the changes brought about by changes of market policies. The key objective of Rural Development Policies is to strengthen the competitiveness and viability of rural areas.

The concrete Rural Development Programmes may include:

- Investment in farm holdings;
- Young farmers' aid
- Pre-retirement
- Training
- Investment in the processing and marketing of produce
- Compensatory allowances in Less Favoured Areas

- Support for sustainable forestry
- Agri-environmental programmes
- Support for rural infrastructure, village renewal, tourism and craft activities

These measures aim to enable local and regional actors in rural areas to (i) respond to new demands for services in the environmental, tourism, cultural and amenity sectors, (ii) develop more diversified and higher value added agricultural and food production which is competitive internationally, and (iii) ensure balanced territorial development as regards the distribution of employment opportunity and economic activity.

#### **4. Data Availability and Data Needs**

The availability of data relating to sustainable agriculture and rural development is fairly good with respect to the economic dimension of primary production as well as farm structures.

A comprehensive data set exists on farm income (Farm Accountancy Data Network FADN), although limited to income from farming activities, which makes it difficult to draw conclusions on the social situation of farmers and farm families.

A general limitation of economic and structural data is the partly high level of aggregation (sectoral, spatial), which tends to hide the often significant differences between regions.

As regards environmentally relevant data relating to land (e.g. land use, land cover, input use, stocking density, semi-natural habitats, etc.), information is limited. Most of the data on input use is expressed in monetary terms while being insufficiently differentiated with respect to the different substances.

As regards the processing of environmentally relevant data much progress has been made by establishing a framework on *Agri-environmental Indicators* and a framework for “*Indicators for the Economic and Social Dimensions of Sustainable Agriculture and Rural Development*”.

With a view to filling this framework with data, a more comprehensive investigation on data availability and data requirements for agri-environmental indicator is underway (under the lead of EUROSTAT). The results will be presented at the Gothenburg summit.

A preliminary overview on available information has been published in 1999 by DG AGRI in co-operation with EUROSTAT and DG ENV under the title “*Agriculture, Environment, Rural Development: Facts and Figures*” (the full text can be found on the web-site of DG AGRI).

Comprehensive work on qualitative and quantitative information relating also to sustainable agriculture and rural development has been carried out by the European Environmental Agency. Important publications in this respect are the “*Environmental Assessment Report No. 2 – Environment in the European Union at the turn of the century*” and “*Environmental Signals 2000*”.