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Soil protection in the EU: the most important soil-related EU policies and legal sources

1. Introduction

In *acquis communautaire*, there is no EU legislation explicitly aimed at soil protection up to now. At the same time, the EU, primarily in the context of its environmental and agricultural policy, is increasingly paying attention to soil protection aspects, regulating it directly and indirectly. Nevertheless, in the classical sense, we can not speak about the legal regulation specifically related to soil. The Hungarian agricultural law literature and related legislation treat this issue as the environmental aspect of land protection.¹ Indirectly, however, many EU policies affect soil-related issues, even if marginally. However, these existing provisions, even if fully implemented, result in fragmented and incomplete soil protection due to their different objectives and scope, as they do not cover all known soil types and threats to soil. In the following sections, the main EU policies and legal sources are presented that mainly affect status of Europe's soils.

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¹ Olajos István – Gyurán Ildikó: The Hungarian National Report on Rural Use and Protection of Land in the Countryside, *Agrár- és Környezetjog*, 2012/12, 79-107.; Olajos István: Die Entscheidung des Verfassungsgerichts über die Rolle, die Entscheidungen und die Begründetheit der Gründen der Stellungnahmen der örtlichen Grundverkehrskommissionen, *Agrar- und Umweltrecht*, 2017/8, 284-291.; Fodor László: Fenntartható földhasználat? –gondolatok egy talajvédelmi keretirányelv tervezete és az új hazai termőföldvédelmi szabályok kapcsán, in: Bándi Gyula, Berki András, Kiss Csaba (edit.): *Környezeti Management és Jog Egyesület: az első 15 év: Gondolatok a fenntarthatóságról*, Budapest, EMLA Környezeti Management és Jog Egyesület, 2008. 1-17.; Fodor László: A földvédelemre vonatkozó új szabályokról, *Gazdasági élet és társadalom: A Wekerle Sándor Üzleti Főiskola tudományos folyóirata*, 2014/1-2, 44-59.; Fodor László: Gondolatok a földvédelem agrárjogi és környezetjogi kapcsolódási pontjairól, in: Csák Csilla (edit.): *Ünnepi tanulmányok Prugberger Tamás professzor 70. születésnapjára*, Miskolc, Novotni Alapítvány, 2007, 108-117.; Csák Csilla: A Nemzeti Földalap szerepe a földtulajdoni és –használati viszonyok között, *Cég és Jog*, 2002/10, 5-8.; Csák Csilla: A hulladékgyártás elhatárolási kérdései a "szennyezett talajra" vonatkozó jogi szabályozás szemszögéből, *Publicationes Universitatis Miskolciensis Series juridica et Politica*, 2014/32, 353-370.; Kurucz Mihály: A termőföldvédelmi törvény módosításának tervezete és annak indoklása, in: Kurucz Mihály, Tanka Endre: *Földtörvény*, Budapest, Barankovics István Alapítvány, 2007. 70-123.; Kurucz Mihály: *A víz- és földvédelmi jog vázlatja*, Budapest, ELTE Jogi Továbbképző Központ, 2000. 145.; Korom Ágoston: Földvédelem az európai jog keretein belül, *Nemzeti érdek*, 2010/16, 1-5.; Bándi Gyula: Földvédelem – földkár, *Magyar jog*, 1982/10, 923-926.

2. Environmental policy

2.1. Biodiversity policy

The EU's biodiversity policy is fundamentally defined by the international obligations under the Biodiversity Convention (UNCBD-United Nations Convention on Biological Diversity). The establishment of Natura 2000 network, consisting of habitats of EU relevance designated under the Habitats and the Birds Directives,² is intended to prevent further decline in biodiversity, which is the main objective of the Convention. It is one of the largest coordinated networks of protected areas in the world (covering more than 20% of the EU territory).³ In addition, the Environmental Liability Directive,⁴ which is the first Community legislation aimed at defining a common liability framework for the prevention and eradication of damages in animals, plants, natural habitats and soils, has a major role in enforcing environmental interests. However, it does not apply to historical contamination or to damage prior to its entry into force. The achievement of the above objective is also supported by environmental action programs that are fundamentally defining the EU's environmental policy, which usually identify the main purposes and priorities for six-year periods. Accordingly, the Seventh Environment Action Program (2014-2020),⁵ which entered into force on 17 January 2014, also aims to protect and maintain the EU's natural capital. It recognizes that the degradation, fragmentation and unsustainable use of land in the Union is jeopardising the provision of several key ecosystem services, threatening biodiversity and increasing Europe's vulnerability to climate change and natural disasters. In addition, they also lead to the acceleration of soil degradation and desertification.⁶ In order to mitigate the most significant man-made pressure on soil and other ecosystems, the EU and the Member States must take steps to properly take into account environmental, social and economic impacts in land use decisions. Rio +20, recognizing the economic and social importance of good land use, called for a 'land-degradation neutral world'.

The Union and its Member States should urgently consider the best way to fulfill these commitments within their respective competences and how soil quality issues could be addressed using a targeted and proportionate risk-based approach within a binding legal framework.⁷

² Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora and Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

³ The Habitat and Birds Directives require the designation of the so-called Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), respectively.

⁴ Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage.

⁵ Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 'Living well, within the limits of our planet' Text with EEA relevance

⁶ Ibid. Paragraph 23

⁷ Ibid. Paragraph 25

In addition, EU biodiversity policy is already pervaded by the form of so-called 'no net loss biodiversity' principle. Accordingly all human activities should aim to preserve biodiversity, avoiding its qualitative or quantitative deterioration. At the same time, we can state that the aforementioned tools can only contribute in a limited way to the protection of our soils. For example, the Annexes of the Habitats Directive listing species or habitat types of Community importance almost completely ignore the soil fauna and habitats requiring special soil protection regulations, excluding those from the scope of protection. However, to achieve the objectives of the UNCBD, soil biodiversity and functions, which are the basis for the functioning of all ecosystems, should not be neglected by the EU and the Member States. Nevertheless, it can be stated that declaring a habitat of Community importance can indirectly have a positive impact on soil biodiversity, including through more stringent rules of management.

The so-called EU Biodiversity Strategy 2020,⁸ which sets the main conservation activities over the period 2011-2020, is the key component of the EU biodiversity policy. The environmental policy document essentially sets two ambitious priority objectives: 1) „Halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restore them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.” 2) „By 2050, European Union biodiversity and the ecosystem services it provides – its natural capital – are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided.” The implementation of these is supported by six - mutually supportive and interrelated - targets, which consist of set of measures designed for the specific problem they deal with. The specific measures were given in the annex of the Communication.

Furthermore, it is important to highlight the EU LIFE programs through which a number of environmental and nature conservation projects have been funded, thereby reinforcing the biodiversity protection at EU level. The negligence of soils already mentioned above can be seen in this aspect: in LIFE + Nature and Biodiversity category only five projects closely related to soil biodiversity were supported in 2002 and 2008.⁹

2.2. Energy and climate policy

Measures against global warming can only achieve their goal by putting energy policy on new ground. Instead of fossil fuels, it should be focused on supporting the use of renewable energy sources. Such as biomass production, which is likely to affect our soil more and more in the future.

⁸ Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions: Our life insurance, our natural capital: an EU biodiversity strategy to 2020.

⁹ Anne Turbé – Arianna De Toni – Patricia Benito – Patrick Lavelle – Perrine Lavelle – Nuria Ruiz – Wim H. Van Der Putten – Eric Labouze – Shailendra Mudgal: *Soil biodiversity: functions, threats and tools for policy makers*. Bio Intelligence Service, IRD, and NIOO, Report for the European Commission's DG Environment, 2010.

In 2001, the EU adopted its first directive on this subject,¹⁰ which was replaced by Directive 2009/28/EC,¹¹ creating the uniform legal basis for encouraging the electricity production from renewable energy sources. In accordance with the Kyoto Protocol, this requires Member States to cover the largest possible proportion of their energy needs from renewable sources. The Directive establishes a common framework for the promotion of energy from renewable energy sources. In addition, it lays down the most important provisions and sustainability criteria for biofuels and bioliquids regulated previously in a separate directive.¹² The EU Member States are obliged to set national targets for the share of energy produced from renewable energy sources¹³ in total gross energy consumption and for the share of energy from renewable energy sources in transport. The national targets should be in line with the achievement of the 20% minimum target for the share of renewable energy sources in the Community's total gross energy consumption by 2020.

Member States shall also ensure that the share of energy from renewable energy sources in all forms of transport in 2020 is at least 10% of the final energy consumption used for transport in each Member State. To achieve these objectives, Member States shall introduce measures by drawing up national action plans aimed at promoting energy efficiency, energy saving and increasing the share of energy from renewable sources. Among the definitions, biomass is defined as biodegradable waste, which projects the use of biowaste for energy production. For example, their use for composting can greatly increase the amount of soil organic matter and may serve as an alternative in regions where no other organic soil improvers are available. Further significant impacts on soils can be expected in connection with land use changes due to crop production underlying the production of biofuels, as this may give new impetus to the land conversion for agriculture. These effects, however, depend on whether natural habitats or agricultural areas are used for the production of energy crops. In the former case, the declining of the organic matter content and soil biodiversity is expected, unlike the latter, which is unlikely to cause any significant change in the previous soil state.¹⁴

¹⁰ Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market

¹¹ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC

¹² Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport

¹³ For details, see Olajos István: *Támogatási rendszereink és a megújuló energiák*, Miskolc, Miskolci Egyetem, 2013, 257.

¹⁴ For the EU legislation in this area, see Bányai Orsolya: *Energiajog az ökológiai fenntarthatóság szolgálatában*, Debrecen, Dela Könyvkiadó Kereskedelmi és Szolgáltató Kft, 2014, 275.; Fodor László: *Klímavédelem az energiajogban*, Budapest, Wolters Kluwer, 2014, 15-36.; Szilágyi János Ede: Bevezetés az energiajogba, in: Szilágyi János Ede (edit.): *Környezetjog*, Miskolc, Novotni Alapítvány, 2010, 153-164.

Within the framework of EU Climate Change Programs,¹⁵ a number of laws and measures have been adopted to reduce the atmospheric concentration of greenhouse gases, some of which are related to appropriate soil cultivation and farming practices.¹⁶ As already mentioned above, soil organic matter stocks, as huge carbon reservoirs, have a major influence on global warming and also have a significant impact on soil structure and biodiversity. That is why so important to make decisions about soil organic matter content based on complex criteria.

2.3. Waste policy

The Community legal framework for waste management goes back to the mid-1970s until the first Waste Framework Directive¹⁷ was established. As a result of significant changes over the decades, Directive 2008/98/EC¹⁸ has become the central element of current regulation, which defines the general rules for waste management.¹⁹ The directive requires the Member States to take all necessary measures to ensure that the disposal and recovery of waste is carried out without harming / endangering human health and the environment. In Article 13, the importance of preserving soil is emphasized in addition to water, air, plants and animals. For soils and their living environment, the disposal and recovery operations referred to in Annexes I-II may pose a high risk, which are the following:

(1) Disposal operations: (a) Deposit into or on to land (e.g. landfill, etc.); (b) Land treatment (e.g. biodegradation of liquid or sludgy discards in soils, etc.); (c) Deep injection (e.g. injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.); (d) Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.) (e) Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.); (f) Incineration on land.

(2) Recovery operations: (a) Land treatment resulting in benefit to agriculture or ecological improvement.

¹⁵ European Climate Change Programme I. (2000-2004) és European Climate Change Programme II. (2005-)

¹⁶ The report prepared by the ECCP II Working Group on agriculture provides a good summary of the details. European Climate Change Programme (ECCP), Working Group Sinks Related to Agricultural Soils: Final Report, in: https://ec.europa.eu/clima/sites/clima/files/eccp/second/docs/finalreport_agricsoils_en.pdf (25.10.2017)

¹⁷ Council Directive 75/442/EEC of 15 July 1975 on waste

¹⁸ Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives

¹⁹ It is important to note that, in order to simplify Community legislation, Directive 75/439/EEC on the disposal of waste oils and Council Directive 91/689/EEC on hazardous waste have been incorporated into the Framework Directive.

In Community legislation, waste increasingly appears as a potential resource, encouraging its utilization in some way. Waste management in accordance with the order of waste hierarchy²⁰ is a licensed, planned process, with strict guarantees (notification, reporting, registration and obligation to provide information, official control, etc.) to ensure proper operation.

Separate directives²¹ provide detailed rules for the disposal of waste in soil, landfilling and waste incineration. It is important to note that landfilling and waste incineration only appears as a final solution among waste management procedures. The latter, however, can be considered as a kind of recovery of waste, since incineration can produce energy. This is also expressed in the waste hierarchy set up by the Framework Directive, since it precedes the waste disposal. The main purpose of the Directives revised several times since they were drafted is to lay down requirements which basically define the specific rules for these forms of waste management. A strict authorization procedure must prevent the creation of a landfill or a waste incineration plant, stipulating their location and the conditions for their operation. In addition, their proper and environmentally safe operation must be ensured by continuous control and monitoring. Both Directives aim at preventing and minimizing negative impacts on soils related to waste management. However, it is clear that soil protection is given special attention mainly due to groundwater and its preservation.

From the point of view of the soil organic matter content, the Community endeavors to reduce the amount of biodegradable municipal waste landfilled need to be highlighted. This appears both in the Waste Framework Directive and in the Landfill Directive. Thus it can be predicted that the promotion of composting of bio-waste at EU level in the future - as a possible alternative to disposal - can greatly contribute to the supply of soil organic matter and, last but not least, to the reduction of greenhouse gas emissions. In addition, the importance of the issue is demonstrated by the fact that the Commission has published a Green paper²² and a Communication²³ on bio-waste management, preparing the minimum requirements for bio-waste management in compliance with Article 22 of the Waste Framework Directive.

Agricultural use of sewage sludge also falls within the scope of a separate directive.²⁴ The contamination of soil and groundwater and heavy metal concentration of sewage sludge can greatly reduce soil biodiversity and thus fertility. Among other things, it is important that the Directive contains basic provisions and limit values (heavy metals: Cd, Cr, Cu, Hg, Ni, Pb, Zn) for the use and treatment of sewage sludge, which farmers can not ignore.

²⁰ Directive 2008/98/EC of the EP and of the Council, Article 4

²¹ Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste and Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste

²² Green Paper on the management of bio-waste in the European Union, COM (2008) 811

²³ Communication from the Commission to the Council and the European Parliament on future steps in bio-waste management in the European Union, COM (2010) 235

²⁴ Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture

We can regard this Directive as an early form of EU soil protection, as it states in its preamble: „...*this Directive also aims at establishing certain initial Community measures in connection with soil protection.*”

2.4. Water policy

Since environmental elements can not be handled independently of each other, we can not disregard soil damaging factors resulted from inadequate management of our waters. The main objective of the Water Framework Directive,²⁵ which is the cornerstone of the Community's water policy, in addition to defining the framework for the quantitative and qualitative protection of EU waters, is to achieve and maintain good status for all surface and groundwater bodies, highlighting inter alia the protection of terrestrial ecosystems directly depending on aquatic ecosystems.²⁶ As a result of proper water management, water erosion, soil compaction risk and the extent of flood/drought areas alike can be reduced. In addition, water protection through the achievement of good ecological and quality status of water bodies has a significant role in preventing soil contamination as well.²⁷ Another important aspect of the Water Framework Directive is that, in order to protect water, Member States are encouraged to take measures that indirectly promote conservation of the soil. Among other things, a good example of this is the protection of surface and groundwater against point and diffuse pollution from agricultural areas. Of particular importance is the tendency in Hungary that the number of illegal well drilling is increasing. According to a report of Ombudsman in 2014,²⁸ these are typically wells for domestic water needs and for agricultural irrigation.²⁹

²⁵ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

²⁶ Ibid. Article 1

²⁷ Szilágyi János Ede: Current challenges concerning the law of water services in Hungary, *Lex et Scientia*, 2016/1, 72-79.; Szilágyi János Ede: *Vízjog*, Miskolc, Miskolci Egyetem, 2013, 110-140.; Szilágyi János Ede: Az EU és Magyarország vízstratégiája, *Publicationes Universitatis Miskolciensis Sectio Juridica et Politica*, 2013/31, 477-480., 483-488.; Szilágyi János Ede: A vizek védelmének jogi alapjai az EU vízvédelmi jogában, *Publicationes Universitatis Miskolciensis Sectio Juridica et Politica*, 2012/30/2, 577-599.

²⁸ Joint Report of the Commissioner for Fundamental Rights and Deputy Commissioner for Fundamental Rights Ombudsman for Future Generations on case AJB-5376/2014, Budapest, 2014.

²⁹ See also Szilágyi János Ede: Aktualitások a mezőgazdasági vízjog köréből, in: Gellén Klára (edit.): *Honori et virtuti*, Szeged, Iurisperitus, 2017, 433-434.

The Ombudsman for future generations, in one of his recent policy statements,³⁰ also expressed his concern regarding a bill,³¹ which would allow the establishment of household wells of a maximum depth of even 80 meters without the obligation to obtain any prior permits or make any such announcements. In addition to jeopardizing sustainable water management, they greatly increase the risk of water and soil contamination and, if necessary, significantly reduce the likelihood of successful remediation, often completely preventing it.

The so-called Nitrates Directive³² is closely related to this, aimed at protecting human health and aquatic ecosystems against pollution caused by nitrates mainly from agricultural sources. This is required to achieve mainly by limiting the input of inorganic N fertilizers and manure on farmland. Furthermore, it requires that manure and slurry should not be stored in a way that endangers or damages the environment, especially groundwater and surface water. Member States are expected to identify and designate so-called Nitrate Vulnerable Zones and to draw up action programmes to reduce nitrate pollution.³³ Thus, in nitrate sensitive areas, farmers may carry out their activities in accordance with the action program and be obliged to take a number of measures in conformity with the so-called codes of good agricultural practice established by a Member State, and adopted by the Commission. According to a report on EU-15, the reduction recorded in the period 2000-2003 compared with the previous period 1996-1999 was 6% for N and 15% for phosphate fertilizers respectively.³⁴ The Directive could also have a positive impact on soil biodiversity by reducing the nitrate and phosphate pollution of soils. According to some forecasts, the primary production loss resulting from the decrease in fertilizer input is unlikely to have a significant effect on the amount of soil carbon and therefore does not jeopardize the success of combating climate change and the objectives of soil protection.³⁵

³⁰ Statement of the Ombudsman for future generations on groundwater protection, in: <http://www.ajbh.hu/documents/10180/2704088/Elvi+%C3%A1ll%C3%A1sfoglal%C3%A1s+a+felsz%C3%ADn+alatti+vizek+v%C3%A9delm%C3%A9ben.pdf> (25.10.2017)

³¹ No. T/15373 Amending Bill: Amendments to certain laws related to water abstractions

³² Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources

³³ However, the Directive exempts Member States from the obligation to identify specific vulnerable zones, if they establish and apply action programmes in accordance with this Directive throughout their national territory.

³⁴ René Schils – Peter Kuikman – Jari Liski – Marcel Van Oijen – Pete Smith – Jim Webb – Jukka Alm – Somogyi Zoltan – Jan Van Den Akker – Mike Billett – Bridget Emmett – Chris Evans – Marcus Lindner – Taru Palosuo – Patricia Bellamy – Robert Jandl – Ronald Hiederer: *Review of existing information on the interrelations between soil and climate change*. ClimSoil Final Report. European Communities, 2008.

³⁵ Barbara Hudec – Carolin Kaufmann – Ruta Landgrebe-Trinkunaite – Sandra Naumann: *Evaluation of soil protection aspects in certain programmes of measures adopted by Member States*. European Commission's DG Environment, 2007.

But there are also other directives³⁶ that help to achieve the objectives of the Water Framework Directive, which concern pollution caused by certain hazardous substances released into the aquatic environment. Their annexes list the hazardous substances whose release is prohibited (list 1) or restricted (list 2). In addition, some legal sources that formulate requirements related to some specific water use are worth mentioning, as interests of soil protection can be indirectly prevail through them.

These include, for example, Directive 98/83/EC on the quality of water intended for human consumption,³⁷ the Bathing Water Directive 2006/7/EC³⁸ and the Urban Waste Water Treatment Directive.³⁹ In addition to defining the technological requirements for waste water treatment, the latter also sets rules for sewage sludge but does not contain provisions regarding its use. The application of sewage sludge in agricultural land is regulated by the aforementioned Directive 86/278/EEC, while at the same time EU legislation has not yet been adopted for non-agricultural areas.

2.5. Air policy

Soil contamination can occur not only through water but also from the atmosphere, the most typical forms of which are dry and wet deposition. From the point of view of soil protection, this is why legal measures in the Community legislation which is primarily intended to protect air quality, are also so important. The central element of the regulation was the Air Quality Framework Directive,⁴⁰ adopted in 1992, which outlined inter alia the most important principles and defined the framework for the assessment and protection of air quality in the EU. Additional pillars of the EU air quality protection were provided by the so-called daughter Directives⁴¹ supplementing the Framework Directive, which set out principles, requirements, and air quality limit

³⁶ Directive 2006/11/EC of the European Parliament and of the Council of 15 February 2006 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community and Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration

³⁷ Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption

³⁸ Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC

³⁹ Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment

⁴⁰ Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management

⁴¹ I. Daughter Directive: Council Directive 1999/30/EC of 22 April 1999 relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air. II. Daughter Directive: Directive 2000/69/EC of the European Parliament and of the Council of 16 November 2000 relating to limit values for benzene and carbon monoxide in ambient air. III. Daughter Directive: Directive 2002/3/EC of the European Parliament and of the Council of 12 February 2002 relating to ozone in ambient air. IV. Daughter Directive: Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.

values for certain dangerous substances in the atmosphere. However, taking into account the latest medical knowledge, scientific results and the experience of the Member States, the Framework Directive was revised in 2008 and consolidated with the first three daughter Directives.⁴² This was necessary, inter alia, for the sake of clarity, simplicity and efficiency of administration.

Member States are required to take various measures to comply with limit values, to improve or maintain air quality. Member States shall designate zones and agglomerations in their territory where regular air quality measurements and tests are carried out in accordance with the provisions of this Directive. In areas where there is a risk of exceeding the limit value and / or the alert threshold, Member States shall draw up a short-term action plan indicating the measures⁴³ to be taken to prevent the risk and to reduce its duration. If levels of pollution exceed the threshold level at any location, measures to improve air quality will be taken by the implementation of air quality plans. National authorities should also ensure that the public and environmental, consumer and other relevant organizations are adequately informed, and national governments have annual reporting obligations for all pollutants covered by legislation.

The most important pollutants concerning soil protection are heavy metals, sulfur dioxide, nitrogen oxides, polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). The detailed rules relating to them therefore form part of the aforementioned Directive 2008/50/EC, with the exception of heavy metals and PAHs. By contrast, the Fourth Daughter Directive has retained its autonomy and is still of great significance to date, since arsenic, cadmium, mercury and nickel, beyond the ambient air pollution, have a serious impact on human health, by deposition in soil and so on in groundwater (including the food chain) and the environment. It lays down targets for pollutant content and obliges Member States to take the necessary measures to avoid, prevent or reduce adverse effects on human health and the environment as a whole.

2.6. Industrial emissions, chemicals and fertilizers

Different and independent approaches to reducing emissions into the air, water or soil can, instead of protecting the environment as a whole, promote the transfer of pollution from one environmental element to another. It is therefore appropriate to set up an integrated approach which includes prevention and reduction of emissions into the air, water and soil, waste management, energy efficiency and accident prevention as well.

⁴² Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

⁴³ For example, the plans may require measures to regulate, and if necessary suspend, certain activities (e.g. road traffic, construction works, certain industrial activities) which contribute to exceeding the limit values, target values or alert thresholds.

The so-called IPPC Directive⁴⁴ also serves to achieve this, which is based on the fact that large pollutant industrial installations⁴⁵ receive an integrated permit for all environmental elements which set the conditions for carrying out their activities.

Accordingly, the permit should include: (1) all the measures necessary to achieve a high level of protection of the environment as a whole and to ensure that the installation is operated in accordance with the general principles; (2) emission limit values for polluting substances, or equivalent parameters or technical measures; (3) appropriate requirements to protect the soil and groundwater, and (4) monitoring requirements. Permit conditions should be set on the basis of best available techniques. If the industrial activity involves the possibility of contamination of the soil and groundwater at the site of the installation, through the use, production or release of hazardous substances, the operator shall prepare a so-called baseline report and submit it to the competent authority before starting operation or before updating the permit of the installation. As a basic monitoring requirement, the Directive requires a periodic monitoring at least once every 10 years for soil, unless otherwise specified by the competent authority.⁴⁶ Where the installation has caused significant pollution of soil or groundwater by relevant hazardous substances compared to the state established in the baseline report, the operator shall take the necessary measures to address the pollution in order to restore the site to its original state.⁴⁷ The preamble of the Directive emphasizes that, *inter alia*, the importance of soil protection considerations, having regard to the EU's Thematic Strategy for Soil Protection,⁴⁸ also justified the revision of previous legislation.⁴⁹ However, according to data for 2009 of the European Pollutant Release and Transfer Register, the number of cases of pollutant release to soil is still low (144), compared to almost 3,000 for water and more than 11,000 for air.⁵⁰ However, a number of potentially polluting activities do not fall under the Industrial Emissions Directive, as it only applies to existing installations.

Among the chemical substances, plant protection products may have the greatest impact on the state of our soils since they are a major threat to living organisms because of their persistence, toxicity and bioaccumulation.

⁴⁴ Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control)

⁴⁵ According to Annex I of the Directive, such installations are, for example, metal processing, metallurgical, chemical, waste treatment plants, livestock farms etc.

⁴⁶ *Ibid.* Article 16

⁴⁷ *Ibid.* Article 22

⁴⁸ Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Thematic Strategy for Soil Protection [SEC(2006)620] [SEC(2006)1165]

⁴⁹ Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control

⁵⁰ Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: The implementation of the Soil Thematic Strategy and ongoing activities, COM/2012/046

The first point of the relevant Community legislation is Directive 79/117/EC,⁵¹ which, however, was repealed by a Decree of 2009⁵² together with the Directive concerning the placing of plant protection products on the market in 1991.⁵³ The purpose of the Regulation is to ensure a high level of protection for both human and animal health and the environment and to improve the functioning of the internal market by harmonizing the rules on the placing of plant protection products on the market and at the same time increasing agricultural production. It contains important provisions for authorization of the sale, use and control of plant protection products in the EU. It also sets out specifications for the composition of plant protection products and preliminary risk assessment concerning their impacts on the environment and the human health. It includes the range of active substances for inclusion in plant protection products and the procedure for introduction of new active substances. The basic requirement for plant protection products is not to have an unacceptable impact on the environment, with particular regard to the following aspects: (1) its fate and distribution in the environment, particularly contamination of surface waters, including estuarine and coastal waters, groundwater, air and soil taking into account locations distant from its use following long-range environmental transportation; (2) its impact on non-target species, including on the ongoing behaviour of those species; (3) its impact on biodiversity and the ecosystem. It is important to point out two further regulations setting out the data for active substances and plant protection products.⁵⁴ As part of this, extensive investigations have to be carried out on the effects of pesticides, inter alia, on soil and its biota, as detailed in their annexes. (Table 1).

⁵¹ Council Directive 79/117/EEC of 21 December 1978 prohibiting the placing on the market and use of plant protection products containing certain active substances

⁵² Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC

⁵³ Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market

⁵⁴ Commission Regulation (EU) No 283/2013 of 1 March 2013 setting out the data requirements for active substances, in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market and Commission Regulation (EU) No 284/2013 of 1 March 2013 setting out the data requirements for plant protection products, in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market

The requirements set out in these Regulations represents the minimum data to be submitted.

PART A Chemical plant protection products	PART B Preparations of microorganisms
Fate and behaviour of plant protection products in soil	Fate and behaviour of products in the environment
Effects on non-target soil meso- and macrofauna	Effects on non-target organisms (e.g. soil microorganisms, arthropods, earthworms)
Effects on soil nitrogen transformation	

Table 1
Data requirements for plant protection products, which most affect soil and its biota based on the Regulation (EU) No 284/2013

The EU legislation on pesticides is completed by the Communication from the Commission of 2006 entitled: „*A thematic strategy on the sustainable use of pesticides*”⁵⁵ and the Directive 2009/128/EC,⁵⁶ which complies with the provisions of the foregoing document. According to the Communication, despite all the efforts that have been made to reduce the risk of using pesticides and to prevent any undesirable effects, unwanted amount of pesticides can still be found in environmental media, especially in soil and water. It is, therefore, essential to encourage rational and accurate use of pesticides and appropriate crop and soil management practices. To this end, the Directive establishes a framework for achieving sustainable use of pesticides by reducing their risks to and their impacts on human health and the environment, and by promoting integrated pest management and alternative approaches or techniques. In Annex III, for example, it lays down the general principles of integrated pest management and provides that the following solutions should be preferred in order to prevent or suppress harmful organisms: (1) crop rotation; (2) use of adequate cultivation techniques (e.g. stale seedbed technique, sowing dates and densities, under-sowing, conservation tillage, pruning and direct sowing); (3) use, where appropriate, of resistant/tolerant cultivars and standard/certified seed and planting material; (4) use of balanced fertilisation, liming and irrigation/drainage practices; (5) preventing the spreading of harmful organisms by hygiene measures (e.g. by regular cleansing of machinery and equipment); (6) protection and enhancement of important beneficial organisms, e.g. by adequate plant protection measures or the utilisation of ecological infrastructures inside and outside production sites.

⁵⁵ Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - A thematic strategy on the sustainable use of pesticides, COM (2006) 372

⁵⁶ Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides

It is also important to mention the Directive on persistent organic pollutants (POPs),⁵⁷ as last amended in 2010, since obsolete or carelessly managed stockpiles of persistent organic pollutants may seriously endanger the environment and human health through, for instance, contamination of soil and groundwater. Furthermore, the REACH Regulation⁵⁸ should also be highlighted, which contains essential provisions on the registration, evaluation, authorization and restriction of chemicals.

In the process of the production of safe and good quality food, it is necessary to check the materials used in plant production, such as crop-enhancing substances discharged into the soil or plant. During their application it should be ensured, that they do not pose a threat to or cause adverse effects on health and the environment, including the soil. In order to assure safe and prudent use, EU rules on the marketing and application of crop-enhancing substances were created. Such rule is the Regulation (EC) No 2003/2003⁵⁹ as well, which has been revised several times to date, with the aim of fixing provisions for the commercial distribution of the so-called EC fertilizers (European Community fertilizers). In addition to labelling and packing rules, the Regulation also addresses the quality requirements of fertilizers, having particular regard to active ingredient, solubility and particle size.

2.7. Environmental impact assessment and environmental management (EMAS)

The purpose of environmental impact assessments is to establish whether or not some activities are likely to have an environmental impact or a risk. The EU adopted the first directive⁶⁰ related to this in 1985, that has been changed several times over the past three decades. A 2009 Commission report⁶¹ highlighted the strengths of the Directive and the areas where improvements need to be made. Thereafter, the revision of the law began, which was preceded by a broad public consultation.

⁵⁷ Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

⁵⁸ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

⁵⁹ Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilisers

⁶⁰ Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment

⁶¹ Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on the application and effectiveness of the EIA Directive (Directive 85/337/EEC, as amended by Directives 97/11/EC and 2003/35/EC), COM(2009) 378

The need for revision, above all, was based on the experience accumulated over the past 30 years, the incorporation of case law of European Court of Justice and the taking into account of EU legislation which has undergone significant changes in the meantime. As a result, a consolidated, codified version of the Directive,⁶² which has since been amended by Directive 2014/52 / EU,⁶³ has been set up. Article 3 requires, in the light of each individual case, the identification and assessment of the indirect and direct effects of each project on the following factors: (1) population and human health; (2) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; (3) land, soil, water, air and climate; (4) material assets, cultural heritage and the landscape; and (5) their interactions.

Annex I of the Directive lists the activities which are subject to impact assessments in all cases, while in case of projects listed in Annex II the decision is left to discretion of the Member States whether to prescribe an obligation on the environmental impact assessment in accordance with the criteria set out in Annex III. The Directive therefore primarily determines the rules of procedure and does not include specific professional requirements. It is important to note that its amendment 2014 has significantly enhanced the role of soil as a natural resource in the environmental impact assessment, which is illustrated by, inter alia, the following paragraph of the preamble of the Directive: *„The Commission Communication of 22 September 2006 entitled ‘Thematic Strategy for Soil Protection’ and the Roadmap to a Resource-Efficient Europe underline the importance of the sustainable use of soil and the need to address the unsustainable increase of settlement areas over time (‘land take’). Furthermore, the final document of the United Nations Conference on Sustainable Development held in Rio de Janeiro on 20-22 June 2012 recognises the economic and social significance of good land management, including soil, and the need for urgent action to reverse land degradation. Public and private projects should therefore consider and limit their impact on land, particularly as regards land take, and on soil, including as regards organic matter, erosion, compaction and sealing; appropriate land use plans and policies at national, regional and local level are also relevant in this regard.”* However, it is important to note that Member States had to bring into force the laws, regulations and administrative provisions necessary to transpose the Directive by 16 May 2017, so that these stronger soil protection guarantees can only have beneficial effects later.

The Strategic Environmental Impact Assessment has a similar role to play in enforcing environmental considerations during the development of various plans and programs, and before its adoption or submission to the legislative procedure. The most relevant directive⁶⁴ provides for an assessment of the expected environmental impacts of certain policies and programmes under planning.

⁶² Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment

⁶³ Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment

⁶⁴ Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment

In addition, Member States are bound by obligation of continuous monitoring, reporting and information, as they have to monitor the significant environmental effects of the implementation of plans and programmes, in order, *inter alia*, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.

Nor can the environmental impacts of businesses and certain industries be neglected. The EU provides an opportunity for these entities to improve their environmental performance through Community legislation on environmental management.⁶⁵ Its foundations were created by the EU EMAS Regulation,⁶⁶ which was introduced in 1992 and has been revised several times since then.

The Regulation seeks to achieve eco-friendly economy by the establishment and implementation of environmental management systems, systematic, objective and periodic evaluation of their performance, provision of information on environmental performance, open dialogue with the public and other stakeholders, and the active involvement and appropriate training of employees in organizations. In Annex I, it mentions land use and soil contamination, use of natural resources and raw materials, biodiversity as direct environmental aspects, which have to be considered by all organisations during their operations.

The use of eco-labels and environmentally friendly product labels by developing ecologically conscious consumer behavior will also help wider dissemination of environmentally friendly forms of farming, which greatly contributes to minimizing the environmental burden on ecosystems. Farmers have to comply with a set of criteria whose basic purpose is the rational management of natural resources. The framework for Community legislation is set out in Council Regulation (EC) No 834/2007,⁶⁷ including the main objectives and general principles applicable to organic production, as well as the basic rules for production, labeling and control. We can find surprisingly forward-looking rules for soil management, which indicates a modern soil protection approach. For example, the preamble of the Directive highlights several times the importance of preserving soil fertility and preventing soil erosion. These are seen, *inter alia*, through organic production, aimed at establishing sustainable management systems for agricultural that: (a) respects nature's systems and cycles and sustains and enhances the health of soil, water, plants and animals and the balance between them; (b) contributes to a high level of biological diversity; (c) makes responsible use of energy and the natural resources, such as water, soil, organic matter and air.

⁶⁵ It is important to emphasize that the system is voluntary, the EMAS Regulation is not mandatory for businesses.

⁶⁶ Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), repealing Regulation (EC) No 761/2001 and Commission Decisions 2001/681/EC and 2006/193/EC

⁶⁷ Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91

The specific principles applicable to farming include the maintenance and enhancement of soil life and natural soil fertility, soil stability and soil biodiversity preventing and combating soil compaction and soil erosion, and the nourishing of plants primarily through the soil ecosystem. Other similar rules are also set forth in the provisions on crop production and animal husbandry (Table 2).

Plant production rules	Livestock production rules
organic plant production shall use tillage and cultivation practices that maintain or increase soil organic matter, enhance soil stability and soil biodiversity, and prevent soil compaction and soil erosion	the livestock shall have permanent access to open air areas, preferably pasture, whenever weather conditions and the state of the ground allow this unless restrictions and obligations related to the protection of human and animal health are imposed on the basis of Community legislation
the fertility and biological activity of the soil shall be maintained and increased by multiannual crop rotation including legumes and other green manure crops, and by the application of livestock manure or organic material, both preferably composted, from organic production	the number of livestock shall be limited with a view to minimising overgrazing, poaching of soil, erosion, or pollution caused by animals or by the spreading of their manure

Table 2
The most important soil-related rules on crop production and animal husbandry based on the Council Regulation (EC) No 834/2007

Overall, it can be concluded that the cultivation techniques set out in the Directive have a beneficial impact on soil and its biota. However, if we consider that only 6.2% of the EU's agricultural areas are currently undergoing organic farming, we can not speak of a general phenomenon. Despite the fact that a steady increase has been observed in recent years, which hopefully will continue in the future.⁶⁸

3. Common Agricultural Policy (CAP)

An important part of Europe's territory is under agricultural land use, which greatly influences, inter alia, soil through the state of our lands and habitats. In defining the agricultural activities and cultivation methods made here, therefore, environmental and nature conservation aspects can not be ignored. The Biodiversity Action Plan for Agriculture issued by the EU Commission in 2001, for example, calls for the introduction of agri-environment measures and compensatory tools, as part of the Common Agricultural Policy, which encourage farmers to apply environmentally friendly and sustainable farming methods and systems.

⁶⁸ Eurostat, 2015: Organic farming statistics, in: http://ec.europa.eu/eurostat/statistics-explained/index.php/Organic_farming_statistics (25.10.2017)

Such measures, which are beneficial for soil biodiversity and organic matter balance, may include, inter alia, the promotion of soil-friendly cultivation (conservation tillage), organic farming, integrated crop production and extensive management forms, limiting the use of fertilizers, insecticides and pesticides, etc.

This is implemented through the cross-compliance system of the CAP, which was introduced by a Council Regulation of 2003 no longer in force,⁶⁹ but its application became mandatory only in 2005. The point is that the farmer receiving direct payments must comply with certain statutory management requirements in accordance with a specified time schedule, as well as the rules on the good environmental and ecological status of agricultural land.⁷⁰ Where the statutory management requirements or good agricultural and environmental condition are not complied with, as a result of an action or omission directly attributable to the individual farmer, the total amount of direct payments to be granted in the calendar year in which the non-compliance occurs, shall be reduced or cancelled.⁷¹ The requirement of good environmental and ecological status is of particular importance for soil conservation, since it can play a key role in protection against soil erosion, in maintenance of good soil structure and optimal level of soil organic matter.

The Annex IV of the Regulation details the measures required to achieve the abovementioned objectives. In a flexible framework, Member States choose the requirements that are mandatory for themselves, taking into account local demands and needs. However, this allows Member States to maneuver at the expense of environmental interests, undermining the achievement of a good ecological and environmental condition. As a result, large differences exist among nations: for example, in the case of Estonia, Lithuania, Slovakia and Latvia, an EU evaluation of 2007 identified major shortcomings in the implementation of soil protection measures, while France, the Netherlands, Spain, the United Kingdom and Germany have introduced more stringent or more detailed measures than EU requirements.⁷²

⁶⁹ Council Regulation (EC) No 1782/2003 of 29 September 2003 establishing common rules for direct support schemes under the common agricultural policy and establishing certain support schemes for farmers and amending Regulations (EEC) No 2019/93, (EC) No 1452/2001, (EC) No 1453/2001, (EC) No 1454/2001, (EC) 1868/94, (EC) No 1251/1999, (EC) No 1254/1999, (EC) No 1673/2000, (EEC) No 2358/71 and (EC) No 2529/2001

⁷⁰ For further details, see Csák Csilla – Jakab Nóra: The Hungarian National Report on Agriculture and the requirements of a sustainable development, *Agrár- és Környezetjog*, 2012/12, 68-72.; Horváth Gergely: Az agrár-környezetvédelmi jog speciális részterületei, *Jog, Állam, Politika*, 2009/2, 80-101.; Lubóczki Katalin – Olajos István: Legislazione estera: Agricultural problems from the post to future in Hungary, *Rivista di Diritto Agrario: Agricoltura - alimentazione – Ambiente*, 2010/4, 716-726.; Olajos István – Raisz Anikó: The Hungarian National Report on Scientific and Practical Development of Rural Law in the EU, in States and in the WTO, *Agrár- és Környezetjog*, 2010/8, 41-42.; Raisz Anikó – Szilágyi János Ede: Development of agricultural law and related fields (environmental law, water law, social law, tax law) in the EU, in countries and in the WTO, *Agrár- és Környezetjog*, 2012/12, 116-117.

⁷¹ Csák Csilla – Olajos István: The application of the single payment by national administrations and national courts - Hungarian National Report, *Agrár- és Környezetjog*, 2008/5, 31-42.

⁷² Hudec et al 2007

Currently, Regulation (EU) No 1305/2013 on rural development,⁷³ Regulation (EU) No 1307/2013 on direct payments⁷⁴ and Regulation (EU) No 1306/2013 on financing,⁷⁵ contain the relevant provisions in force. The Annex II of the latter lists the rules on cross-compliance relating to the following areas: (1) environment, climate change and good agricultural condition of land; (2) public, animal and plant health; and (3) animal welfare. From the point of view of the soils, the first group is of the utmost importance, so their detailed presentation can not be omitted. The relevant regulations are grouped according to the following four issues: water, soil and carbon stock, biodiversity, and landscape characteristics, minimum level of maintenance. Of these, the requirements for soil protection objectives are minimum soil cover, minimum land management reflecting site specific conditions to limit erosion and maintenance of soil organic matter level through appropriate practices including ban on burning arable stubble, except for plant health reasons. According to Article 43 of Regulation (EU) No 1307/2013, the agricultural practices beneficial for the climate and the environment may be encouraged by various subsidies. These agricultural practices are the following: a) crop diversification; b) maintaining existing permanent grassland; and c) having ecological focus area on the agricultural area. Their importance is primarily related to the carbon storage function of the soil, which can greatly reduce the CO₂ emissions of soils, contributing to both the combat against climate change and to the maintenance of the soil organic matter content. The Regulation also allows Member States for the introduction of equivalent practices listed in Annex IX, which include similar practices that yield an equivalent or higher level of benefit for the climate and the environment compared to one or several of the practices mentioned above. The Regulation on rural development policy,⁷⁶ which is the second pillar of the CAP, also states that agri-environment-climate payments cover only those commitments going beyond the relevant mandatory standards, criteria and minimum activities set out in the aforementioned regulations, and relevant minimum requirements for fertiliser and plant protection products use as well as other relevant mandatory requirements established by national law.

⁷³ Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005

⁷⁴ Regulation (EU) No 1307/2013 of the European Parliament and of the Council of 17 December 2013 establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy and repealing Council Regulation (EC) No 637/2008 and Council Regulation (EC) No 73/2009

⁷⁵ Regulation (EU) No 1306/2013 of the European Parliament and of the Council of 17 December 2013 on the financing, management and monitoring of the common agricultural policy and repealing Council Regulations (EEC) No 352/78, (EC) No 165/94, (EC) No 2799/98, (EC) No 814/2000, (EC) No 1290/2005 and (EC) No 485/2008

⁷⁶ It provides a good overview on this topic: Hegyes Péter: Links Between Rural Development and Direct Payments Based on the 'CAP Reform' of 2013, *Agrár- és Környezetjog*, 2014/17, 39-49.; Olajos István: *A vidékfejlesztés kialakulása és története*, Miskolc, Novotni Kiadó, 2008, 112-185.

Consequently, cross-compliance⁷⁷ prescribes minimum requirements for soil protection, but by nature it can not handle all soil degradation processes. Furthermore, it should be emphasized that these standards do not apply in all agricultural areas of Europe, and at present there are no such requirements at all for certain land use types.

4. Regional policy

It is a fundamental Community effort, which explicitly appears in the EU Treaty as well, to reduce disparities between the levels of development of the various regions and the backwardness of the least favoured regions.⁷⁸ This is to be achieved, inter alia, through cohesion and structural policies, which are two pillars of regional policy. Various EU funds have been set up to finance these policies, such as the European Regional Development Fund (ERDF), which is part of the Structural Funds, or the Cohesion Fund. Since 1975, the ERDF has been instrumental in promoting economic and social cohesion, mainly through the implementation of business and infrastructure development, innovation and programs on equal opportunities. A significant part of the grants (about 45%) reaches the regions through this fund.⁷⁹ Its regulation is based on the Regulation (EU) No 1303/2013 laying down common provisions on the Funds,⁸⁰ in addition to the Regulation (EU) No 1301/2013 on the European Regional Development Fund.⁸¹ The latter refers to the supporting the shift towards a low-carbon economy; the promoting climate change adaptation, risk prevention and management and the preserving and protecting the environment and promoting resource efficiency as investment priorities.⁸²

⁷⁷ Farkas Csamangó Erika: A kölcsönös megfeleltetés környezetvédelmi követelményrendszere az EU-ban, *Acta Juridica et Politica*, 2011/1, 83-93.; Csák Csilla: Cross compliance, avagy környezetvédelem a támogatás feltételeként, *Publicationes Universitatis Miskolciensis Series Juridica et Politica*, 2012/30/2, 423-433.

⁷⁸ Treaty on the Functioning of the European Union: Article 174, paragraph 2

⁷⁹ Szabó Marcel – Lános Petra Lea – Gyeney Laura (szerk.): *Uniók szakszabályai*. Budapest, Szent István Társulat, 2014.

⁸⁰ Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006

⁸¹ Regulation (EU) No 1301/2013 of the European Parliament and of the Council of 17 December 2013 on the European Regional Development Fund and on specific provisions concerning the Investment for growth and jobs goal and repealing Regulation (EC) No 1080/2006

⁸² *Ibid.* Article 5, paragraphs 4, 5 and 6

As part of the latter, it emphasizes – besides biodiversity and ecosystem services – the importance of preserving and restoring soils. Moreover, ERDF has a serious impact on the European soil through the financing of the waste and water management, urban environmental development and the industrial transition towards a resource efficient economy. In 2006, the EU adopted two thematic strategies for the last two, which could be of great significance in combat against soil degradation. The Thematic Strategy on the Urban Environment⁸³ sets out cooperation measures and guidelines to improve the urban environment. Encouraging sustainable urban planning can reduce urban expansion, natural habitat destruction and biodiversity loss. These are, for example, the following for the soils: rehabilitation and reuse of contaminated sites (e.g. support for brownfield investments instead of greenfield ones), reduction of soil sealing due to rational land use and soil-friendly construction techniques. The Thematic Strategy on the Sustainable Use of Natural Resources⁸⁴ aims to reduce the environmental burden resulting from the production and use of natural resources (including soils) without penalising economic development. Community decision-makers recognize that natural resources are essential for the functioning of the economy and for the maintenance of our quality of life, so long-term sustainable management of them is a fundamental interest of humankind.

The Cohesion Fund, already mentioned, was set up in 1993 primarily to support long-term projects such as environmental and infrastructure investments.⁸⁵ Similarly to the ERDF, the current EU Regulation on this issue⁸⁶ also considers low-carbon economy, climate change adaptation, environmental protection and resource efficiency, including conservation and restoration of biodiversity, ecosystem services and soils as investment priorities. This is also reflected in the fact that € 3.1 bn of environmental investments of € 49.6 billion for the 2007-2013 period has been earmarked for the restoration of industrial sites and polluted soils under cohesion policy. Of the Member States, the largest amount was allocated to Hungary for this purpose (475 M €), Czech Republic (371 M €) and Germany (332 M €).⁸⁷ These amounts are likely to rise further with increasing soil degradation during the 2014-2020 programming period as existing legislation continues to allow for the rehabilitation of degraded soils from both the ERDF and the Cohesion Fund.

⁸³ Communication from the Commission to the Council and the European Parliament on Thematic Strategy on the Urban Environment {SEC(2006) 16}

⁸⁴ Communication from the Commission to the Council, the European Parliament, the European Economic and Social committee and the Committee of the Regions - Thematic Strategy on the sustainable use of natural resources {SEC(2005) 1683} {SEC(2005) 1684}

⁸⁵ Szabó et al 2014

⁸⁶ Regulation (EU) No 1300/2013 of the European Parliament and of the Council of 17 December 2013 on the Cohesion Fund and repealing Council Regulation (EC) No 1084/2006

⁸⁷ Report from the Commission 2012

5. Final thoughts

In the absence of effective EU action, soil degradation continues and, more than ten years after the adoption of the Thematic Strategy on Soil Protection, no systematic European control and protection of soil quality has been achieved. This is for example the fact that the soil monitoring system of only a few European countries currently takes into account the biological aspect of soils. It is therefore important to develop land use and soil quality indicators that enable standardized monitoring systems to be set up, providing globally comparable data for decision-making processes. In order to enforce the principle of sustainability, an effective soil protection is essential, which creates the basis for sustainable management of the soil as a natural resource having regard to the continuous soil degradation. Thus, we must welcome all competent and comprehensive European (and international) legislative measures to better protect our soils.