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The Application of Environmental Policies to Competition Law.

What can be the influence of environmental and ecological economics in the balancing of article 101(3) TFEU? Assessment on the example of energy savings, waste disposal and natural resources use cases.

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ABSTRACT

In this paper the importance of environmental factors in EU competition law will be explored. Moreover, I will examine whether policy makers can enhance this relationship in respect to ideas of environmental valuations, efficiencies and externalities forwarded by environmental and ecological economists. Although many would like to keep environmental concerns outside the scope of competition law, the increase in use of economic and market-based regulations coupled with development of EU environmental policy might require a degree of integration of environmental goals.

During the 2010 OECD Roundtable professor Amundsen listed in his introductory speech a number of factors that characterise sustainable growth (growth under environmental constraints). Among others, he mentioned, low emissions of waste, low loss of biodiversity, sound amenity management as well as efficient use of natural resources.¹ Indeed, I will direct my focus on cases related to waste disposal, energy savings and sustainable use of natural resources.

The very one question is whether measures likely to restrict competition should be exempted from the prohibitions of the EU competition rules on the ground that they promote environmental protection. Does a high level of environmental protection and the promotion of sustainable development in Community legislations imply that environmental aspects should prevail in a conflict with competition?

The first purpose of this paper is to investigate to what extent theories taken from environmental and ecological economists are capable to be translated into European competition policy legal language. The second aim is to use these ideas on the specific examples in balancing against economic factors under Article 101 (3) TFEU.

¹ OECD, Pro- Active Policies for Green Growth and the Market Economy, DAF/COMP(2010)34, p.181

TABLE OF CONTENT

	ABSTRACT	2
	TABLE OF FIGURES	4
	TABLE OF ABBREVIATIONS	5
1.	INTRODUCTION	6
2.	GOALS OF THE EU ENVIRONMENTAL LAW	7
3.	GOALS OF THE EU COMPETITION LAW	10
4.	DIFFERENCE BETWEEN ENVIRONMENTAL AND ECOLOGICAL ECONOMICS	14
5.	IDEAS TAKEN FROM TRANS-DISCIPLINARY ECOLOGICAL AND ENVIRONMENTAL ECONOMICS	17
	5.1. ECONOMIC EFFICIENCIES	18
	5.1.1. FOCUS: ENERGY SAVINGS	21
	5.2. MARKET AND EXTERNALITIES	23
	5.2.1. FOCUS: WASTE DISPOSAL	25
	5.3. ENVIRONMENTAL VALUATION	27
	5.3.1. STATED PREFERENCES (SP)	29
	5.3.2. REVEALED PREFERENCES (RP)	30
	5.3.3. FOCUS: NATURAL RESOURCES	32
	5.3.4. LIMITATIONS AND APPLICATION OF ENVIRONMENTAL VALUATION	35
6.	ENVIRONMENTAL ISSUES IN THE ASSESSMENT OF ARTICLE 101(3) TFEU: FINDING A RIGHT BALANCE	38
	6.1. THE APPLICATION OF ARTICLE 101 TFEU	39
	6.2. THE SCOPE OF ARTICLE 101(3) TFEU	40
	6.3. THE ANALYSIS OF ARTICLE 101(3) TFEU	41
	6.3.1. FOCUS: WASTE DISPOSAL CASES	43
	6.3.2. FOCUS: ENERGY SAVINGS CASES	47
	6.3.3. FOCUS: NATURAL RESOURCES CASES	50
	6.4. SOLUTION SEEKING	53
7.	CONCLUSIONS	56
	BIBLIOGRAPHY	59

TABLE OF FIGURES

GRAPH 1	Link Between Law, Economics and Environment	14
GRAPH 2	Relationship Between Natural World and Humans	17
GRAPH 3	Ecological View on Waste Disposal	26
GRAPH 4	Reversal of the Decision Making Process	55
TABLE 1	Goals of Different Fields of Economics	16
TABLE 2	Barriers to Energy Efficiency	22
TABLE 3	Market Allocations of Commodities Causing Pollution Externalities	24
TABLE 4	Possible Valuation Methods For Non-Market Goods	31
TABLE 5	Step-By-Step Fishery Valuation	34
TABLE 6	Methods of Evaluation	37
TABLE 7	Cumulative Conditions Under Article 101(3) TFEU	40
TABLE 8	Cost-Benefit Analysis for Waste Recycling	46
TABLE 9	Sustainable Energy Use: Key Ingredients	47
TABLE 10	Cost-Benefit Analysis For Evaluation of Net Energy Savings	49

TABLE OF ABBREVIATIONS

EU	European Union
UNGA	United Nations Conference on the Human Environment
ECJ	European Court of Justice
EEC	European Economic Community
TEEC	Treaty Establishing European Economic Community
EC	European Community
TEC	Treaty Establishing European Community
SEA	Single European Act
TEU	Maastricht Treaty
TEA	Treaty of Amsterdam
TFEU	Treaty on the Functioning of the European Union
CB	Cost-benefit Analysis
TEV	Total Economic Value
SP	Stated Preferences Method
RP	Revealed Preferences Method
WTA	Willingness to Accept
WTP	Willingness to Pay
CV	Contingent Valuation Method
CM	Choice Modelling Method
RUM	Random Utility Model Method
CR	Contingent Ranking Method
CP	Comparison by Pairs Method
HP	Hedonic Price Method
RIA	Regulatory Impact Analysis
OECD	Organization for Economic Cooperation and Development
EEA	European Environmental Agency
NMa	De Nederlandse Mededingingsautoriteit (the Dutch Competition Authority until 2 nd of April 2013)
ACM	Autoriteit Consument & Markt (The Dutch Competition Authority from 2 nd of April 2013)
NCA	National Competition Authority
OFT	The Office of Fair Trading (The UK Competition Authority until 1 st of April 2014)
CFP	Common Fisheries Policy
MSC	Managementplan msc garnaalenvisserij
WWF	The World Wide Fund for Nature
ACCC	Australian Competition and Consumer Commission
BIAC	The Business and Industry Advisory Committee to the OECD
BKartA	Bundeskartellamt (German Competition Authority)

1. Introduction

Many lawyers and economists reject the idea that environmental concerns should play a significant role in the EU competition policy.² However, as more and more consumers have become alert to the effect of companies' behaviour on the environment it was a matter of time that ecological concerns would have become present in competition law. New rules and consumer demands have curved new paths for rivalry on the markets. According to the Treaties, the EU shall aim for a high level of environmental protection.³ At the same time the process of competition must not be threatened.

Nowadays, in the EU the aims of environmental protection as well as free and undistorted competition are being pursued by means of highly developed legal frameworks. In order to understand the interaction between both European policies, under the scrupulous analysis of this paper, I will introduce brief chronicles of their developments in chapters 2 and 3. Essentially, for the clarity of arguments forwarded by the paper, chapter 4 will provide distinction between environmental and ecological economists.

Focus on environmental principles can affect competition in many ways. However, the degree of this influence depends to a great extent on the form of interpretation the policy makers will adopt. For this purpose, I advocate on the broader, interdisciplinary approach that should be undertaken. Chapter 5 discusses selected ideas taken from trans-disciplinary perspective.

Article 101(1) prohibits any agreement between undertakings, which may affect trade between Member States and which has either as its object or effect the restriction of competition. However, an agreement that falls within Article 101(1) is not necessarily unlawful. Article 101(3) makes an exception to the prohibition where the agreement's anti-competitive effects are outweighed by efficiency benefits. Taking the above into account, chapter 6 analyses the possible involvement of environmental and ecological economists' ideas into the application of Article 101(3) TFEU. Last but not least, chapter 7 outlines the concluding remarks.

² See Bishop and Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement*, Sweet and Maxwell 3rd edition 2010.

³ See for example Article 11 TFEU

2. Goals of the EU Environmental Law

The main goal of environmental policy is to limit the harmful effects of commerce⁴ on the environment. Although nowadays environmental policy is one of the most expanding areas of EU legislation, it is a relatively recent phenomenon. Back in the days there was no express environmental consideration in the 1956 Treaty of Rome.⁵ From the logical point of view it can be easily understood that the European Economic Community promoted above all trade between Member States. The first real evidence of the policy at stake came only during 1972 United Nations Conference on the Human Environment in Stockholm.⁶ The European Council made it clear that economic expansion is not an end in itself, but rather an aim to reduce disparities and improve the quality of life.⁷ In 1973, the first Action Programme for the Environment⁸ was adopted, in the form of a political declaration.⁹ By aiming at environmental protection as a necessary constituent of economic growth, from 1977 Action programs were adopted.¹⁰ Activity in this field of law was indeed substantial.¹¹ The ECJ for the first time confirmed in 1985 that Art 235 EEC Treaty,¹² as a base for a broad range of non-economic objectives, justifies certain limits on the principle of freedom of trade.¹³ The EU environmental policy was finally clearly settled, if not yet in the Treaty then at least in the ECJ case law.¹⁴

⁴ For the purpose of this paper I will adopt the following definition of 'Commerce': A component of business which includes all activities, functions and institutions involved in transferring goods from producers to consumers

⁵ Art 2 of the Treaty of Rome 'aims of harmonious development of economic activities, a continuous and balanced expansion, an increase in stability, and accelerated raising of the standard of living.'

⁶ UNGA Res. 2398 (XXIII)(1968)

⁷ Paris Declaration of the European Council, cited in the preamble to the First Action Programme on the Environment, OJ 1973 C 112/1.

⁸ OJ 1973 C 112, 20/12

⁹ Suzanne Elizabeth Joy Kingston, *The Role of Environmental Protection in EC Competition Law and Policy*, Universiteit Leiden, p.6

¹⁰ Second Programme (1977 – 1981) OJ 1977 C 399/1, Third Programme (1982 – 1986) OJ 1983 C 46/1, Fourth Programme (1987 – 1992) OJ 1987 C 328/1. Fifth Programme (1993-2000) OJ C 138, 17.5.93

¹¹ See, for example, Directive 85/337 on environmental impact assessments OJ 1985 L 175/40, Directive 75/442 on waste OJ 1975 L 194/23, Directive 79/409 on the conservation of wild birds OJ 1979 L 103/1, Directive 75/440 on surface water OJ 1975 L 194/26, Directive 84/360 on the combating of air pollution from industrial plants OJ 1984 L 188/20.

¹² Now Article 308

¹³ Case 240/83 ADBHU [1985] ECR 531, para 13. [The directive](...) must be seen in the perspective of environmental protection, which is one of the Community's essential objectives.

¹⁴ Arvidsson Linnea, *Environmental Protection and EC Competition Law*, University of Lund, VT 1999, p.8

The environmental ideas were formalized a year later, among other,¹⁵ by Article 25 of the Single European Act.¹⁶ What is even more important, the SEA explicitly set out the objectives of the Community environmental policy, which were expressed, inter alia, by preserving and improving the quality of the environment, protecting human health, and ensuring a prudent utilization of natural resources.¹⁷

Article 2 EC,¹⁸ representing a much more dynamic approach, came into force with the entry of Maastricht Treaty.¹⁹ From this point environmental protection requirements were obliged to be integrated into the implementation of other Community policies such as competition law. It was exactly upon entry into force of this Treaty on 1 November 1993 during the 'Delors Commission',²⁰ that the hierarchy between different principles of the Community had been for the first time called in question.²¹

The 1999 Treaty of Amsterdam (TEA)²² developed environmental approach even further. The environmental changes to the treaties as introduced by the TEA can be split into three main areas, which concern the principle of sustainable development, emphasis on high level of quality protection of the environment, as well as integration principle.²³ The wording of Article 2 EC had been changed, referring from this point to the aim of promoting a *'harmonious, balanced and sustainable development of economic activities'*.²⁴

¹⁵See also Article 100a(4), 'If, after the adoption of a harmonization measure by the Council acting by a qualified majority, a Member State deems it necessary to apply national provisions on grounds of major needs referred to in Article 36, or relating to protection of the environment or the working environment, it shall notify the Commission of these provisions. The Commission shall confirm the provisions involved after having verified that they are not a means of arbitrary discrimination or a disguised restriction on trade between Member States.'

¹⁶Single European Act (SEA) 1986, Title VII on the Environment

¹⁷Article 130r(4) provided that, 'The Community shall take action relating to the environment to the extent to which the objectives [of Community environmental policy, set out above] can be attained better at Community level than at the level of the individual Member States.'

¹⁸Article 2 as introduced by the Treaty of Maastricht reads as follows: 'the Community shall have as its task (...) to promote throughout the Community a harmonious and balanced development of economic activities, sustainable and non-inflationary growth respecting the environment...'

¹⁹Formally The Treaty of European Union (TEU)

²⁰The European Commission under the administration of Jacques Delors,

²¹Arvidsson Linnea, Environmental Protection and EC Competition Law, University of Lund, VT 1999, p.9

²²Signed 2 October 1997, Effective 1 May 1999

²³It is included in a new Article 6 in the TEC, in contrast to its former place among the other environmental rules.

²⁴As oppose to the SEA's reference to 'balanced development' and 'sustainable growth'.

In terms of environmental protection, no great progress has been made with the Treaty of Nice.²⁵ Only the introduction of the Treaty of Lisbon changed this area significantly.²⁶ Sustainable development has been explicitly mentioned in Article 3(3) TEU²⁷ among the list of values upon which the Union is 'founded'. It has been also emphasised that it should go hand in hand with the economic objectives of the EU. In regard to the TFEU, environmental integration principle has been shifted to Article 11 TFEU²⁸ under the heading '*Provisions having general application*'. As such, there has been a substantial upgrade from the Treaty of Amsterdam's sectorial, environment-specific provisions, to its up-to-date horizontally-applicable provisions.²⁹

The above mentioned changes reflect, over substantial period of time, the increasing status of the EU environmental policy. It is important to understand how statutory goals of environmental legislation interact for debates over the future of environmental goals. Current ideas can be summarized in reduction of human and environmental exposure to environmental contaminants as well as pollution reduction. It all comes of course not without any obstacles. Most recently the 2008 marked decline caused by economic crisis has actually led to a slowdown in the expansion of objectives such as sustainable development. A new proposal 'Europe 2020'³⁰ is said to lack clear aims for environmental legislation. What is more, the Commission recognised that many targets and actions prescribed by the Sixth Programme³¹ were unfulfilled.³² As a result, there are presently some worries on the

²⁵Signed on 26 February 2001, came into force on 1 February 2003

²⁶Treaty of Lisbon comprises of two Treaties: the Treaty on European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU), Signed on 13 December 2007, entered into force on 1 December 2009

²⁷Article 3(3) EU provides that the Union, 'shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment.'

²⁸Article 11 TFEU 'Environmental protection requirements must be integrated into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development.'

²⁹Suzanne Elizabeth Joy Kingston, *The Role of Environmental Protection in EC Competition Law and Policy*, Universiteit Leiden, p.11

³⁰Communication from the Commission, Europe 2020, A European strategy for smart, sustainable and inclusive growth, COM(2010) 2020

³¹Sixth Environmental Action Programme (2001-2010)

³²Available at: <http://www.europeanvoice.com/article/imported/action-plan-for-environment-in-2012-20-strikes-downbeat-note/75835.aspx>

harmful narrowing of the environmental approach.³³ The policy makers, nevertheless, seem to remember that middle or long-term sustainable economy cannot be achieved without a strong environmental policy.³⁴ New position that environmental issues have gained, indeed, allows having even greater practical effect³⁵ on other policies with a gate open for further development.

3. Goals of the EU Competition Law

European competition policy lies at the heart of the Single European Market objective. In contrast to the EU environmental legislations, tradition of the competition law is long-standing. This is because, generally speaking, it regulates the conditions of commercial agreements as well as the conditions of market entry, concentration and integration. In order to understand what role environmental issues can possibly play in the Community competition policy, it is essential to establish what the current goals of competition law are.

No doubt, the purpose of competition law as such is to promote efficient utilisation of society's resources.³⁶ Nevertheless, it is important to have an idea of the variety of aims which competition law enforcement might pursue. I would like to point out on two main factors that influence this set of rules. These are political decisions and economic theories. Depending on which route policy makers prioritize, competition can always be seen as more of a guardian of economic welfare or an instrument of public policy. Most importantly it is always about the vision of the role which the law and economy should play in society.

³³Proposal for a Decision on a general Union environment action programme to 2020" which the Commission published in November 2012 (COM(2012) 710).

³⁴The European Commission's proposal for a Seventh EU Environmental Action Programme, 15 January 2013

³⁵See for instance Communication from the Commission, 'Our life insurance, our natural capital: an EU biodiversity strategy to 2020' [2011] COM/2011/0244 final (biodiversity); White paper from the Commission, 'Adapting to climate change: towards a European framework for action' [2009] COM/2009/0147 final (climate change).

³⁶ Report from Nordic Competition Authorities, Competition Policy and Green Growth: Interactions and Challenges, no. 1/2010, p.14

Since the Treaty of Rome, the Community significantly developed its trade rules and commercial interactions. As a part of the German ordoliberal legacy,³⁷ the EU competition laws were designed to serve primarily the long-term goal of the European economic integration project by getting rid of national market barriers and providing access to new market entrants.³⁸ As a result nowadays, as we can read in the Treaty, EU internal market is still organised '(...) *in accordance with the principle of an open market economy with free competition.*'³⁹

Since the late 1990s, the Commission has undertaken notable efforts to move towards a more economic, effects-based approach in the area of EU merger control Article 102 and Article 101 TFEU.⁴⁰ The Treaty of Amsterdam confirmed that competitiveness is one of the most important objectives of the Community and constitutes one of the basic means for strengthening economic growth.⁴¹ Furthermore, through its introduction in Article 2 this objective has received the status of an European principle. The European Union, motivated by the goal of further development of the EU market integration project, set out in article 3 in the Treaty of Nice. In its (g) section it was clearly stated that the Community has to set up a system ensuring that competition in the internal market is not distorted.

The discussion about the definition and interplay of the goals in EU competition law and policy has always been lively debated. This had already been so before the shift towards the above mentioned 'economisation' that actually speeded up in the aftermath of US versus EU divergence⁴² in dealing with some prominent cases.⁴³ The trend towards a more economics based approach has reached a further institutional

³⁷See i.e. D.J. Gerber, *Integration, Disintegration and the Protection of Competition: Of Images, Stories and Myths*, Chicago-Kent Law Review 1992, p. 68

³⁸Towards A Market-Based Approach: The Privatization and Micro-Economization of EU Antitrust Law Enforcement, Presented at the 4th Convention of the Central and East European International Studies Association (CEEISA), University of Tartu, Estonia, 25-27 June 2006, p.5

³⁹Article 119 TFEU (ex Article 4 TEC)

⁴⁰Van Rompuy Ben, *The Impact of the Lisbon Treaty on EU Competition Law: A Review of Recent Case Law of the EU Courts*, CPI Antitrust Chronicle, December 2011, P.6

⁴¹Arvidsson Linnea, *Environmental Protection and EC Competition Law*, University of Lund VT 1999, p.13

⁴²Skourtis Athanassios, 'Is consumer welfare the (only) way forward? A re-appreciation of competition law objectives ante portas in both US and EU', University of Reading, Centre for Commercial Law and Financial Regulation, 10 August 2012, Kluwer Competition Law Blog available at: <http://kluwercompetitionlawblog.com/2012/08/10/is-consumer-welfare-the-only-way-forward-a-re-appreciation-of-competition-law-objectives-ante-portas-in-both-us-and-eu/comment-page-1/>

⁴³i.e. GE/Honeywell, COMP/M.2220

consolidation in the metamorphosis of the composition of the DG Competition in 2004. Since then, Europe has had in place a new decentralised system of enforcement of competition law.⁴⁴ For this instance, Article 101 TFEU became an integrated provision, what allowed consumers to address their grievances to, from now fully involved, national competition authorities.⁴⁵

It has been commonly accepted that competition law should intervene whenever there exists a market failure.⁴⁶ The importance of economics became obvious if only looking at the key concepts⁴⁷ of competition law derived from this science. The increased impact of economic theory can be also reasoned from even more frequent use of empirical techniques by policy makers.⁴⁸ Most importantly, in recent years the EU competition authorities, driven by an efficiency criterion, have agreed that the central importance of competition law is consumer welfare.⁴⁹ As Mario Monti observed, the ultimate objective of productivity, growth and global competitiveness is, and should be in the long term, prosperity and increased living standards.⁵⁰ Moreover, the ECJ has also recognised that the consumer can be harmed indirectly by behaviours that distract the competitive structure of the market.⁵¹

Finally, the Treaty of Lisbon has had important, in some sense confusing as well, implications for the EU competition law. The old Article 3 (g) TEC, mentioned above, has been removed and replaced by Article 3(1)(b) TFEU.⁵² Furthermore, Article 3 of the new TEU described a rather vague '*competitive social market economy*'.⁵³

⁴⁴ Council Regulation (EC) No 1/2003, came into force 1 May 2004

⁴⁵ SPEECH/04/212 Mario Monti European Commissioner for Competition Policy Proactive Competition Policy and the role of the Consumer European competition day Dublin Castle, Dublin, 29th April 2004

⁴⁶ Green Ofer, Integration of Non-Efficiency Objectives in Competition Law, University of Toronto 2008, p.59

⁴⁷ i.e. competition, monopoly, barriers to entry, essential facility

⁴⁸ A central element of a more effects- based approach in EC Competition law is the increasing importance given to observed market evidence.

⁴⁹ Neelie Kroes speech October 2005: 'Consumer welfare is now well established as the standard the Commission applies when assessing mergers and infringements of the Treaty rules on cartels and monopolies.'

⁵⁰ SPEECH/04/212 Mario Monti European Commissioner for Competition Policy Proactive Competition Policy and the role of the Consumer European competition day Dublin Castle, Dublin, 29th April 2004

⁵¹ See for example GlaxoSmithClineCase C-501/06 [2009]

⁵² Article 3(1)(b) TFEU: '[The Union shall have exclusive competence in the (...) area] the establishing of the competition rules necessary for the functioning of the internal market

⁵³ Article 3(3) TEU: 'The Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy (..)'

Distortion of competition has been only mentioned in Protocol No 27⁵⁴ on the Internal Market and Competition attached to the Lisbon Treaty. Notwithstanding the worries of downgrading the constitutional status of the competition rules within the EU legal order, it has been confirmed that removal of competition principles from the front of the Treaties has not affected competition law status at any point.⁵⁵

The integration of enhanced economic reasoning and the concept of competition law have had a profound impact on the scope and nature of competition control in the EU. This is the reason why competition should always be seen as a process, and not just a static state. The EU Competition law recent path towards an increased use of economic analysis caused many question marks, one of which is the scope of competition law. On one hand, according to mainstream economists the basic aim of competition policy is the indirect pursuit of public policy gains. However, if competition law was used to contribute directly to wider public policy aims, as Alexander Schaub⁵⁶ has argued, the pursuit of the public interest might fail and it would be moved from free market principle that underpins the European Union.⁵⁷ On the other hand, we have ideals saying that competition enforcement and advocacy also serve other wider longer-term objectives. Those are, for instance, enhancing consumer welfare, supporting the EU's growth, jobs and competitiveness in line with the Europe 2020 Strategy for smart, sustainable and inclusive growth.⁵⁸

Before I will go into scrupulous analysis of influence and possible cooperation between environment policy and competition policy, the short introduction of what exactly environmental and ecological economics stand for, is more that essential.

⁵⁴'the internal market as set out in Article 3 TEU includes a system ensuring that competition is not distorted.'

⁵⁵Ben Van Rompuy, *The Impact of the Lisbon Treaty on EU Competition Law: A Review of Recent Case Law of the EU Courts*, Dec 13, 2011

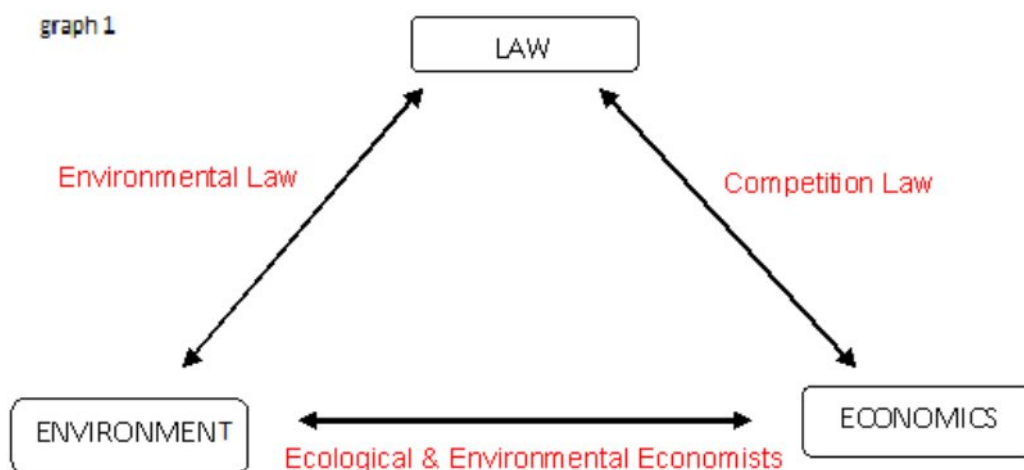
⁵⁶A former Director General of DG Competition (1995-2002)

⁵⁷Monti Giorgio, *EC Competition Law*, Cambridge University Press, p.90

⁵⁸European Commission, *Report on Competition Policy 2011 SWD (2012) 141 final* p.9

4. Ecological and Environmental Economics

The economy, law and the natural environment are inevitably interlinked (see graph 1 below). As it has been mentioned in chapter 3, due to 'economization' of competition law, neoclassical economic theory has become a well-developed body of theory that is used by policy makers. The competition authorities' recommendations and analysis are based, explicitly or implicitly, on the theory of the consumer,⁵⁹ the theory of the firm⁶⁰ or the theory of the market interaction.⁶¹ Constant preoccupation of mainstream economics with technical details of models, however, is claimed to blind them to recognise divergent interests in the society.⁶²



It needs to be clearly articulated from the very beginning that both environmental and ecological economics oppose conventional economics reasoning.⁶³ The later tend to believe that value to society derives from the individual values. The founder of modern economics, Adam Smith, argued that individuals pursuing their own self-goals best promote the public interest.⁶⁴ However, the theory of consumer behaviour has rather general applicability, being confined to the assumptions of rational choice theory. A study of the economics of environment requires, on the other hand, specific knowledge of the way the environment interacts with human actions.⁶⁵

⁵⁹ Answers the question how a rational consumer would make consumption decisions.

⁶⁰ Firms exist and make decisions in order to maximize profits.

⁶¹ Social interactions mediated by the market – interaction between demand, price and consumption

⁶² Endres Alfred, *Environmental Economics Theory and Policy*, Cambridge University Press 2011, prefix xii

⁶³ Although note that, as it will be explained below, environmental economics works on neoclassical models reshaping them for environmental purposes.

⁶⁴ Joseph Stiglitz and Carl Walsh, *Economics* 4th edition, W.W. Norton & Company 2006, p.216

⁶⁵ Clifford S. Russell, *Applying economics to the environment*, Oxford University Press 2001

Importantly, in case of a system in which ecological restraints appear, the economy requires some sort of collectivity of actors to limit their choices.⁶⁶ Following this path of reasoning, human capital cannot simply be equated with natural capital, because the later is never fully substitutable with the former one. Although striving for the same goal, environmental and ecological economists express their objectives in slightly different manner. Traditionally, a distinction between those two fields has been explained rather in simplistic way. The environmental economics was said, to involves economists who have extended their discipline and paradigm to consider the environment, whereas ecological economists were explained to derived from ecologists who have extended their discipline to consider humans and the economy.⁶⁷ The true division line in reality is, however, not that clear cut anymore.

Environmental economics is firmly rooted (with some nuances) in traditional microeconomics, dealing with the foundations of economic theory.⁶⁸ It is concerned with the impact of the economy, and the appropriate way of regulating economic activity so that balance is achieved among environment, economics and other social goals.⁶⁹ Take for this instance the externalities, that from strict economic point of view are unavoidable and typical, for environmental economists appear as a disruption of the market that supposes to deliver socially optimal results. Most importantly, this field of economics favors monetization as the way to normalize social preferences and to regulate the relationship between environmental problems and the development pressures that create them (so called valuation of the environment).⁷⁰

Ecological economics, on the other hand, is a relatively new, transdisciplinary field⁷¹ that studies the interactions between ecosystems and human economies. This field of science considers, first and foremost, very long-term health of the ecosystem with humans only as part of it. As Prof Brown put it, it *'(...) aims to provide rich and fulfilling lives for both individuals and communities, but without pushing toward*

⁶⁶Rees, W.E. Globalization and sustainability: Conflict or convergence? Bull. Sci. Tech. Soc. 2002, 22, 249–268.

⁶⁷Kolstrad D. Charles, Environmental Economics, Oxford University Press 2000, p.5

⁶⁸Field of environmental economics dates back to the late 1950's when Resources for the Future (RFF) – a think-tank organization was created in Washington DC.

⁶⁹Kolstrad D. Charles, Environmental Economics, Oxford University Press 2000, p.1

⁷⁰Garver Geoffrey, The Rule of Ecological Law: The Legal Complement to Degrowth Economics, Sustainability 2013, 5, 316-337; doi:10.3390/su5010316, p.321

⁷¹The establishment of International Society for Ecological Economics in 1989 can be seen as first impulse of this kind

*extreme wealth and advantages that destroy social and ecological well-being.*⁷² In neoclassical economics, each affected human individual is the sole judge of whether his utility has increased or decreased. The change in an individual's utility is measured in terms of the customer sovereignty.⁷³ Ecological economists do not ignore individual preferences, but they treat them neither as sovereign, nor as the only source of normative criteria.⁷⁴ Most of all, they argue that the society should never undertake any action that is not sustainable in the long run.

Differences across all three fields of economics can be summarised by the following table:

Table 1: Goals of different fields of economics

Approach to Economics	Main Goals
Neoclassical Economics	<ul style="list-style-type: none"> • Consumer Sovereignty • Efficiency
Ecological Economics	<ul style="list-style-type: none"> • Individual and Social Health • Long-term Sustainability
Environmental Economics	<ul style="list-style-type: none"> • Social Welfare • Correction of Market Failures

Source: Own Evaluation

The European Union has long recognized environmental objectives as it was shown in chapter 2. The EU has a positive long-term vision of the society that is more prosperous and just, and which promises a cleaner, safer, and healthier environment.⁷⁵ The public debate, indeed, increasingly shows that conflicts between law, trade and environment cannot be resolved by only referring to legal formulas or a pure economic model.⁷⁶ Its resolution requires, rather, an assemblage of multi-dimensional ideas, which examples I will analyze in the following chapter.

⁷²Brown, P.G.; Garver, G. *Right Relationship: Building a Whole Earth Economy*; Berrett Koehler: San Francisco, CA, USA, 2009, p. 26.

⁷³ In other words, while businesses can produce and attempt to sell whatever goods they choose, if the goods fail to satisfy the wants and needs, consumers won't buy them.

⁷⁴ Common Michael and Stiglitz Sigrid, *Ecological Economics, an Introduction*, University Press Cambridge 2005, p. 10

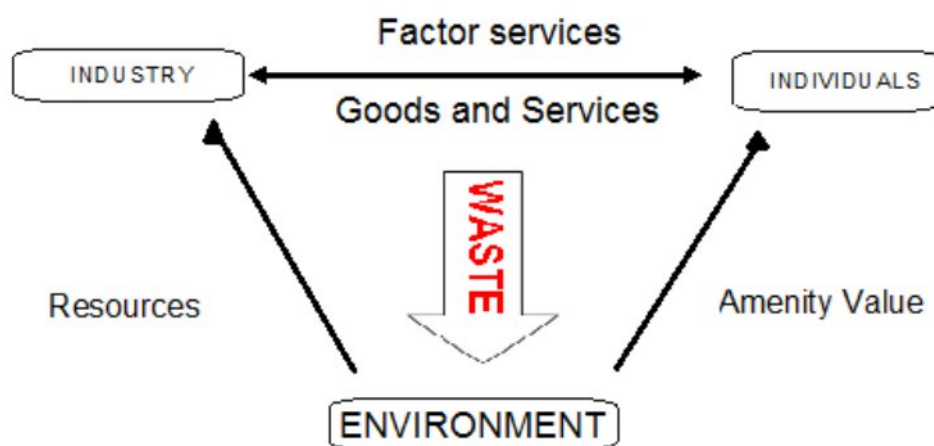
⁷⁵ Communication from the Commission, *A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development*, COM(2001)264 final, p.2

⁷⁶ Oren Perez, *The Many Faces of the Trade-Environment Conflict: Some Lessons for the Constitutionalization Project*, *European Integration online Papers (EIoP)* Vol. 6 (2002) N° 11, p.2

5. Ideas Taken from Trans-Disciplinary Ecological and Environmental Economics

In order to comprehend why people misuse the environment we have to understand the relationship between natural world and humans. We all benefit from environment in three ways: as a source of products, as an amenity to be experienced, and as a place where we can dump waste (see graph 2 below). Since ecosystem services are not fully captured in commercial markets or adequately quantified in terms similar to economic services and manufactured products, they are often given too little attention in policy decisions. As a result human economy grown to an extent that pushes the limits of sustainability.⁷⁷

graph 2



Source: Adapted from Sloman John & Wride Alison et al. 2009

In this chapter ideas taken from environmental and ecological economics will be presented and critically evaluated. The reader will be able to familiarize (her)himself with approaches to notions like efficiency, externalities and environmental valuation. Apart from general ideas, in each section I will focus on a particular environmental problem, which will later serve as perfect background for the further analysis (see chapter 6) of competition law cases.

⁷⁷ In order to broaden the readers' knowledge about sustainable development in competition law context see, Gerbrandy Anna, Competition Law and Sustainable Development, Working Paper 04/2012, The Europa Institute Utrecht

5.1. Economic Efficiencies

'Unless economic efficiency is held to be of no importance, one can no more avoid the use of economic models in this context than one can avoid speaking prose.' Schmalensee (1979)

Environmental and competition policy share the common objective, which is promotion of social welfare. However, each of these policies addresses a different aspect of welfare. While environmental economists promote social welfare by seeking to correct for environmental externalities, ecological economists put attention on environmental risks that should not be transferred through time and space by choices and strategies undertaken by current society.⁷⁸ Competition policy, on the other hand, contributes to allocative efficiency, thereby increasing the welfare of consumers and eventually society as such.

Mainstream economic models of efficiency seek to maximize utility or a collection of everyone's utility called social welfare. Under Pareto efficiency no redistribution of resources can be undertaken without making at least one person worse off.⁷⁹ Weighing benefits against costs is, indeed, a rational way to identify worthy pursuits.⁸⁰ In order to do so marginal costs and marginal benefits are taken into scrutiny.⁸¹ Efficiency for firms means maximizing profit by equating marginal revenue and marginal cost. Efficiency for individuals on the other hand implies maximizing utility by equating dollars' worth of marginal utility and marginal cost. Reshaping the concept from the perspective of environmental economists, efficiency can be defined as obtaining the right overall amount of pollution control as well as allocating pollution control responsibly to specific polluters.⁸²

The fundamental economic questions of what, how and for whom to produce are answered by satisfying the criteria of allocative⁸³, production⁸⁴ and distributive⁸⁵

⁷⁸See: the concept of transferable externality

⁷⁹Anderson A. David, *Environmental Economics and Natural Resources Management* 3rd Edition, Routledge 2010, p.18

⁸⁰Ibidem., p.19

⁸¹The efficient size of action under the investigation is when marginal benefit equals marginal cost. this coincides with the largest divergence between total benefit and total cost.

⁸²Kolstrad D. Charles, *Environmental Economics*, Oxford University Press 2000, p.49

⁸³Achieved when one allocate the available inputs to make the socially optimal mix of outputs.

⁸⁴It is not possible to produce more of one good or service without producing less of another.

efficiencies.⁸⁶ Competitive market is claimed by the economists to produce the most efficient outcome. For that to occur, however, four conditions must hold true. Precisely: complete property rights, number of small price takers, complete information as well as no transaction costs. Clearly, environmental goods, such as pollution, violate at least first condition, thus we cannot rely on markets to give us a Pareto optimum.

Major points raised in this respect by ecological economics are scale and distribution, without which there would be no allocative efficiency. Scale refers to the size of human economy in relation to sustainable ecosystem.⁸⁷ Economy exists within ecosystem, which provides energy and natural resources necessary for production of goods and services. Ecological economics negate the idea of unlimited economic growth. At the same time they recognize its natural limits are set by the second law of thermodynamics.⁸⁸ Distribution of welfare, accordingly, has to be done for the purpose of economic justice and common goods, and without the above mentioned harmony in scale is not achievable.⁸⁹

Efficient allocation has two main purposes for ecological economics: from normative perspective as a mean of reducing waste as well as from macroeconomic perspective as mean for higher sustainable scale.⁹⁰ Nevertheless, although ecological economics back up mainstream economics in saying that efficient allocation of resources is an important objective, they emphasize land and natural resources⁹¹ as a prime factor of production.⁹² Moreover, they claim that when economy has grown beyond optimal scale,⁹³ and especially beyond maximum

⁸⁵ Achieved when no allocation of goods or services could make anyone better off without making someone worse off

⁸⁶ Ibidem., p.32

⁸⁷ For the purpose of this paper author incorporate definition of sustainability as means of creating and maintaining the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations.

⁸⁸ The entropy (disorder) of a system will increase unless it imports energy from its environment. In other words in a closed system, you can't finish any real physical process with as much useful energy as you had to start with - some is always wasted.

⁸⁹ Even though it's a vague statement

⁹⁰ Czech Brian, Ecological Economics, Centre for Advancement of the Steady State Economy, p.14

⁹¹ Natural resources are only partially substitutable by labor and manufactured capital

⁹² Czech Brian, Ecological Economics, Centre for Advancement of the Steady State Economy, p.1

⁹³ Notion of benefits and costs including economical, social and ethical values.

sustainable scale,⁹⁴ monetary policy⁹⁵ to stimulate economic growth does more societal harm than good.⁹⁶

What both ecological and environmental ecologists claim is that apart from static also dynamic efficiency has to be taken into consideration. That means no more and no less than promoting long term focus on economy. When measuring dynamic efficiency translation of future values by conversion into present values has to be undertaken.⁹⁷ Environmental policy often entails trade-offs, however because of human selfishness individuals will always prefer present benefits. Thus environmental and ecological economics emphasize the importance of taking the responsibility for costs that extend to future generations.

The efficiency criteria can be used by regulators to balance the design of the market. Among others they can administer outputs, inputs, production process, emissions, and even the location of production.⁹⁸ Nevertheless, ecological and environmental economics show that 'the invisible hand' does not in fact work for environment. Achieving efficiency does not guarantee equity either for present members of society or future humanity.⁹⁹ Achieving allocative efficiency does also not guarantee absence of environmental damage that will adversely affect future generations.¹⁰⁰ And even though fairness of intertemporal allocation is difficult to apply,¹⁰¹ it does not mean regulators should not try to measure it at all.

⁹⁴Where the rate of benefits is to the rate of regeneration. Determined by the biophysical limits of the ecosystem affected.

⁹⁵They tend to assess efficiency in energetic and material rather than financial terms.

⁹⁶Czech Brian, Ecological Economics, Centre for Advancement of the Steady State Economy, p.11

⁹⁷So called discounting of future costs and benefits

⁹⁸Tietenberg Tom, Environmental and Natural Resource Economics 5th Edition, Addison-Wesley 2000, p.81

⁹⁹The existence of common trade-offs between equity and efficiency

¹⁰⁰Common Michael &Stagl Sigrid, Ecological Economics: An Introduction Cambridge University Press 2005, p.350

¹⁰¹Tietenberg Tom, Environmental and Natural Resource Economics 5th Edition, Addison-Wesley 2000, p.93

5.1.1. FOCUS: ENERGY SAVINGS

'What we need to do is really improve energy efficiency standards, develop in full scale renewable and alternative energy and use the one resource we have in abundance, our creativity.' Lois Capps

Energy is defined by scientists as the amount of work a physical system is capable of performing.¹⁰² Moreover, it cannot be created, only converted from one form to another.¹⁰³ Nevertheless, energy is one of the most critical resources for human beings. Nowadays the industrialized world mostly depends on depletable sources like oil and gas, however the transition to renewable sources of energy is just on the horizon. Eventual environment problems associated with the transition to renewables is particularly difficult for electricity generation. For this reason electric utilities¹⁰⁴ has already started to invest in, and promote conservation of energy instead of, for example, building more plants.¹⁰⁵

This trend can, apparently, be observed nowadays in all aspects of economic activity.¹⁰⁶ It has been ascertained that energy efficiency improvements result in an effective cut in energy prices, which produces output, substitution, competitiveness and income effects that stimulate energy demands.¹⁰⁷ As UK House of Lords some time ago rightly observed¹⁰⁸ savings of energy in production sectors have strong indirect impact on energy savings in consumption activities.¹⁰⁹

¹⁰² Anderson David A., *Environmental Economics and Natural Resource Management* 3rd Edition, Routledge 2010, p.157

¹⁰³ The first law of thermodynamics

¹⁰⁴ Electric power companies that engage in the generation, transmission and distribution of electricity.

¹⁰⁵ Tietenberg Tom, *Environmental and Natural Resource Economics* 5th Edition, Addison- Wesley, p.171

¹⁰⁶ See Communication from the Commission to the European Parliament. The Council, The European and Social Committee and the Committee of the Regions, *Making the internal energy market work*, COM(2012) 663 final, 15.11.2012 Brussels

¹⁰⁷ Hanley Nick, McGregor Peter, Swales Kim & Turner Karen, *Do Increases in Energy Efficiency Improve Environmental Quality and Sustainability?*, *Ecological Economics* 68 (2009) p.692

¹⁰⁸ 'Apart from anything else, the substitution effects observable at the macroeconomic level cannot be replicated by households, where demand for a range of goods is relatively inelastic (...) a business on the other hand, could respond to cheaper energy by deliberately increasing consumption — using a more energy intensive process, which would allow savings to be made elsewhere, for instance in manpower.' House of Lords, 2005. *Energy Efficiency, Science and Technology Committee, 2nd Report of Session 2005-06, Vol. 1 Report*. The Stationary Office, London, p.29

¹⁰⁹ Grant Allan, Hanley Nick, McGregor Peter, Swales Kim & Turner Karen, *The impact of increased efficiency in the industrial use of energy: A computable general equilibrium analysis for the United Kingdom*, *Energy Economics* 29 (2007) p.780

By an unsustainable use of energy we contribute to many environmental costs such as pollution and climate change. Even though there seem to be plenty of opportunities for cost-effective energy savings, the potential is far from being exploited.¹¹⁰ Some of the problems can be listed as follows:

Table 2: Barriers to Energy Efficiency

1	Imperfect Information to Energy Consumers
2	Limited Availability of Capital
3	Price Volatility
4	Not Internalised and Not Reflected in Energy Price Externalities
5	No possibility of an Individual to Assess the Costs and Benefits

Source: Adopted from Rosenow Jan et al., 2011

Ecological economics present efficiency in some new light stressing at the same time some important limits to this concept. First of all efficiency is subject to thermodynamic limits, and straight after that they add that, efficiency is also facing social limits.¹¹¹ Opposite to neoclassical economics, ecological economics empathize that energy efficiency is just a means to achieve sustainable development within environmental boundaries. From this perspective they are actually focusing on long-term energy conservation and reduction of total energy consumption rather than efficiency on its own.¹¹² Accordingly, a long-term sustainability requires flexibility. This means for the policy instruments nothing else than adjusting to keep up with high-tech advancements of energy efficient technologies.¹¹³

The above approach to much extent has been developed by Herman Daly. In one of his articles he introduced a steady-state economy concept¹¹⁴ with an aim to balance growth with environmental integrity.¹¹⁵ Balance is also required when speaking of policy intervention. Ecological economists deny justifications like market failure or even cost effective energy saving opportunities in this respect. The true reason for

¹¹⁰ Rosenow Jan, An Ecological Economics Perspective on Energy Efficiency, Sparks Symposium 2011 London, p.2

¹¹¹ Issues of scale and distribution are depended on social, political and ethical principles. See Jollands Nigel, Concepts of Efficiency in Ecological Economics: Sisyphus and the Decision Maker, Ecological Economics 56 (2006) p.363

¹¹² Rosenow Jan, An Ecological Economics Perspective on Energy Efficiency, Sparks Symposium 2011 London, p.8

¹¹³ Ibidem. p.11

¹¹⁴ For more details see Daly, H.E., 1992b. Steady-state economics: concepts, questions, policies. GAIA 1, p.335

¹¹⁵ Environment cannot support an unlimited growth of production and wealth, since a growing population will eventually push down wages and use up an increasingly scarce base of natural resources.

intervention, they claim, should be rather notion of energy conservation, which reduces depletion of critical natural resources.¹¹⁶

5.2. MARKET AND EXTERNALITIES

'The problems of environmental degradation (...) and overexploitation of natural resources all derive from their being treated as common property resources. Whenever we find an approach to the extension of private property rights in these areas, we find superior results.' Robert J. Smith (1982)¹¹⁷

A market, by organising economic activity, uses prices to communicate the wants and limits in the most efficient way. When talking of a 'perfect market', economists have in mind an ideal which is rarely if ever attained in practice. Adam Smith's 'invisible hand' is often misguided in leading economy to efficiency. Nearly every real world market will, in fact, exhibit some characteristics which prevent it from being perfect (so called market imperfections). There is a prime distinction between conventional goods which the market allocates fairly efficiently, and environmental commodities, which allocation leaves much to be desired. What follows is that market system will certainly fail to provide adequate protection for the environment.¹¹⁸

Among imperfect competition and imperfect information, externalities¹¹⁹ are a third source of market failure.¹²⁰ Inefficiencies arising from externalities occur when decision makers do not consider all of the repercussions of their actions.¹²¹ The socially optimal resource allocation (meaning way of avoiding those inefficiencies) can be achieved if the decisions makers internalize the costs and benefits they bring to society.¹²² Among others it can be done by means of so called Pigou tax¹²³ or privatization solution¹²⁴ with its extension in Coase Theorem.¹²⁵

¹¹⁶Rosenow Jan, An Ecological Economics Perspective on Energy Efficiency, Sparks Symposium 2011 UKERC HQ, London, p.9

¹¹⁷ Robert J. Smith, Privatizing the Environment, Policy Review, Spring, 1982, p. 11

¹¹⁸Sloman John &Wride Alison, Economics 7th edition, Pearson Education Limited 2009, p.346

¹¹⁹ Exist when the consumption or production choices of one person or firm enters the utility or production function of another entity without that entity's permission or compensation

¹²⁰Failure of the free market to allocate resources efficiently

¹²¹ For the further research on market failures see: Dominioni Goran, Sustainability, (in)Efficiency and the Balancing Under Article 101.3 TFEU, Utrecht University Research Paper 2013

¹²²Anderson A. David, Environmental Economics and Natural Resources Management 3rd Edition, Routledge 2010, p.57

The environment is considered a special asset, a docile but highly sensitive resource,¹²⁶ because it provides the life-support systems that sustain our very existence. Human well-being and wealth are distributed across generations as well as within generations and nature is a composite asset supplying variety of goods to all of us.¹²⁷ When society is faced with environmental externalities, governmental intervention takes place. State object is to regulate and mandate specific technologies or commerce practices, which make the running of the business for companies more expensive.¹²⁸

Environmental economics emphasise that the ecosystem externalities are often very complex and cannot be understood only by standard economic analysis. Individuals by protecting themselves from the external damages simply transfer the environmental risk through space to different location or through time to future generation.¹²⁹ Because no one own environment, there is no one to enforce property rights over it. Lack of cooperation and unilateral use of technologies is recognize to conflict sustainable use of market system. Problem of environmental externalities can be summarized for policy makers and regulators in the following order:

Table 3: Market allocations of commodities causing pollution externalities

1	The output of the commodity is too large
2	Too much pollution is produced
3	The prices of products responsible for pollution are too low
4	Keeping the costs external discourage to search for more efficient solutions
5	Recycling and reuse of the polluting substances are discouraged

Source: Adapted from Tietenberg Tom et al. 2000

Correcting market imperfections, in the strict neoclassical sense, does not guarantee sustainability. As a result in order to obtain some level of equity and environmental protection, market intervention should go beyond simply correcting market failure.

¹²³Taxes and subsidies as a mean of balancing private and social costs.

¹²⁴Expanded assignment of property rights

¹²⁵If property right are clearly defined and transaction costs are zero, the efficient outcome will occur regardless of the choice of legal entitlement and the method of enforcing the entitlement.

¹²⁶Oren Perez, The Many Faces of the Trade-Environment Conflict: Some Lessons for the Constitutionalization Project, European Integration online Papers (EIoP) Vol. 6 (2002) N° 11, p.3

¹²⁷Tietenberg Tom, Lewis Lynne, Environmental & Natural Resource Economics, 8th Edition Pearson International 2009, P.14

¹²⁸ Available at: <http://www.econlib.org/library/Enc/Externalities.html>

¹²⁹Hanley Nick, Shogren F. Jason & White Ben, Environmental Economics in Theory and Practice, MacMillan Press Ltd 1997, p.33

Environmental and ecological economists argue that there is too much faith entrusted in the unrealized sustainability of natural and physical capital, and too little emphasis on pollution and other externalities.¹³⁰ Their role is primarily in the deeper understanding of the components, structures and functions of ecosystems that need to be evaluated.¹³¹

5.2.2. FOCUS: WASTE DISPOSAL

We have to 'use all practical means and measures... to create and maintain conditions under which man and nature can exist in productive harmony, and fulfil the social, economic and other requirements of present and future generations.' National Environmental Policy Act 1969, the US

Economic activity mostly implies the insertion into the natural environment of wastes arising in production and consumption of goods. The accumulation of by-products can be dealt in two ways:¹³² by physical transport to the waste storages or by biochemical long-term transformation in the environment that most probably would cause pollution.¹³³ Consumerism and costless disposal have resulted in volumes of municipal solid waste and a scarcity of landfill space.¹³⁴

The second law of thermodynamics was already mentioned in previous section of this chapter. Based on that ecological economics give wastes inserted into the environment higher entropy¹³⁵ than the natural resources that are their material origin.¹³⁶ For simplified ecological view on this matter see graph 3 below.

¹³⁰ Anderson A. David, *Environmental Economics and Natural Resources Management* 3rd Edition, Routledge 2010, p.206

¹³¹ Czech Brian, *Ecological Economics, Centre for Advancement of the Steady State Economy*, p.2

¹³² Common Michael &Stagl Sigrid, *Ecological Economics: An Introduction* Cambridge University Press 2005, p.9

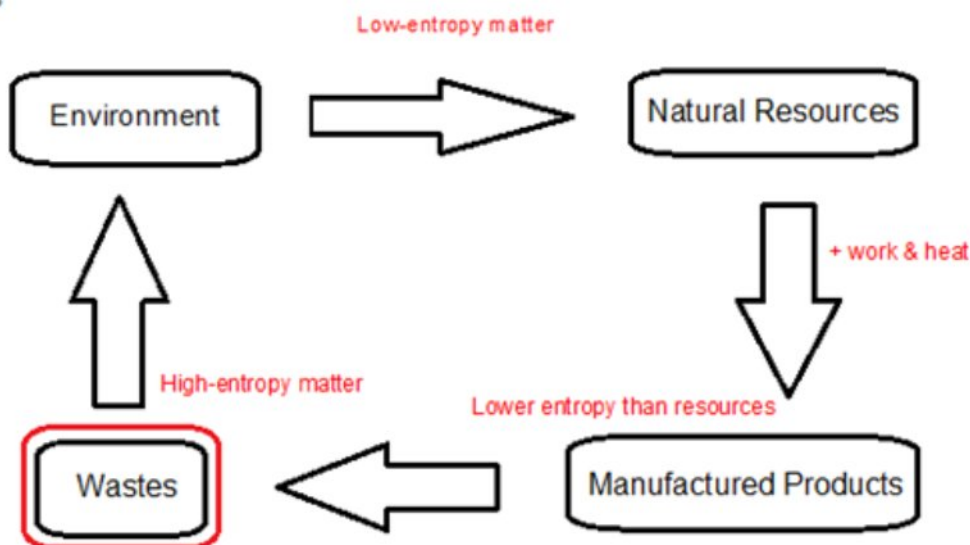
¹³³¹³³ Pollution – any physical or chemical change in the environment due to waste emission that is harmful to any living organism

¹³⁴ According to Environmental indicator report 2012 p. 101 although the European Union's average domestic material consumption fluctuates between 15 and 17 tons per person, globally the material 'footprint' of a European citizen has been estimated at between 45 and 50 tons per year.

¹³⁵ Wastes return to the environment in highly disordered state.

¹³⁶ Common Michael &Stagl Sigrid, *Ecological Economics: An Introduction* Cambridge University Press 2005, p.103

graph 3



Source: Adopted from Common Michael & Stagl Sigrid et al. 2005

When talking about wastes the role of recycling is more than important. It interrupts the above shown cycle, before waste flow crosses the boundary between economy and environment. First of all, the amount of waste inserted into the environment is reduced and secondly the amount of resource, correspondent to the recycled material used, is saved.¹³⁷

What Frank Ackerman has written in his article, sums up perfectly both ecological environmental economists views.¹³⁸ One of his observations was that market prices provide inadequate incentives for recycling and do not take into account external benefits from pollution avoiding, wildlife protection or saving of a landfill.¹³⁹ In these circumstances, market produces too many environmentally harmful goods and provides too few incentives for the polluting companies to invest in environmental improvements, even though it would have been beneficial for the economy if they did.¹⁴⁰ When regulators (i.e. national competition authorities) base their market analysis on neoliberal economics theories, then how can they notice this problem? The answer, for ecological and environmental economists, is that they are not able to and they don't do it.

¹³⁷ Ibidem., p.105

¹³⁸ See Ackerman Frank, *Why Do We Recycle? Markets, Values and Public Policy*, Island Press 1996

¹³⁹ Anderson A. David, *Environmental Economics and Natural Resources Management* 3rd Edition, Routledge 2010, p.199

¹⁴⁰ OECD, PRO-ACTIVE POLICIES FOR GREEN GROWTH AND THE MARKET ECONOMY, DAF/COMP(2010)34, p.149

5.3. ENVIRONMENTAL VALUATION

'Ecosystems have value (...). Unfortunately, relative to other forms of capital, ecosystems are poorly understood, scarcely monitored, and (...) undergoing rapid degradation and depletion. Often the importance of ecosystem services is widely appreciated only upon their loss.' Gretchen Daily (2000)¹⁴¹

Economics is usually defined as 'management of scarce resources'.¹⁴² It has to be emphasised, however, that there are many resources ranging from financial through human and finishing on natural once. Dealing with all of them, it is claimed, becomes too complex and for this reason money is suggested to be a perfect reference point.

There are, commonly known, three perspectives on the environment ranging from biocentrism,¹⁴³ through sustainability,¹⁴⁴ to anthropocentrism.¹⁴⁵ Cost-Benefit (CB) economical valuation has been said to be the best structure helping environmental policy in achieving its goals.¹⁴⁶ It has, however, some implied conditions. First of all it measures only the effects that affect and impact human well-being.¹⁴⁷ Secondly, intrinsic values¹⁴⁸ have no economic values. Thirdly, economically comparing the contribution of things to social well-being means that in the end one thing can substitute another. At last but not least, economic valuation relies on ordinal¹⁴⁹ approaches to utility, meaning only individual's preferences are taken into account.

Arne Naess¹⁵⁰ coined the term 'deep ecology' referring to intrinsic value that nonhuman environment has. When humans give zero value to the environment as a

¹⁴¹Gretchen C. Daily, The Value of Nature and the Nature of Value, Science, New Series, Vol. 289, No. 5478, (Jul. 21, 2000), p. 395

¹⁴² See Pindyck, R.S. & Rubinfeld, D.L., Microeconomics 7th edition, Upper Saddle River 2009

¹⁴³ Biocentric Philosophy places the biologic world at the centre of the value system and distinguishes between instrumental and intrinsic value.

¹⁴⁴ An environmental policy is only right if it preserves the integrity of an ecosystem, see Leopold Aldo, Land Ethic 1949

¹⁴⁵ Environment is only for one purpose, which is to provide material gratification to humans

¹⁴⁶ Kenneth Arrow, Is There a Role for Benefit-Cost Analysis In Environmental, Health and Safety Regulation?, Science 272, April 12, 1996, p.221

¹⁴⁷ Anthropocentric approach

¹⁴⁸ For the purpose of this paper 'intrinsic values' are defined as: the value that an entity has in itself, for what it is. It can be contrasted with instrumental values, which are represented by value that something has as a means to a desired or valued end.

¹⁴⁹ the utility of a particular good or a service cannot be measured, however a consumer is capable of ranking the different alternatives.

¹⁵⁰ A Norwegian philosopher 1912-2009

result, he claimed, there occurs a natural degradation. According to Salles¹⁵¹ preliminary points for the accurate environmental valuation are importantly clear definition of given ecosystem's ecological functions, further evaluation on beneficial gain from them and finally economic value stated according to available alternatives. He articulates further, that the contribution of ecosystems and biodiversity to human well-being is first and foremost, contingent on the ability of societies to value these assets.¹⁵² The issue is, however, not to put an economic value on nature, but to translate the value of losses from the destruction of some ecosystems in terms that allow comparison with other societal issues.¹⁵³

Environmental economists' approach to the valuation of non-market environmental assets is to treat them identically to marketed goods and services. In order to assess the value of ecosystems and biodiversity a conceptual framework measuring the Total Economic Value (TEV)¹⁵⁴ of these assets has been developed. TEV can be presented by three components. Use value represents the direct use of the environmental resources¹⁵⁵, option value reflects the value people place on a future ability to use the environment¹⁵⁶, and last but not least, non-use value¹⁵⁷ describes value people are willing to pay for preservation of resources that they will never use.

As we can deduce from the above, valuation consists of comparing different situations and provides a measurement of changes in human well-being. For this purpose, a technique being considered as the best price-equivalence is the calculation of individuals' preferences. Two main approaches has been developed to place an economic value, or price, on non-market goods and services. These are Revealed Preference (RP) and Stated Preference (SP) methods, which will be shortly introduced below.

¹⁵¹Senior researcher (directeur de recherche), CNRS Head of the UMR5474 LAMETA

¹⁵²See 'resource curse' paradox Salles Michael Jean, Valuing Biodiversity and Ecosystem Services: Why Linking Economic Values with Nature? Laboratoire Montpelliérain d'Economie Théorique et Appliquée DR 2011 -24, p.11

¹⁵³Salles Michael Jean, Valuing Biodiversity and Ecosystem Services: Why Linking Economic Values with Nature? Laboratoire Montpelliérain d'Economie Théorique et Appliquée DR n 2011 -24, p.19

¹⁵⁴Does not estimate an absolute value of ecosystems,

¹⁵⁵Also called actual use value. i.e. Fish harvested from the sea

¹⁵⁶Monetary value of having the options at some later point in time

¹⁵⁷Also called existence value. Value unrelated to use, which is less tangible, though harder to calculate. PROBLEM: utilitarian basis of economic analysis- A. Sen proposed a dualist view of the individual, both a consumer who seeks to satisfy his preferences and a citizen who makes judgments on objectives that may exceed his own interests.

5.3.1. STATED PREFERENCES (SP)

This broad term contains range of survey based methods. The dominant non-market valuation method based on stated preferences, which has its roots in the economic theory of individual choice, is called Contingent Valuation (CV) method.¹⁵⁸ Under this scheme respondents are asked to express their maximum willingness to pay (WTP)¹⁵⁹ or minimum willingness to accept (WTA)¹⁶⁰ compensation for a hypothetical change in availability of the non-market good under investigation.¹⁶¹ Although CV method, as well as SP in general, raises some technical concerns¹⁶² it has prompted the most developed economical investigation of individual preferences ever undertaken.¹⁶³

As opposed to CV, where only payments can be different and change in value stay constant, Choice Modelling (CM) method make the changes both in payments and values. The theoretical basis for this model is Random Utility Model (RUM)¹⁶⁴ theory founded by McFadden.¹⁶⁵ Under operation of this model respondents are simply asked to compare and select alternative combinations of goods or policy characteristics.

Contingent Ranking (CR) is another method for estimation of preferences for complex environmental goods. Under this survey the respondent is asked to rank¹⁶⁶ a large number of alternatives with combinations of environmental goods and prices.¹⁶⁷ Finally, the complete ranking data is analyzed with the econometric technique of

¹⁵⁸ Atkinson Giles, Mourato Susana, *Environmental Cost- Benefit Analysis*, London School of Economics Aug 2008, p.319

¹⁵⁹ The maximum amount of money that the individual would pay for the right to clean air.

¹⁶⁰ The minimum amount of money that the individual would accept in exchange for his/her right to clean air.

¹⁶¹ It has been proven in number of researches that WTA exceeds WTP and both terms are not equal in measurements. The WTA-WTP gap can be partially explained by 'endowment effect'. For further information see Hoffman Elizabeth & Spitzer L. Matthew, *Willingness to Pay vs. Willingness to Accept: Legal and Economical Implications*, Washington University Law Review, Vol 71 Issue 1, 1993

¹⁶² How to create universal, objective and accurate tests

¹⁶³ Smith V. Kerry, *Fifty Years of Contingent Valuation*, p.46

¹⁶⁴ models an agent's preferences on alternatives by drawing a real-valued score on each alternative (typically independently) from a parameterized distribution, and then ranking the alternatives according to scores

¹⁶⁵ Manski F. Charles, *The Structure of Random Utility Models* 1977 Reidel Publish Company, p.229

¹⁶⁶ Luce's Choice Axiom permits an easy linkage between ranking and choice through the Cascading Choice Theorem which states that a ranking of alternatives is equivalent to a sequential choice process

¹⁶⁷ Bergland Olvar, *Estimation of Stated Preferences from Incomplete Rankings*, Agricultural University of Norway, Dec 1993, p.3

Beggs in the spirit of more efficient estimation of indirect utility function for an environmental issue at stake.¹⁶⁸

Alternative to all three methods, environmental economists developed the so called Comparison by Pairs (CP) method. It is based on fundamental assumption of neoclassical microeconomic theory that preferences are transitive.¹⁶⁹ What follows, the respondents by having multiple binary choices¹⁷⁰ between items in the choice set give the opportunity to test the transitivity axiom.¹⁷¹

As we can see contingent valuations are empirical approaches to measure economic concepts. Reason why do we need them is very important especially in terms of environmental considerations. Strict economic theories does not simply tell us how and what people care about. Therefore, while neoclassical economic theories show some implications about the utility function, whether people actually have those preferences is an empirical question.¹⁷² Individuals behaviour can be analyse also by different means, which I am about to present to the reader in the following section.

5.3.2. REVEALED PREFERENCES (RP)

Revealed preference relies on assumption that consumers always have considered a set of alternatives before making a final purchasing decision. Thus, given that a consumer chooses one option out of the set, this option must be the preferred option for the individual in question.

¹⁶⁸ Also known as the rank-ordered logit (ROL) model. More information can be obtained from a respondent if (s)he is asked to give a complete ranking of all presented alternatives instead of choosing most preferred option.

¹⁶⁹ If consumer prefers A to B and B to C then (s)he prefers also A to C

¹⁷⁰ A cluster of items is presented to the respondents, requiring a binary response to each item in the cluster. Usually the items are related to an initial statement or set of statements.

¹⁷¹ Kingsley C. David, Brown C. Thomas, Preference Uncertainty, Preference Learning, and Paired Comparison Experiments, *Land Economics* 2010, 86(3) p.530

¹⁷² Bateman Ian & Wills Kenneth G., *Valuing Environmental Preferences: Theory and Practice of the Contingent Valuation Methods in the U.S., EU, and Developing Countries*, Oxford University Press 1999, p.42

Most commonly undertaken revealed method to estimate an economic use of outdoor locations used for recreational purposes is Travel Cost (TC) method.¹⁷³ However, for the purpose of analysis undertaken in this paper it is not really helpful. Another indirect method for measuring revealed preferences for non-market assets is Hedonic Price (HP) method. HP is mostly commonly used for valuation of environmental bads that affect the price of residential properties.¹⁷⁴ The basic assumption is that people value the characteristics of a good, or the services it provides, rather than the good itself. Thus, prices will reflect the value of a set of characteristics, including environmental ones, which people consider important when purchasing the good.

Above mentioned approaches can be easily summarized and categorised for the clarity of argument.

Table 4: Possible valuation methods for non-market goods

	Revealed Preferences	Stated Preferences
Direct methods	<ul style="list-style-type: none"> • Monetary valuation at market prices • Avoided costs • Productivity effects • Restoration costs • Replacement * 	<ul style="list-style-type: none"> • Contingent valuation • Choice modelling
Indirect methods	<ul style="list-style-type: none"> • Hedonistic prices 	<ul style="list-style-type: none"> • Contingent ranking • Comparison by pairs

Source: adapted from Chevassus-au-Louis et al., 2009.

* **NOTE** that revealed preferences examined by means of direct method are not discussed in this paper as those are mainstream methods based on actual behaviour dealt by neoclassical economists. Not applicable to environment valuation and presented only for the sake of comparison.

In the Table four above, vertically, there is shown a distinction between methods based on observations directly related to natural assets and methods which use observations on goods or activities, which are associated as complementary to the natural assets.¹⁷⁵ Horizontally, however, Table four contrasts methods in which

¹⁷³ Under this experiment it has been observed that individuals produce recreational expenditures such as recreation itself, travel from and to the spot destination or stay overnight to name just a few.

¹⁷⁴ Such as road traffic, aircraft noise, air pollution or water quality.

¹⁷⁵ Salles Michael Jean, Valuing Biodiversity and Ecosystem Services: Why Linking Economic Values with Nature? Laboratoire Montpelliérain d'Économie Théorique et Appliquée DR n 2011 -24, p.8

preferences are revealed through choices and behaviors, as opposed to, methods in which individuals are invited to state their preferences via different types of questionnaires.

5.3.3. FOCUS: NATURAL RESOURCES

*'One lesson that modern biological sciences teaches us is that living species, though in principle, capable of reproduction and, in that sense, 'renewable', are in certain circumstances indeed susceptible of depletion, exhaustion and extinction, frequently because of human activities. Living resources are just as 'finite' as petroleum, iron or other non-living resources' US- Shrimps case*¹⁷⁶

The Millennium Ecosystem Assessment¹⁷⁷ indicates that nearly two thirds of the services provided by nature are in rapid decline.¹⁷⁸ Sustainable use of natural resources is important for the continued existence of an individual or for the existence of their offspring. It is true though that the relationship is more of the blurred one. No doubt, natural resources provide indirect benefits in terms of ecosystem stability and the preservation of genetic variation, which may one day, be useful for medical or agricultural use.

Natural resources can be classified as stock resources and flow resources, and within the first one there is a distinction between renewable and non-renewable resources.¹⁷⁹ Price, as formed from supply and demand decisions, can be a tricky indicator of scarcity problem for natural resources, because they often cannot be substituted for by any capital.¹⁸⁰ In a market economy the time path of resource exploitation is a consequence of the decisions of the resource owners and their

¹⁷⁶United States- Import Prohibition of Certain Shrimps and Shrip Products AB-1998-4, World Trade Organization Appellate Body Report, WT/DS58/AB/R 12 Oct 1998

¹⁷⁷ An assessment of the consequences of ecosystem change for human well-being.

¹⁷⁸ Millennium Ecosystem Assessment 2005, Ecosystem and Human Wellbeing, Washington DC: MEA/ World Resources Institute

¹⁷⁹ Common Michael & Stiglitz Sigrid, Ecological Economics: An Introduction Cambridge University Press 2005, p.339

¹⁸⁰ Rivalness and excludability are required for price to function as indicator of scarcity.

interaction with the demand of it. It is clear that the driving force for resource owners' decisions is not social welfare but profit maximization.¹⁸¹

For the purpose of the analysis in this paper I will focus on the second kind – renewable resources and in particular fishery, for which the stock can be continually replenished. When speaking about them, first question that the readers ask themselves is surely, how to achieve efficient allocation of the catch from a fishery? In the eyes of ecological economics, quantity harvested cannot be above the natural net grow of the stock.¹⁸² Consequently, in order to assess sustainably harvestable yield, the stock size has to be measured.¹⁸³

As I mentioned at the very beginning of section 5.4., the economic value of any good or service is generally measured in terms of what resource users or society at large are willing to pay for the commodity, minus what it costs to supply it. In terms of natural resources we may place the value on a stock or a flow.¹⁸⁴ When the value of a stock is equal to the present value¹⁸⁵ of the stream, then the resource is being used efficiently.¹⁸⁶

Fishing grounds¹⁸⁷ are the best example of an 'open access resource'. What economists mean by that is no ownership of the asset in the sense that everybody's property is nobody's property.¹⁸⁸ Given that more fish caught by one party implies less fish for all others. Thus effort of harvesting is extended to the level where market price equals the average cost of production.¹⁸⁹ As a result of the prisoners' dilemma there is an incentive to overharvest an open access fishery. Using scientific terminology, this constitutes a social trap in fisheries because the micro-motives of an

¹⁸¹Enders Alfred, *Environmental Economics: Theory and Policy*, Cambridge University Press 2011, p.295

¹⁸²Maximum sustainable harvest mentioned in chapter 5.1. above

¹⁸³Enders Alfred, *Environmental Economics: Theory and Policy*, Cambridge University Press 2011, p.304

¹⁸⁴Standing forest = stock of trees vs. harvest of timber = service flow

¹⁸⁵ future amount of money that has been discounted to reflect its current value as if it existed today.

¹⁸⁶Tietenberg Tom, Lewis Lynne, *Environmental & Natural Resource Economics*, 8th Edition Pearson International 2009, P.37

¹⁸⁷ Fishery is mentioned as a prime example, however all finding in this subsection perfectly apply to other marine creatures like crabs, lobsters, shrimps etc.

¹⁸⁸Gordon Scott, *The Economic Theory of a Common-Property Resource: The Fishery*, *The Journal of Political Economy*, Vol.62, No.2 (April 1954) pp. 124-142

¹⁸⁹Hanley Nick, Shogren F. Jason, White Ben, *Environmental Economics in Theory and Practice*, Macmillan Press 1997, p.39

individual fisher in the short-run are not consistent and compatible with the macro-results that he and the other fishers desire in the long run.¹⁹⁰ This situation creates contemporaneous¹⁹¹ and intergenerational¹⁹² externalities, which in the end violates both the efficiency and sustainability criteria.¹⁹³

Fisheries valuation is a complex process that requires the integration of resource biology and ecology, with socio-economic and institutional factors affecting the behavior of fishers and policy makers. The necessary steps for effective value assessment can be presented as follow.

Table 5: step-by-step fishery evaluation

1	Biological Parameters: <ul style="list-style-type: none"> - Size and dynamics of the stock - Mortality - Sex composition
2	Fishing Effort: <ul style="list-style-type: none"> - Number of fleets and catches - Types of vessels used - Distance of fishing area from port - Average number of effective fishing days - Total annual catch by species
3	Economic Information: <ul style="list-style-type: none"> - Transaction costs: Information¹⁹⁴, Enforcement¹⁹⁵ and Contractual¹⁹⁶ costs - Variable costs¹⁹⁷ - Fixed costs¹⁹⁸ - Average price paid to fisher - Direct and indirect employment with generated incomes - Price and quantity of complementary products¹⁹⁹
5	Environmental variables that explain fluctuations in stock <ul style="list-style-type: none"> - Sea surface temperature - Water quality - Number of predators

Source: Adabted from J.C. Seijo et la. 1998

¹⁹⁰ J.C. Seijo, O. Defeo and S. Salas, Fisheries bioeconomics – Theory, modelling and management, FAO Fish Tech. Paper, No. 368, FAO, Rome, 1998

¹⁹¹ Excess of resource-use to fishing – burden on current generation

¹⁹² Overfishing, which reduces the stock – burden on future generation

¹⁹³ Tietenberg Tom, Lewis Lynne, Environmental & Natural Resource Economics, 8th Edition Pearson International 2009, p.291

¹⁹⁴ Costs of research needed to keep track of fish population dynamics, environmental variability, changes in preferences

¹⁹⁵ Implementation of management schemes and allocation of resources

¹⁹⁶ Costs of State promotion of particular management strategies

¹⁹⁷ For example oil price or vessel repairs

¹⁹⁸ For example Administration and Insurance costs

¹⁹⁹ Number of species that are marketable, and on the corresponding unit prices. The net revenues derived from fishing could be maximized by deliberately overexploiting one species in order to produce the increase of a subordinate competing species with higher market value.

Summarizing the above information, one can see that the fishery is exposed to different ecological interactions, the physical environment and the dynamic development of the fishing sector. All of those above have tremendous impact on fish stocks and environmental valuation is more than essential.

5.3.4. LIMITATIONS AND APPLICATION OF ENVIRONMENTAL VALUATION

Cost-benefit analysis is simply finding way that gives the largest surplus.²⁰⁰ It is widely used as a tool for valuation of nature and for providing policy advice on management of natural resources and the environment. Natural values are, however, often hard to measure as ecological processes as well as social and cultural context has to be taken into account. What is more, in order to give a relevant value to the environmental issue affected stakeholders have to be defined. The main critique of CB analysis is, indeed, that the value of nature is incommensurable with other values, and that nature represents irreplaceable qualities that are beyond economic comparison with ordinary, produced goods. However, problem with giving value to the environment is difficult in many more dimensions. Taking more ecological economists' approach, cash payment may not necessarily recompensate for the loss of a context that provided meaning to life.²⁰¹

Methods to calculate actual use value are various.²⁰² There are, however, difficulties or even some impossibility of meaningful estimating optional and non –use values in monetary terms. Economic analysis is not comfortable with the case when the preferences of individuals are not a usable base for decision making, which refers to what economists qualify here as 'paternalism'.²⁰³

Stated preference (SP) methods are generally an empirical methodology so the application, use and interpretation have to be undertaken very carefully. Most serious implication of this kind of approach is so-called hypothetical bias problem where

²⁰⁰ Measure intangible benefits and because of that is able to measure total costs more accurately.

²⁰¹ Aslaksen Iulie, Myhr Ingeborg Anne, The Worth of a Wildflower, Discussion Paper n. 476, Sept 2006, p.10

²⁰² Hedonic price approach, contingent valuation method, travel cost approach etc

²⁰³ Salles Michael Jean, Valuing Biodiversity and Ecosystem Services: Why Linking Economic Values with Nature? Laboratoire Montpellierain d'Economie Théorique et Appliquée DR n 2011 -24, p.6

individuals are likely to overstate their economic valuation of a good in a hypothetical context.²⁰⁴ Revealed preference (RP) method, on the other side, shows partial inability to estimate non-use values or values for levels of quality that had not been yet experience by the market.²⁰⁵

Another, more theoretical clash occurs between environmental and ecological economists. The first one favours 'weak' sustainability that allow CB analysis, however ecological economists favour 'strong' sustainability rejecting monetary valuation of environment. Among arguments they raise, is an issue of preferences which are changing and are easy to manipulate. Secondly we should, they claim, not base our valuation only on the current generation's preferences,²⁰⁶ because affected, yet un-born, individuals are not included in voting processes. Moreover income level is a significant determinant of the demand for environmental quality or discrepancy between individual preferences and what is 'right'.²⁰⁷ Along with ecological economists' view go also findings of Stevens,²⁰⁸ who explained the notion of 'lexicographic preferences'. He observed that individuals are often unwilling to any money trade-offs against environmental problem at stake regardless of its utilitarian value or of the costs to the society.²⁰⁹ Presenting basic individual values for environment by utility function, he claimed, is inaccurate.

Even if some values remain difficult to assess in a strict economic framework, nevertheless it still seems the most promising scheme for protecting environment. The combination of evaluation methods with more deliberative approaches, favouring the formation of consistent and reasoned preferences, could allow some reconciliation of instrumental and intrinsic values.²¹⁰ At stake here is nothing less than the shape, design and transdisciplinary implementation of environmental policies. After all cost-benefit analysis does not exist only in theoretical literature.

²⁰⁴ Atkinson Giles, Mourato Susana, Environmental Cost- Benefit Analysis, London School of Economics Aug 2008, p.321

²⁰⁵ Ibidem., p.324

²⁰⁶ Clifford S. Russell, Applying economics to the environment, Oxford University Press 2001 p.125

²⁰⁷ For criticism of utilitarian approach see Sagoff (1994).

²⁰⁸ For further reading see Stevens H. Thomas, Measuring the Existence value of Wildlife: What do CVM Estimates Really Show? [in: Land Economics, Nov 1991, 67(4) pp 390-400]

²⁰⁹ Splash L. Clive, Preferences, Information and Biodiversity Preservation, Environmental Economics Research Group, University of Stirling 1994, p.2

²¹⁰ Northon Bryan G & Noonan Douglas, Ecology and valuation: Big changes needed, Ecological Economics vol. 63(4) pp 664-675, Elsevier 2007

Practical use range from OECD²¹¹ or UK guidelines on regulatory impact analysis RIA,²¹² European Directives²¹³ or finally European Treaties.²¹⁴ Nevertheless, policy makers and regulators have to be aware of all the complexities of each case. By transforming Aslaksen's and Ingeborg's ideas,²¹⁵ a table 3 below can perfectly be a step-by-step instruction for the policy makers in terms of environmental valuation:

Table 6: Methods of evaluation

1	Recognition of risk concepts (hazard, risk, uncertainty, ignorance)
2	Consideration of potential long-term adverse consequences
3	Questioning the notion of market-based preferences as the sole guideline
4	Consideration of ethical assumptions
5	Learning from experience
6	Undertaking a dialogue between all stakeholders

Source: Adapted from Aslaksen, Lulie & Myhr Ingeborg Anne et al., 2006

Taking all the above into consideration, I would like to articulate that neoclassical version of economics is not serving environment in many respects. Efficient allocation does not mean equity as well as correcting market failure does not guarantee sustainability. Furthermore, valuation is not a solution or an end in itself. Environmental valuation must be considered as a conceptual and methodological framework for organizing information as a guide for decision-making. What follows, in the next chapter ideas presented above will be now implemented into the specific framework of European competition law represented by Article 101(3) TFEU.

²¹¹ Organization for Economic Co-operation and Development

²¹² document created before a new government regulation is introduced

²¹³ 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

²¹⁴ See Article 130r of the Treaty on European Union

²¹⁵ Aslaksen, Lulie, Myhr Ingeborg Anne, The Worth of a Wildflower, Discussion Paper n. 476, Sept 2006

6. Environmental Issues in the assessment of Art 101(3)TFEU:

Finding a right balance

The main objective of environmental and ecological economics is the fact that even speaking in the economical sense we should not restrict our analysis to 'economic' motives expressed in terms of income or profit.²¹⁶ European competition authorities distinguish between economic and public interests. Although environmental issues impose certain economic consequences, they are still considered not to be of a primarily economic nature.

The Regulation no. 1/2003, besides establishing that defendant have to prove the existence of efficiencies,²¹⁷ also created a decentralised system based on the legal exemption applicable also by national Courts. The EU competition rules against illegal agreements are covering both formal agreements as well as concerted practices and so called gentleman's agreements. The typical concept of an illegal agreement is that of a cartel between competitors. Generally speaking anticompetitive conducts resulted from cartels can be identified as harm to consumers: by transfer of wealth to producers, by reducing output and by reducing competitive pressure for efficiency and innovation.

So far competition on free market has proven to be the most efficient way to increase the welfare of consumers and society at large. It is worth mentioning that market mechanism is also an important tool for a proper environmental evaluation. In order to determine prices for the companies accurately (meaning the one that reflect environmental externalities) also competition is an inevitable ingredient. Nevertheless, Julio Baqueo Cruz warned that competition law becomes too isolated group of norms that are dealt with in highly technical way.²¹⁸

²¹⁶Mark Hans, The 'New' Horizontal Agreements Approach in the EU: An 'Economic' Assessment, *Intereconomics*, Jan 2002 p.30

²¹⁷ See Article 2 of EC Reg. 1/2003 reads as following: 'In any national or Community proceedings for the application of Articles 81 and 82 of the Treaty, the burden of proving an infringement of Article 81(1) or of Article 82 of the Treaty shall rest on the party or the authority alleging the infringement. The undertaking or association of undertakings claiming the benefit of Article 81(3) of the Treaty shall bear the burden of proving that the conditions of that paragraph are fulfilled'.

²¹⁸J.Baqueo Cruz, *Between Competition and Free Movement: The Economic Constitutional Law of the European Community*, Hart Publishing 2002, p.1

In this chapter I would like to shortly familiarised reader with Article 101 TFEU in total and subsection three in particular. Further we will move to analyses of possible balancing opportunities for environmental issues on the example of energy savings, natural resources and waste disposal concerns.

6.1. THE APPLICATION OF ARTICLE 101 TFEU

Horizontal agreement can lead to substantial economic benefits like risk sharing, cost saving, investment increase or product quality enhancement to name but few. On the other hand there are competition issues with an increase in market power or price/ output fixing at top of them. Therefore the main purpose of Article 101 TFEU as a whole is to maintain effective competition within the EU internal market.²¹⁹

In order to fully understand the reasoning behind this section short introduction of exact wording of the Treaty is essential. Article 101(1) of the Treaty on the Functioning of the European Union reads as follow:

1. 'The following shall be prohibited as incompatible with the internal market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which:
 - (a) directly or indirectly fix purchase or selling prices or any other trading conditions;
 - (b) limit or control production, markets, technical development, or investment;
 - (c) share markets or sources of supply;
 - (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
 - (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts. [...]

From the above we can deduce that, even in the absence of any contract or unilateral declaration, a violation of Article 101(1) may be found under the heading of a 'concerted practice'. It is important to note that as long as a firm participating in an environmental agreement is involved in some type of economic or commercial activity, not necessary for profit, it will be considered an 'undertaking'.²²⁰ At last but

²¹⁹ COMMUNICATION FROM THE COMMISSION Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements p.5

²²⁰The Bosman Case (1996) Case 415/93 ASBL Union Royale Belge des Societes de Football Associations and others v Jean-Marc Bosman

not least, mere restrictive effects suffice to bring an agreement within the scope of Article 101(1) TFEU.

At this point it is also important to mention in the context of Article 101(1) the status of non-economic objectives. The ECJ ruled in Wouters case that agreements with objectives that are necessary and proportionate for the realization of non-competition interests may not violate Article 101(1) TFEU.²²¹ Environmental concerns, however, have not been mentioned explicitly.

6.2. THE SCOPE OF ARTICLE 101(3) TFEU

According to the European Commission guidelines non-competition benefits should not be balanced against economic interest. Instead, they should be taken into account under the provision of Article 101(3) TFEU.²²² The third paragraph of Article 101 of the Treaty on the Functioning of the Europe Union allows the Commission to exempt an agreement from the cartel prohibition.

- [...] 3. 'The provisions of paragraph 1 may, however, be declared inapplicable in the case of:
- any agreement or category of agreements between undertakings,
 - any decision or category of decisions by associations of undertakings,
 - any concerted practice or category of concerted practices, which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not:
 - (a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives;
 - (b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.'

From the above we can deduce that the application of the exception rule is subject to four cumulative conditions listed, for the sake of clarity, in the table seven below:

Table 7 : Cumulative conditions under Article 101(3) TFEU

1	Promotion of technical and economic progress
2	Indispensability
3	Fair share for consumers
4	No elimination of competition

Source: Adapted from European Commission et al., 2004

²²¹Wouters (C-309/99) [2002] E.C.R. I-1577 at [97]

²²²Communication from the Commission Notice, Guidelines on the application of Article 81(3) of the Treaty (2004/C 101/08), para 42. Note: In this paper I won't be devoting any space on a debate whether the ECJ should balance public policy goals within the notion of a 'restriction of competition' in art.101(1)

Speaking of promoting technical and economic progress we mean a range of multifarious effects. Efficiency gains can be achieved by better allocation of production, cost reduction or saving resources otherwise unnecessary spend on i.e. R&D race.²²³ This condition undoubtedly indicates prime economic policy of this provision. The second, indispensability criterion requires doing just the necessary steps to achieve the efficiency gains. Moreover, the exchange should not involve information beyond the variables that are relevant for achieving this goal.²²⁴ For that to be assessed proportionality test has been created. Third criteria is about benefiting the consumer. Its welfare is currently defined in EU competition law in terms of allocative efficiency. An information exchange while anticompetitive cooperation has to be balanced by efficiency gains passed on to consumers. What is, however, important to mention is that the notion of 'consumers' proved to be interpreted often in a broader way than just final consumer. Last but not least, the criteria of Article 101(3) cannot be met if the companies involved in the information exchange are afforded the possibility of eliminating competition.²²⁵

6.3. THE ANALYSIS OF ARTICLE 101(3) TFEU

To sum up, aforesaid Article 101, it is dealt with in two steps. First step under Article 101(1) is to classify an agreement whether it has an anti-competitive object or actual or potential restrictive²²⁶ effect²²⁷ on competition.²²⁸ Consequently in affirmative, under the second step 101(3) offers a solution for those cases where consumers are considered to benefit more if undertakings are cooperating on a given market.²²⁹

²²³Vedder Hand H.B., Voluntary Agreements and Competition Law, FondazioneEni Enrico Mattei, Nota Di Lavoro 79.2000, p.8

²²⁴COMMUNICATION FROM THE COMMISSION Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements p.25

²²⁵COMMUNICATION FROM THE COMMISSION Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements p.26

²²⁶For the purpose of this paper this term includes the prevention and distortion of competition.

²²⁷Actual or likely appreciable adverse impact on at least one of the parameters of competition on the market i.e. price, output, product quality/variety or innovation.

²²⁸Article 101(1) TFEU prohibits both actual and potential anti-competitive effects.

²²⁹COMMUNICATION FROM THE COMMISSION Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements p.9

The structure of Article 101(3), however, exempts agreements which enhance economic efficiency saying nothing about agreements which are favoring non-economic public policy objectives, like environmental considerations. As we can read in Commission guidelines '*restrictive agreements may generate objective economic benefits*²³⁰ outweighing restriction of competition. Subsequently, to back up this provision it is said that '*(...) efficiencies listed in Article 101(3) (...) are intended to cover all objective economic efficiencies*²³¹

In respect to environmental considerations, they seem to always have been accessory to the economic benefit. Moreover, many argue that they can be taken into account only if they coincide with competition goals. Those lawyers and economists against including environmental issues into the assessment of Article 101(3) pinpoint technical hurdles. Commission Notice clearly states that '*the likelihood of a particular agreement to produce indirect or potential effects must be explained by the party (...). Hypothetical or speculative effects are not sufficient for establishing Community law jurisdiction.*²³² The problem with environmental concerns, they say, is in complex calculations of intangible benefits and costs on the individual or even aggregate societal level.²³³ Because of legal uncertainty there is a general unwillingness across European NCA's to include environmental benefits, which are not only indirectly link to the product or service but also their remoteness causes difficulty in quantifying.²³⁴ They add also, that of course the more objectively the economic efficiency of an environmental agreement is demonstrated, the more clearly each provision might be deemed indispensable to the attainment of the environmental goal within its economic context.²³⁵

Although those arguments are sound and fairly stated, the current trend of EU competition policy is to shift towards effect-based analysis. This not only gives

²³⁰ Guidelines on the application of Article 81(3) para 33

²³¹ Ibidem., para 59

²³² Commission Notice, Guidelines on the effect on trade concept contained in Articles 81 [101] and 82 [102] of the Treaty (2004/C 101/07) para 43

²³³ Vedder Hand H.B., Voluntary Agreements and Competition Law, FondazioneEni Enrico Mattei, Nota Di Lavoro 79.2000, p.8

²³⁴ OECD, Annex to the Summary Record of the 110th Meeting of the Competition Committee Held on 27-28 October 2010, DAF/COMP/M(2010)3?ANN4/FINAL, p.2

²³⁵ OECD Environmental Regulation and Competition, DAF/COMP(2006)30 17 Nov 2006, p.181

opportunity for, but even requires the quantification of environmental objectives.²³⁶ Environmental projects in the strictly legal sense are not special, They however, mostly carry out indispensable benefit for our ecosystem. As environmental economists would probably argue, environmental problems are not inherent in the economic order based on competition. They are caused rather by the faulty internalization of environmental costs and benefits.²³⁷

Environmentally- focused concentrated practices on the production level may very well aim at internalizing environmental costs in order to achieve efficiency and effectiveness. According to environmental economics, this increased efficiency combined with competitive markets for the environment are best means to protect our ecosystem and achieve sustainable level of development.²³⁸

All this ideas can be perfectly examined on the particular case law from selected industries. In the next section I will focus on cases directed towards specific environmental issues, namely, waste disposal and recycling, energy savings initiatives as well as natural resources management.

6.3.1. FOCUS: WASTE DISPOSAL CASES

'It's pretty amazing that our society has reached a point where the effort necessary to extract oil from the ground, ship it to a refinery, turn it into plastic, shape it appropriately, truck it to a store, buy it, bring it home, use it, throw it out, ship it to a landfill is considered to be less effort than what it takes to just wash the spoon when you're done with it.' James D. Schwartz²³⁹

The responsible use of natural resources is vital for future-oriented social policy.²⁴⁰ The European Environmental Agency EEA stated recently that *'an increased recovery of waste and diverting waste away from landfill play a key role in tackling the environmental impacts of increasing waste volumes.'*²⁴¹

²³⁶Knox Ruth, Should competition authorities integrate environmental protection into competition policy? Global Antitrust Review 2003, p.101

²³⁷Vedder Hand H.B., Voluntary Agreements and Competition Law, FondazioneEni Enrico Mattei, Nota Di Lavoro 79.2000, p.1

²³⁸Ibidem., p.2

²³⁹Available at <http://www.theurbancountry.com/2010/02/use-your-brain-wash-your-spoon.html>

²⁴⁰The EU Waste Framework Directive (2008/98/EC)

²⁴¹EEA Briefing, Better Management of Municipal Waste Will Reduce Greenhouse Gas Emissions, 01.2008, ISSN 1830-2246; For municipal waste, the share recycled or composted increased to

According to the Commission's Horizontal Guidelines²⁴² collection and recycling agreements may have spillover and bundling of demand effects.²⁴³ This may result in limiting competition and imposing barriers to entry for potential competitors by way of creating cost commonality across producers or through an agreement among competitors to pass any recycling fees to consumers.²⁴⁴ Nevertheless, the Commission has already expressed some support for companies' cooperation as to environmental-friendly disposal of batteries,²⁴⁵ or recovery and collection of waste.

In the Netherlands waste management system set up by VOTOB association of tank storage operators resulted in Dutch competition authority' NMa investigation.²⁴⁶ Common environmental surcharge for undertakings' services resulted in pass-on fees to consumers.²⁴⁷ The fact that the charge amounted only to 4 percent of average total cost of storage in the eyes of NMa did not matter and the cooperation was held as infringing competition law.

Recalling one of the environmental economists' arguments mentioned in section 5.2.2. price incentives should be rethought by competition authorities. Advocating the contrary, it may be easily claimed that slight increase in price might have had a beneficial incentive for the consumers or companies to reduce waste production and more effective management of them.²⁴⁸ Too low charges, on the other side, might be the cause of any environmental-friendly initiative failure. Increase in price by 4 percent seems not much. As a basis for infringement when balancing with eventual environmental benefits looks as a weak argument, at the very last, for environmental and ecological economists.

38 % of the generated amount in 2008, compared to 25 % in 2000 [in] European Environmental Agency, Environmental indicator report 2012: Ecosystem Resilience and Resource Efficiency in a Green Economy in Europe, Publication Office of the European Union, p.105

²⁴²(para. 182),

²⁴³DG Competition Paper Concerning Issues of Competition in Waste Management Systems, para 56

²⁴⁴OECD, Annex to the Summary Record of the 110th Meeting of the Competition Committee Held on 27-28 October 2010, DAF/COMP/M(2010)3?ANN4/FINAL, p.6

²⁴⁵Arge Bat, ZVEI and HDE, OJ 1998, C172/12 [1999] 4 CMLR 526

²⁴⁶Note that from 2nd of April 2013 NMa is transformed into ACM (Autoriteit Consumer & Markt)

²⁴⁷VOTOB, see the XXII Report on Competition Policy, Luxemburg Office of Official Publications of the European Communities 1993, paras. 177 - 183

²⁴⁸OECD, Annex to the Summary Record of the 110th Meeting of the Competition Committee Held on 27-28 October 2010, DAF/COMP/M(2010)3?ANN4/FINAL, p.8

Any government is surely seeking most economically efficient way to implement the obligations to recycle materials and allocate the associate costs. Commission has occasionally accepted that some form of cooperation between companies facing strict environmental norm are allowed. Two most prominent cases in this respect are originated in Germany under nation-wide initiatives. In IFCO case an agreement between German fruit and vegetable wholesalers, retailers, importers and packaging manufacturers was created. They have undertaken a standardization of reusable fruit containers, which although allowed for collective cost fixing, was cleared by the Commission.²⁴⁹ Much of attention gained also program called DSD following a political goal to reduce waste stemming from packaging materials. Cartel that followed covered all the companies involved in the recycling of waste.²⁵⁰ The German competition authority, BKartA, initially tolerated this cartel-like scheme because it was the quickest and the easiest way for the government to establish the system.²⁵¹

Using ecological and environmental economics ideas, if not the outcome then for sure the approach to those schemes would be different. Dealing with material resources and generating waste is, surprisingly or not, the same piece of cake. Waste is in the end a potential resource when re-used, recycled or recovered. Waste that is merely disposed of can be interpreted as a loss of resources and thus as an inefficiency of the economy.²⁵² Looking from the perspective of environmental and ecological economics waste management can be preferred in the following way:

PREVENTION > MINIMIZATION > REUSE > RECYCLING > ENERGY RECOVERY > DISPOSAL

Efficiency should be considered most of all in material and energetic way not financial one.²⁵³ As long as coordinated schemes can be run for the sake of overall bigger reduction of waste and savings in land degradation, with no other alternatives possible, cartel-like vertical agreements should be cleared by the competition

²⁴⁹ Notice pursuant to Article 19(3), IV/34.415 IFCO [1997] OJ C48/4

²⁵⁰ Duales System Deutschland C(2001) 2672 [2001] ECR

²⁵¹ Ritter Lennart, Braun W. David, *European Competition Law: A Practitioner's Guide* 3rd Edition, Kluwer Law International 2005, p.150

²⁵² European Environmental Agency, *Environmental indicator report 2012: Ecosystem Resilience and Resource Efficiency in a Green Economy in Europe*, Publication Office of the European Union, p.103

²⁵³ See section 5.1.

authorities. Would it be the issue in abovementioned cases if not political influence from the German government? I give the benefit of doubt.

Helpful in this respect should be environmental valuation. Many cost benefit analysis of waste management have been carried through on the national level in the past decade.²⁵⁴ Why not implement this approach into the balancing of Article 101(3)? Taking into account value of land as a prime factor of production as well as stated preferences undertaken by some survey methods,²⁵⁵ balance of anticompetitive agreement can be quickly achieved. Suggested way of the analysis for recycling initiatives can be as follows:

Table 8: Cost Benefit Analysis of Waste Recycling

BENEFITS	
1	Saved landfill costs <ul style="list-style-type: none"> • Maintenance, Supervision, Logistics • Soil and Air Pollution
2	Saved costs of collection for disposal
3	Direct Consumer Benefit <ul style="list-style-type: none"> • Citizen's willingness to pay – Actual cost of recycle
4	Value of the recycled material
COSTS	
1	Costs of restricting competition <ul style="list-style-type: none"> • Additional fees (if applicable) • Alternative costs of more competitive market
2	Costs of recycling method <ul style="list-style-type: none"> • Sorting • Recycling

Source: Adapted from Covec – Recycling: Cost – Benefit Analysis 2007

At last, along with environmental economics claim,²⁵⁶ the lack of internalisation of the environment costs results in imperfections of recycling markets. These can be summarised as the quality of recycled product, which is decreases by collective wastes; product design, which often do not take into account recycling factor as well as lower costs of alternatives to recycling like landfilling and incineration.

²⁵⁴Finnveden Goran & Moberg Asa, Environmental and economic assessment methods for waste management decision-support: possibilities and limitations, Waste Management & Research 2007, p.264

²⁵⁵ See section 5.4.1.

²⁵⁶ See chapter 5

6.3.2. FOCUS: ENERGY SAVINGS CASES

'It is time for a sustainable energy policy which puts consumers, the environment, human health, and peace first.' Dennis Kucinich²⁵⁷

Energy savings are at the heart of the EU's 2020 strategy²⁵⁸ and essential ingredient of the transition to a resource efficient economy. Sustainable energy use - or putting it differently – energy savings policy undoubtedly includes four elements for the energy supply and consumption system (see table nine below). All in all what energy is really about is balancing energy security, environmental protection and economic development.

Table 9 : Sustainable energy use key ingredients

1	Improvement of energy consumption and transformation efficiency ²⁵⁹
2	Increase in the value-added of energy consumption
3	Adoption of technologies and practices that lower emission
4	Decrease of the dependency on fossil fuels

Source: Adapted from OECD et al. 2011

Apart from renewable energy use²⁶⁰ or energy efficiency²⁶¹ improvements for the end-use consumer, improved product standards are another route to reduce the impact of consumption on energy use.²⁶² In words of the European Commission, 'Instruments are therefore needed to put the financial value on energy savings and link the profit of utilities to energy efficiency rather than the volume of energy delivered.'²⁶³

In this respect, technological standards translated into minimum energy efficiency requirement for energy equipment, are very attractive politically. As Pedro Linares observed, this popularity exists because of lack of costs' transparency for the consumers, of their effectiveness and because of relatively easy way of

²⁵⁷Speech, September 27, 2005, available at: http://www.notable-quotes.com/k/kucinich_dennis.html

²⁵⁸Communication from the Commission, Europe 2020, A European strategy for smart, sustainable and inclusive growth, COM(2010) 2020

²⁵⁹Efficiency for the sake of this paper is defined as the improvement in the efficiency with which energy is used to provide a certain product or service, measured in units of output per energy unit.

²⁶⁰Case 379/98, PreussenElektra AG v Schleswag AG [2002] ECR I-2009 For the EU policy goals in this respect see Communication from the Commission to the Council and the European Parliament, Renewable Energy Road Map, Renewable Energies in the 21st Century : Building a more Sustainable Future, COM(2006)848 final

²⁶¹Philips –Osram, O.J. 1994 L 378/37 par.25

²⁶²Farber Daniel A., Law, Sustainability and Pursuit of Happiness, University of California, Berkeley, p.35

²⁶³Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of Regions, Energy Efficiency Plan 2011, SEC(2011)

implementation.²⁶⁴ Looking from strict political and economic perspective, it's no wonder that exactly in this field we can observe more environmentally aware approaches.

One of the examples²⁶⁵ and a landmark case in the same time is CECED, where European Commission focused entirely on the outcome of the horizontal agreement. The initiative reduced output, and diversity of products as well as in the end increased the price for consumers. It was, however, excepted from the Article 101 TFEU because of benefits for the environment in commitment to improve the average energy efficiency²⁶⁶ of refrigerators and freezers.²⁶⁷ According to the market analysis refrigerators and freezers usually did not drop dramatically in terms of units, because the demand for the goods has been rather inelastic. It was observed that sales trends in value were lower than trends in units. This means that consumers were oriented towards cheaper products and eventual standard setting was apparently against their economic interest.²⁶⁸ Nevertheless, the exact wording of the Commission's argumentation line was that *'the combined social benefits seem to be more than sevenfold greater than the increased purchase costs'* of the washing machines to be produced under the agreement. Moreover, the Commission noted that the programme *'appears to provide a fair return to individual consumers(...)*²⁶⁹ Does the case suggest Commission's willingness to adopt broader welfare approach in balancing directly environmental benefits under Article 101(3) TFEU or was it actually a one-stand demonstration of moving along political trends?

In another case of 1994 Commission cleared a joint venture for the production of lamp components between Philips International BV and Osram GmbH. While

²⁶⁴Linares Pedro & Labandeira Xavier, Energy Efficiency: Economics and Policy, Journal of Economic Surveys (2010) Vol. 24, No. 3, p 583

²⁶⁵See also Notice pursuant to Article 19 (3) of Council Regulation No 17/62 concerning Case No IV/C-3/36.494 EACEM [1998] OJ C 12/2 Where the Commission took a favorable view pursuant to the European Association of Consumer Electronics Manufacturers 'EACEM' agreement, entered into by a large part of its members to reduce energy consumption by televisions and video recorders in standby mode.

²⁶⁶The combination of measures resulted in a given reduction of energy consumption, what was calculated to correspond to a significant reduction in emission of CO₂.

²⁶⁷OECD, Annex to the Summary Record of the 110th Meeting of the Competition Committee Held on 27-28 October 2010, DAF/COMP/M(2010)3?ANN4/FINAL, p.14

²⁶⁸CECED Unilateral Commitment on reducing energy consumption of household refrigerators and freezers, 1st Annual report from 2003 to the Commission of the European Communities, p.10

²⁶⁹CECED, OJ 2000 L187/47, paras. 11-12

examining indispensability criterion Commission mentioned improvements in terms of rationalization, flexibility, cost savings, pooling of R&D efforts and in the end lowering emissions.²⁷⁰ Regardless of the true motives behind both decisions, although the results are favorable to environmental and ecological economists, line of reasoning is completely different.

As in Philips case it was still about prioritizing economic efficiencies above environmental gains, considering CECED case important discrepancy results in difference between efficiency and conservation that reduces depletion of natural resources.²⁷¹ According to ecological economics aiming at improving efficiency does not necessarily mean achieving energy conservation because of so called rebound effect.²⁷² The change, therefore, has to be made in balancing (i.e. under article 101(3) TFEU) towards real savings.²⁷³ Energy conservation, indeed, not only save our scarce economic resources and postpone the depletion of our limited fossil resources, benefiting in the same time future generations, but also serves as an alternative for reducing carbon dioxide emissions.²⁷⁴ Taking less radical approach along ideas forwarded by environmental economics conditionally it is justified to look at energy efficiency. This should, however, happen only when it results in net savings (possibly measured in a way as table ten shows below) and it is targeted at the market failures.²⁷⁵

Table 10: Cost-benefit analysis for evaluating net energy savings

BENEFITS	COSTS
Energy- Related Costs Avoided	Program Overhead Costs
Additional Resource Savings	Program Installation Costs
Monetized Environmental Benefits	Incremental Measure Costs Paid by the Customer
Non-Energy Benefits	

Source: Adopted from U.S. Environmental Protection Agency et al. 2008

²⁷⁰ Commission Decision 94/986/EC IV/34.252 Philips Osram JV [1994]

²⁷¹ Energy conservation for the sake of this paper is defined as the absolute reduction in energy demand compared to a certain baseline, measured in energy units.

²⁷² The situation when an improvement in energy efficiency does not bring about a proportional reduction in energy demand

²⁷³ Linares Pedro & Labandeira Xavier, Energy Efficiency: Economics and Policy, Journal of Economic Surveys (2010) Vol. 24, No. 3, p 588

²⁷⁴ Ibidem., p 573

²⁷⁵ Market failures associated with energy savings are for instance transaction costs, information failures or capital market imperfections to name the most obvious once.

Of course supervisory bodies should be actively examine any industry-wide standard settings, because claimed environmental benefits can be only a fake excuse. For this instance the UK Competition Authority OFT²⁷⁶ has advocated in 2008 in the process of introducing energy efficient light bulbs on English market, in order to minimised the potential for the process to have a negative impact on competition.²⁷⁷ But most of all the way of assessing environmental benefits under the Article 101(3) TFEU has to change. It is very important to path the proper way of reasoning for balancing environmental concerns in this respect, because in the nearest future competition authorities will have to face the challenge of standard-setting practices in emerging industries. Horizontal conspiracies may take place for this instance in smart grid networks,²⁷⁸ which are gaining traction in energy sector development plans with larger-scale investments undertaken.²⁷⁹

6.3.3. FOCUS: NATURAL RESOURCES CASES

At present, however, the industry is characterized by overfishing, heavy subsidizes, low economic resilience and declines in the volume of fish caught. European fisheries are eroding their own ecological and economic foundations.' European Commission.²⁸⁰

Presently, 30 per cent of European fish stocks for which information exists are fished outside their safe biological limits, meaning these stocks may not be able to replenish.²⁸¹ Marine environment – primarily fishing - plays an important role in national and European economies and supply goods that support European citizens and their way of life.²⁸² One of the means to protect marine ecosystems is Marine Strategy Framework Directive²⁸³ aiming to achieve sustainability in Europe's seas by 2020.²⁸⁴ European Commission propose reforming the EU Common Fisheries Policy

²⁷⁶ Note that from 1 April 2014 CMA (The Competition and Market Authority)

²⁷⁷ Evaluation of OFT Competition Advocacy Prepared for the Office of Fair Trading by London Economics April 2010, OFT866/55, at 6.12

²⁷⁸ For further information see Brown Ashley, Levisky Steven & Salter Raya, Smart Grid and Competition: A Policy Paper, Dewey & LeBoeuf, July 2011

²⁷⁹ Electricity Directive 2009/752/EC

²⁸⁰ European Environmental Agency, Environmental indicator report 2012: Ecosystem Resilience and Resource Efficiency in a Green Economy in Europe, Publication Office of the European Union, p.81

²⁸¹ *Ibidem.*, p.80

²⁸² *Ibidem.*, p.72

²⁸³ (2008/56/EC) (MSFD)

²⁸⁴ European Environmental Agency, Environmental indicator report 2012: Ecosystem Resilience and Resource Efficiency in a Green Economy in Europe, Publication Office of the European Union, p.73

CFP in summer 2011.²⁸⁵ The proposal includes targets and timeframes to stop overfishing. The planned revision provides that financial aid should only be given to environmentally friendly initiatives contributing to smart and sustainable growth. What does it mean for the purpose of competition policy?

There are different ways of dealing with tragedy of commons.²⁸⁶ First of all collective arrangements among private firms to reduce output or allocate market shares may in many instances ensure more sustainable fishery management, nevertheless they often come under the scrutiny of competition law. A hope for fisheries is sustainable level of consumption, which can be limited either by property rights, community norms or governmental regulations.²⁸⁷ The main problem is that what sustainable management sees as a corner stone, competition law prohibits.

The brown shrimp, commercially-wise, is the most important product from fishery for the Dutch marine industry.²⁸⁸ This species is claimed not to be under the treat according to WWF organization, however there has been a problem of undesirable bycatch of young flatfish in particular. The Dutch competition authority NMa in its comments to the MSC Management Plan 2011-2015 on the shrimp fisheries sector,²⁸⁹ although recognised sustainability need, has nevertheless strictly focused on the economic efficiency improvements. What is more, NMa went to the conclusion that any catch limitation rules, which are prohibited under Article 101(1) TFEU²⁹⁰ won't be able to satisfy balancing criteria under article 101(3). Indispensability criterion, because this seems to be an apple of discord, would only be approved, it claims, when there is *'an actual or potential and real threat to the continued existence*

²⁸⁵ See European Commission, Common Fisheries Policy: A User's Guide 2009

²⁸⁶ There are three general approaches in addressing the tragedy of the commons in the fisheries context. One is the 'command and control' approach, i.e., using governmental regulation to induce fishermen to change their actions and limit their adverse impacts. Second one is granting fishermen well-defined individual privileges to a portion of the harvestable fish stocks, to give fishermen appropriate conservation and management incentives. A third alternative is the community-based governing arrangement. For further information see Ocean Studies Board ("OSB"), Sharing the Fish: Toward a National Policy on Individual Fishing Quotas, Washington, D.C.: National Academy Press 1999

²⁸⁷ Jonathan H. Adler, Conservation Through Collusion: Antitrust as an Obstacle to Marine Resource Conservation, Washington & Lee Law Review, volume 61 issue 1 (2004), p.8

²⁸⁸ Responsible Fishing Committee, Fish Facts: North Sea Brown Shrimps, Dutch Fish Product Board 2009, p.1

²⁸⁹ Informele zienswijze Managementplan MSC Garnalenvisserij (kenmerk 7011/23.B27)

²⁹⁰ Dutch cartel rules laid down in Article 6 of the Mededingingswet (Mw) are almost mirror to the European cartel rules as laid down in Article 101 TFEU.

of the population of North Sea shrimps.²⁹¹ Traders and Dutch, German and Danish producers' organization idea of catch quota was in the eyes of NMa beyond was has been necessary.

The bycatch of flatfishes seems to be completely ignored in the evaluation of this case. Would it be the case, because brown shrimps are too valuable economically for the Dutch industry? However, the most fundamental question is, whether Dutch authority would rule differently considering for this instance salmon population, which is on IUCN red list and is predicted to shrink over 50 percent in next couple of years?²⁹²

Promoting long term focus on economy conservation of a depletable resource requires limiting consumption. Such limits result in increase in prices by lowering the market supply of the resource, while at the same time preventing future price increases by ensuring a long-term supply of the resource in question. By reducing consumption in the short run, conservation can actually increase consumption in the long run-and therefore enhance welfare of cross-generation consumers.²⁹³ In this sense, such agreements are efficient, even if they increase price or reduce output in the short run,²⁹⁴ as they address some of the inefficiencies resulting from the existence of a common pool resource.²⁹⁵

Of course collusive arrangements in conservation of a common-access resource can have a bad impact by redistributing wealth from consumers to producers. On the other hand however, successful cooperation in this field yield an increase in wealth and social well-being for many generations achieving sustainable scale of catch.²⁹⁶ Competition Authorities have to be aware of this dead lock and be more receptive

²⁹¹Sander R.W. van Hees, A sustainable competition policy for Europe, Universiteit Utrecht 2011, p.43

²⁹²See Species Survival Commission, Salmon and Climate Change: Fish in hot water, The IUCN Red List of Threatened Species

²⁹³ Some of the examples may be The US Fishermen's Collective Marketing Act 1934 granted immunity for any cooperation processes in this industry. The American Fisheries Act 1998, specifying members' shares of the total catch allocated to their sector. – contributing in the same time to reducing excess capacity and improving product value in overcapitalized fisheries.

²⁹⁴See section 5.1

²⁹⁵Jonathan H. Adler, Conservation Through Collusion: Antitrust as an Obstacle to Marine Resource Conservation, Washington & Lee Law Review, volume 61 issue 1 (2004), p.24

²⁹⁶Bruce Yandle, Antitrust and the Commons: Cooperation or Collusion?, 3 The Independent Review 37, (1998), p.1

towards environmental reasons for marine industry cooperative agreements in particular. Careful cost benefit evaluation of fishery under investigation in constant cooperation with environmental agencies has to be undertaken.²⁹⁷ Moreover, they should make it clear that cooperative efforts for sustaining any natural resource under investigation will receive their approval, provided that the cooperating parties do not unduly restrict the supply of a specific product on a given market.²⁹⁸

Laura Eadie wrote in her paper that 'future should bring communities of commercial fishers working together and managing their fishing areas jointly for long-term sustainability.'²⁹⁹ Does this vision seem to be totally against what article 101 TFEU stands for? In the eyes of ecological and environmental economists, having dynamic efficiency criterion in mind, it seems to be the only solution for sustainable development.

6.4. SOLUTION SEEKING

Economically speaking a switch to manufacture more environmental- friendly goods is often more expensive because of technology advances. This in turn implies higher fixed costs for producers, which generally imply higher barriers to entry, leading to a lower number of competitors, and potentially higher price for consumers.³⁰⁰

The truth is, what has been addressed in OFT Discussion Paper, that non-economic issues like environmental benefits, are not easy to measure. They pinpointed that firms will be biased towards over-estimating these benefits, competition authorities are unlikely to have the relevant expertise to assess the parties' submissions as well as heavy reliance on competition policy to achieve non-economic benefits may mean

²⁹⁷See Table 3 in section 5.4.4.

²⁹⁸Bruce Yandle, *Antitrust and the Commons: Cooperation or Collusion?*, 3 THE INDEPENDENT REV. 37, 38 (1998), p.14

²⁹⁹Eadie Laura & Hoisington Caroline, *Stocking up: securing our Marine Economy*, Centre for Policy Development, Sept 2011 p. 56

³⁰⁰Evaluation of OFT Competition Advocacy Prepared for the Office of Fair Trading by London Economics April 2010, OFT866/55, At 6.19

more appropriate options are ignored.³⁰¹ However, as observed by ecological and environmental economists, the market-based instruments stop working properly when the price of environmental goods is evaluated incorrectly.

At the moment competition law does not fully safeguard environmental objectives. The Business and Industry Advisory Committee to the OECD rightly observed that environmental benefits have to be explicitly recognised in EU competition law as economic efficiencies.³⁰² This is beneficial not only from the environmental but also from the business perspective.³⁰³ Translation of environmental benefits into economic efficiencies and internalization of those benefits in the overall economic analysis will allow proper balance between maintaining competition and allowing certain restrictions under Article 101(3) TFEU. Moreover, the value of each environmental incentive should be estimated before final decision on competition issues. Such studies should rely on participant surveys, which are designed to indicate their willingness to pay for a given project or statistical analysis of survey data to assess participants' revealed preferences.³⁰⁴

Suggestion from CECED case of expanding the welfare model and include environmental interests is essential for the sustainable growth.³⁰⁵ This solution is, however, neither new nor innovative because it works already in Australian legal system. In this country within its competition law there exist so called modified total welfare test,³⁰⁶ which enables competition authority ACCC to take environmental considerations even if there is no strong efficiency argument.³⁰⁷ Broadly shaped

³⁰¹OFT, Article 101(3):A Discussion of Narrow versus Broad Definition of Benefits, 2010, paras 1.8 and 3.41–52.

³⁰²OECD, Annex to the Summary Record of the 110th Meeting of the Competition Committee Held on 27-28 October 2010, DAF/COMP/M(2010)3?ANN4/FINAL, p.15

³⁰³Predictability and certainty in law advantage. For further research about CSR see: Pardo Michal, Should Corporate Social Responsibility change in order to bring the sustainable society true?, Utrecht University Research Paper 2013

³⁰⁴See section 5.4 of this paper

³⁰⁵OECD, Policy Roundtables: Horizontal Agreements in the Environmental Context 2010, p.135

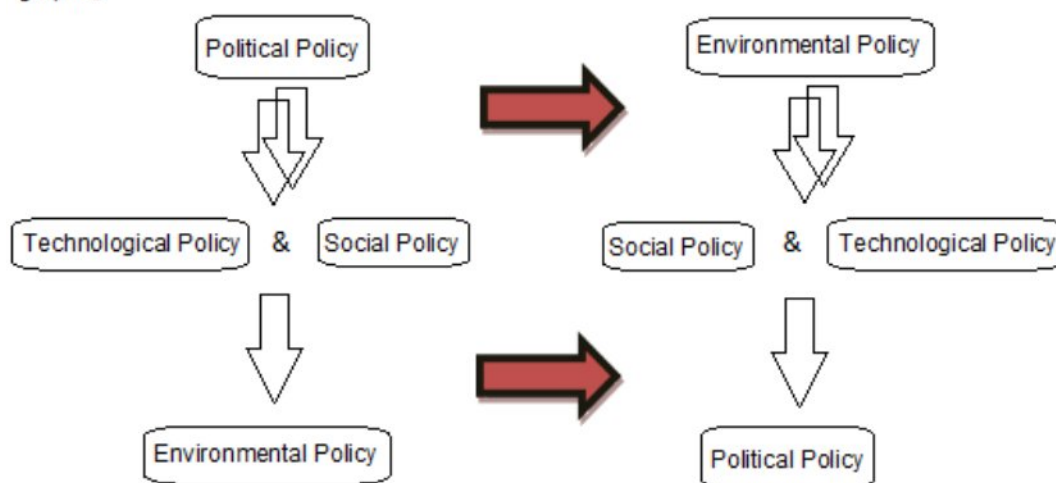
³⁰⁶OECD, Annex to the Summary Record of the 110th Meeting of the Competition Committee Held on 27-28 October 2010, DAF/COMP/M(2010)3?ANN4/FINAL, p.3

³⁰⁷Covers all types of economic efficiency unlike the EU when production efficiency and benefit to direct consumer is favored

public benefits³⁰⁸ have to outweigh any public detriment,³⁰⁹ which is assessed by commonly named 'future with-and-without' test.³¹⁰

Environmental economization first of all depends on clearly and simple-worded legislation. For this purpose, social awareness of the necessity to save energy, recycle and save natural resources should be constantly lobbying. Legislative effectiveness depends on effective enforcement, which in turn depends on a number of variables, such as policy priorities of the European Union.³¹¹ Governments, however, are generally presumed to seek for highest level of environmental protection at minimal costs. Establishing appropriate regulations and policies to ensure clear and long-term price signals encourage efficient environmental outcomes, but requires time and may hinder competition.³¹² Nowadays political will is essential for any environmental protection initiatives on the European scale, what environmental and ecological economics highly criticize.

graph 5



Source: Own Evaluation

³⁰⁸ Under the Trade Practices Act 1974 it is defined as '...anything of value to the community generally, any contribution to the aims pursued by society including as one of its principle elements...the achievement of the economic goals of efficiency and progress.'

³⁰⁹ Under the Trade Practices Act 1974 it is defined as '...any impairment to the community generally, any harm or damage to the aims pursued by the society including as one of its principal elements the achievement of the goal of economic efficiency.'

³¹⁰ OECD, Policy Roundtables: Horizontal Agreements in the Environmental Context 2010, p.30

³¹¹ OECD, PRO-ACTIVE POLICIES FOR GREEN GROWTH AND THE MARKET ECONOMY, DAF/COMP(2010)34, p.166

³¹² Note that in the U.S. antitrust law according to Noerr – Pennington doctrine private efforts to influence governmental bodies or courts, even for anticompetitive purposes, are exempt from antitrust liability. See *United Mine Workers v. Pennington* 381 U.S. 657, 669-71 (1965)

In the end, they claim, sustainable development will eventually require reversal of the decision making process (see graph 5 above). Role of the law in general and competition law in particular is to adjust to the new realities.

7. Conclusions

'The EU strategy must fully integrate the economic environmental and social pillars of Sustainable development.' European Commission³¹³

Intersection between competition and environment is not an abstract theoretical issue. Competition authorities take environmental issues into account in their everyday work but so far barely provide special consideration for their impacts.³¹⁴ Both policies have different means but share common objectives of maximization of social welfare and correction of market failure.³¹⁵

The relationship between environmental concerns and anticompetitive behavior is fragile and can be highly case-specific. This is one of the reasons why, for the sake of effectiveness, policy makers should focus at each sector separately. Facing the reality, and probably to the disappointment of ecological economists, environmental issues that are most likely to be smoothly implemented into the framework of EU competition law are those, which positively impact market competitiveness. On the other hand, environmental agreements undertaken in trade-off situation require weighting against anticompetitive economic consequences. It is, however, at the level of the whole society that this balancing should take place.³¹⁶

So far looking at the European treaties courts are presumed still to look mostly at competition and free movement of people, capital and goods. Nevertheless, as it was already mentioned in chapter 3 the ECJ has held that European competition law must

³¹³Communication From the Commission, A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development, COM(2001)264 final, p.10

³¹⁴With some exceptions like CECED analyzed in chapter 6

³¹⁵The aim of competition policy is to correct distortions due to the exploitation and pursuit of market power. Whereas, the aim of environmental policy is to correct environmental externalities.

³¹⁶Lankoski Leena, Linkages between Environmental Policy and Competitiveness, OECD Environment Working Papers No.13, OECD Publishing 2010, p.43

be implemented in light of the broader goals of the European Community.³¹⁷ Thus economic goals of the Treaty shouldn't be more important than environmental goals. We have to remember that final shape of EU competition policy should encourage competition for the environment not competition with the environmental objectives.

Recent reforms have increasingly exposed EU competition law enforcement to market mechanisms and have introduced more microeconomic reasoning in the assessment of anticompetitive conduct.³¹⁸ However, obsession with markets make competition authorities ignorant towards all 'values' not captured by market prices.³¹⁹ Further ecological degradation will surely push companies for even more intensified cooperation on the markets. For this reason valuation of environmental costs and benefits, forwarded by environmental economists, has to be finally taken into consideration.³²⁰ As it was noticed in Dutch case *Stibat*,³²¹ environmental benefits are certainly capable of being considered economically efficient because 'preventing environmental problems is cheaper than curing them afterwards.'³²² Moreover, uniform analytical framework and balancing method to achieve broader public policy goals have to be created, especially in yet unclear interdisciplinary fields like environment protection. Thus ideas taken from ecological and environmental economics will be one of the most important developments of law in this century.

Market on its own, has been proven, not being able to satisfy ecological needs. Governmental interventions into the market should go beyond merely the correction of market failure, as efficiency.³²³ According to ecological economics four decision criteria need to be addressed simultaneously when making environmental decisions. Next to the notion of efficiency, legitimacy and effectiveness criteria, equity, focusing on the distributional justice and consequences of decisions undertaken, has to be

³¹⁷Case 6-72 *Europemballage Corporation and Continental Can Company v. Commission* [1973] ECR I-215, paras 22-27

³¹⁸ Regulation 1/2003

³¹⁹Clifford S. Russell, *Applying economics to the environment*, Oxford University Press 2001 p.125

³²⁰ There is variety of ways, that the value of an environmental impact can be analyzed. As it has been presented in chapter 5, some of these techniques estimate original values by looking at actual behavior (RPs) or intended behavior (SPs).

³²¹ Decision In case number 51, *Stibat*, para 63 supra note 23

³²²Vedder Hand H.B., *Voluntary Agreements and Competition Law*, FondazioneEni Enrico Mattei, Nota Di Lavoro 79.2000, p.8

³²³Common Michael and Stagl Sigrid, *Ecological Economics, an Introduction*, University Press Cambridge 2005, p. 354

taken into account more seriously.³²⁴ Indeed, facing the growing scientific evidence that we are exceeding sustainable scale, we will be forced to pay greater attention to just distribution and the efficient allocation of investments across natural, social, and human capitals.³²⁵ Before taking the environmental responsibilities on our shoulders we have to realize that, for the well-being of humanity, the Earth should not be left in a worse state than when the present generations received it. What we really need is to take more seriously, the idea that what is 'good-for-man' depends on what is good for 'nature'.³²⁶

In the last decades, environmental protection has finally been considered as one of the cornerstones of sustainable development and well-being of present and future generations.³²⁷ As I perceive it, mix of ideas forwarded by ecological and environmental economics reminds us that the supply of ecosystem services and natural resources are limited. Constant over-exploitation for profit maximization puts both human well-being and economic output at risk. The main lesson they teach us is that because of environment changes, there must be a corresponding change in the way of living, the way of thinking and consequently the way law operates.

³²⁴ Adger, W.N., Brown, K., Fairbass, J., Jordan, A., Paavola, J., Rosendo, S., Seyfang, G., 2003. Governance for sustainability: towards a 'thick' analysis of environmental decision making. *Environment and Planning A* 35, 1095–1110.

³²⁵ Oren Perez, *The Many Faces of the Trade-Environment Conflict: Some Lessons for the Constitutionalisation Project*, *European Integration online Papers (EIoP)* Vol. 6 (2002) N° 11, p.3

³²⁶ Aslaksen Iulie, Myhr Ingeborg Anne, *The Worth of a Wildflower*, Discussion Paper n. 476, Sept 2006, p.4

³²⁷ OECD Environmental Regulation and Competition, DAF/COMP(2006)30 17 Nov 2006, p.155

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