THE POTENTIAL OF ECONOMIC INSTRUMENTS FOR REDUCING CO_2 EMISSION FROM ENERGY SOURCES

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Abstract

Today climate change is one of the most recognized global problems, caused by excessive emission, mainly from energy sources, of greenhouse gases, especially CO_2. Energy production is dictated by its consumption, and production of energy, especially from fossil fuels, has a significant negative impact on the environment. Through efficient use of energy and wise consumer choice, without comfort loss, individual greenhouse gas emissions can be reduced by around 20% or one tonne per year. Likewise, goal changes in energy policies, conditioned by an introduction of a variety of economic instruments in order to preserve the environment, lead to large changes in energy management. The authors of this paper emphasize that presently all future consequences and risks cannot be fully analysed. The paper aims at emphasizing the strong relationship between energy, economy and environmental protection, formulated as a consequence of technological development and lifestyle, and concludes that although renewable energy sources represent both long-term and medium-term options for CO_2 emission reduction, without economic instruments and fiscal charges, the planning of the reduction of CO_2 and other harmful emissions is not possible.

Keywords: economic instruments, financial aspects, CO_2 emission, CO_2 emission reduction, energy sources
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Introduction

Climate changes and the constraints arising from them are the key factors that will affect future methods and results of energy sector development planning. For this reason it is necessary to limit the emission of harmful particles into the atmosphere. This can be done using economic instruments defined as: pollution taxes/charges; user charges; product

taxes/charges; subsidies; tradeable emission permits; pollution permits or quotas, deposit refund system and other. Commonly used instruments are: taxes, fees, charges, billing, market creation (tradeable permits), benefits and various incentives to reduce pollution, and more. The term "charge" includes funds collected through environmental protection funds, water protection funds or public utility companies. If revenue is not intended for environmental protection, the term “tax” is used.

In addition, setting limits on greenhouse gases emission in the production, transformation, transmission, distribution and consumption of energy in order to reduce their concentration in the atmosphere produces a new parameter in the cost of energy: the cost of greenhouse gas emission reduction. It is quite certain that the global emission reduction policy will increase energy costs and that the price of greenhouse gas emission reduction will result from all the above-mentioned influential factors. Since the final price is affected by both global and local factors, cost estimates will vary from one country to another. The price distribution among subjects participating in the energy sector will partly be governed by the situations and relations in energy and technology markets, while the other part will be allocated to the state, energy companies, equipment manufacturers and, naturally, energy consumers. The final cost of greenhouse gas emission reduction will be paid by energy consumers, either directly through the price of energy or through state taxes on energy distribution.

1. Economic Instruments for Environmental Protection

Environmental pollution is expressed in the form of externalities such as pollution costs and other forms of environmental destruction in both production and consumption. Public authorities use different measures and instruments to facilitate and correct market failure and achieve better and more efficient allocation of resources, namely **command and control policies (command-control instruments)** which limit the amount of polluting activities, and **market incentives** that raise the price of pollution (Šverko, M., Črnjar, M., Šverko Grdić, Z., 2006). The command-control instruments or means (laws, regulations, and standards) are a form of legal regulation which sanctions non-compliance with regulations and laws. This regulation determines: goals and strategies of environmental protection; ambient quality standards (air, water, and soil); limitations in waste emission and disposal; production processes and product standards, as well as the establishment of monitoring at national, local or special level. The implementation of command-control instruments usually includes establishing ecological standards that prescribe a certain level of polluting substances. The standards are mainly determined by the impact on human health. In addition to maximum and recommended values, the standards also establish the time period allowed for pollution influence, the methods of monitoring and statistical calculations.

Market incentives, i.e. implementations of economic instruments influence the costs and benefits of environmental protection. Economic instruments are more suitable for the internalisation of externalities, and for determining the cost of pollution that should ultimately be covered by the polluter. In the short term, they promote cost-effective solutions while, in the long term, they encourage companies to search for new technologies for reduction of pollution control costs, and reduce the amount of information needed for decision making (Kordelj-De Villa, Ž. – Papafava, M, 2003). A significant advantage of economic instruments in the implementation of the environmental protection policy is that they correct the wrong signals on the market, since the prices of products and services include the costs of pollution and other environmental protection costs. This allows for price correction, since the costs of environmental protection and other costs related to the exploitation of natural resources are

included in the final price. Economic instruments affect pollution reduction, slower depletion of natural resources, and reallocation of fiscal and other obligations. There are several types of economic instruments for environmental policy:

1. Environmental taxes / charges are basically pollution charges imposed in order to internalise the cost of pollution damage by means of fixing the prices for polluting activities, following the "polluter pays" principle. Thus, for example, a hotel is taxed according to the type and quantity of waste produced (Kordelj-De Villa, Ž. – Papafava, M., 2003).
2. Environmental deposit represents a system of deposit and refund that discourages disposal of contaminants. The set amount of the deposit for potential environmental damage guarantees payment in case of actual damage and refund in case the damage does not take place.
3. Tradeable permits (tradeable emission permits) are instruments of environmental protection policy that serve to control the environmental pollution and the preservation of natural resources and that are becoming an increasingly popular type of economic instruments. The State determines the total permissible amount of pollution, and the price is set by the market itself. The level of pollution can be expressed as an allowable concentration of a substance (e.g. the amount of lead in gasoline, the consumption of chemicals), or as permitted levels of pollutant emissions on a national level.
4. Subsidies (incentives) for environmental protection are economic instruments that in various ways encourage the polluters to change their behaviour or that are given to the polluters in order to facilitate their reaching the imposed environmental standards. There are basically two types of subsidies, namely subsidies for pollution control equipment and subsidies for pollution reduction. In practice, these subsidies occur in the form of **grants** (non-repayable forms of financial support for the introduction of pollutants of new technologies, the reduction of environmental control equipment cost, etc.), **loans** with lower interest rates and **tax benefits** (a form of financial support that reduces the cost of production or consumption of goods and services).
5. Environmental liability insurance provides coverage for the potential damage inflicted on the environment or third party companies. With this type of insurance, the risk of paying for environmental damages is transferred to the insurer, while the premium depends on the potential risk. Environmental liability insurance is based on a precise definition of legal responsibilities of those who cause environmental damage. Since accurate estimates of potential damage are difficult to achieve, insurance companies are often aversive to this type of insurance, and tend to raise premiums or withdraw from it altogether.

Different states approach the implementation of environmental protection policy differently. Even though, in pollution control, economic (market) instruments for environmental protection have significant advantages and provide incentives for technological innovation, governments often favour regulatory instruments. In recent years, the developed Western countries introduced various charges and fees relating to environmental control. The following table brings an overview of environmental taxes and fees in EU 27.

Table 1: Comparison of direct and indirect CO_2 emission taxes and charges in 2007

Country	Tax type	Tax/ charge base	Tax rate	Unit	€/t CO_2	GDP/ capita in PPS	Relative difference in PPS	Fee in Croatia regarding PPS	
Croatia	CO_2 fee	CO_2 emission	1,50	€/t	1,50	50	1,00		
Austria	Energy tax	Coal consumption	50	€/t	20,67	129	2,58	8,01	▼
		Heavy fuel oil consumption	60	€/t	19,49			7,55	▼
		Natural gas consumption	66	€/1000 m3	0,03			0,01	▲
Belgium	Charge on energy	Light fuel oil consumption	8,5	€/t	2,76	123	2,46	1,12	▲
Cyprus	Non-existent					94	1,88		
Czech Republic	Fee on fossil fuels	Heavy fuel oil consumption	16,16	€/t	5,25	79	1,58	3,32	▼
Denmark	CO_2 tax	Coal consumption	32,44	€/t	13,41	127	2,54	5,28	▼
		Coke consumption	43,30	€/t	15,94			6,27	▼
		Fuel oil consumption	40,00	€/t	12,99			5,12	▼
		Natural gas consumption	30,00	€/1000 m3	0,02			0,01	▲
Estonia	CO_2 tax	CO_2 emission	0,48	€/t	0,48	67	1,34	0,36	
Finland	Fee on fuels	Coal consumption	43,52	€/t	17,99	117	2,34	7,69	▼
		Heavy fuel oil consumption	60,00	€/t	19,49			8,33	▼
		Natural gas consumption	20,00	€/1000 m3	0,01			0,00	▲
France	Fee on fossil fuels	Heavy fuel oil consumption	20,00	€/t	6,50	113	2,26	2,87	▼
		Light fuel oil consumption	60,00	€/t	19,49			8,62	▼
Germany	Fee on fossil fuels	Heavy fuel oil consumption	25,00	€/t	8,12	113	2,26	3,59	▼
Greece	Fee on fossil fuels	Heavy fuel oil consumption	20,00	€/t	6,50	89	1,78	3,65	▼
Hungary	Fee on fossil fuels	Fuel oil consumption	263,50	€/t	85,60	66	1,32	64,85	▼
Ireland	Fee on fossil fuels	Coal consumption	8,36	€/t	3,46	144	2,88	1,20	▲
		Heavy fuel oil consumption	17	€/t	5,52			1,92	▼
Italy	Fee on fossil fuels	Coke consumption	9,2	€/t	3,39	104	2,08	1,63	▼
		Heavy fuel oil consumption	60	€/t	19,49			9,37	▼
		Natural gas consumption	170	€/1000 m3	0,09			0,04	▲
Latvia	Fossil fuels tax	Heavy fuel oil consumption	10,44	€/t	3,39	56	1,12	3,03	▼
Lithuania	Fossil fuels tax	Heavy fuel oil consumption	23,17	€/t	7,53	58	1,16	6,49	▼
Luxemburg	Fossil fuels tax	Heavy fuel oil consumption	20,00	€/t	6,50	280	5,60	1,16	▲
Malta	Fossil fuels tax	Coal consumption	3,52	€/t	1,45	77	1,54	0,94	▲
		Heavy fuel oil consumption	13,98	€/t	4,54			2,95	▼
The Netherlands	Fossil fuels tax	Coal consumption	12,56	€/t	5,19	131	2,62	1,98	▼
		Liquid fuel oil consumption	192,40	€/t	62,50			23,86	▼
Poland	CO_2 tax	CO_2 emission	0,06	€/t	0,06	53	1,06	0,06	▲
Portugal	Fossil fuels tax	Coal consumption	4,07	€/t	1,68	75	1,50	1,12	▲
		Heavy fuel oil consumption	20,00	€/t	6,50			4,33	▼

Slovakia	Fossil fuels tax	Heavy fuel oil consumption	20,00	€/t	6,50	63	1,26	5,16	▼
Slovenia	Ne record in OECD base					87	1,74		
Spain	CO_2 Tax (Aragon Province)	CO_2 emission	0,2	€/t	0,2	102	2,04	0,10	▲
Sweden	Energy and CO_2 tax	Coal consumption	59,82	€/t	24,73	121	2,42	10,22	▼
		Light fuel oil consumption	314,5	€/t	102,17			42,22	▼
		LPG consumption	318,56	€/t	98,78			40,82	▼
		Natural gas consumption	205,36	€/1000 m3	0,11			0,04	▲
Great Britain	"Climate Change Levy" fee	Coal consumption	20	€/t	8,27	118	2,36	3,50	▼
		Liquid fuels consumption	10	€/t	3,25			1,38	▼

▼Fee higher than in Croatia
▲Fee lower than in Croatia
Source: http://www.zamirzine.net/IMG/doc/Usporedba_EU__Hrvatska.doc (06/08/2011)

The largest number of environmental taxes and charges within the European Union is applied in Denmark, while the smallest number of taxes and charges are applied in Portugal and Luxemburg. The most prevalent are: fuel taxes, vehicle registration fees, annual tax on motor vehicles and fees for wastewater discharge. In Central and Eastern Europe, there was a significant reduction of environmental pollution in the 1990s due to a sharp decline in economic activity. The fact that the revival of economic activities in developing transitional countries was not accompanied by an increase of emissions was a result of effective environmental protection policies.

Croatia has a very diverse range of different environmental instruments, including various charges, command and supervisory instruments (Papafava, M., 2000). The most common are charges related to natural resources exploitation and environmental pollution. However, the economic instruments do not form a complete system that would, along with laws and implementing regulations, ensure a thorough, lasting and effective environmental protection and sustainable development. The development of economic instruments in Croatia first occurred within the field of natural resource management (water, forests), and later continued within the framework of environmental protection.

Economic instruments are cost-effective and a more abundant source of funding, but this efficiency decreases with stricter pollution standards. Nevertheless, according to numerous authors, significant savings can be achieved through technological improvements in pollution control and waste reduction resulting from the implementation of regulatory instruments. Furthermore, economic instruments raise the problem of inspection and enforcement, while with the implementation of command and control instruments, the legislator prescribes certain technologies and thus ensures emission control.

2. The Impact of Energy on the Environment

Energy production is dictated by its consumption, and production of energy, especially from fossil fuels, has a significant negative impact on the environment. Today climate change is one of the most recognized global problems, caused by excessive emission, mainly from energy sources, of greenhouse gases, especially carbon dioxide (CO_2). Through efficient use

of energy and wise consumer choice, without comfort loss, individual greenhouse gas emissions can be reduced by around 20% or one tonne per year.

The energy sector has a significant impact on the environment, whether it is a local, regional or global impact. Emissions of pollutants and greenhouse gases into the atmosphere have a dominant influence when compared with other pressures on the environment (impacts on water and soil, noise, impact on land and biodiversity). Each type of energy causes emissions of different pollutants and different amounts; thus, for example, coal produces more SO_2 and NO_x emissions than other fossil fuels (Berinstein, P., 2001.). In order to illustrate the environmental impact of electricity generation more clearly, U.S. EIA (Energy Information Administration) emphasises the following facts (Energy Information Administration):

- 1 GWh of electricity generated from coal produces 242,9 tonnes of CO_2
- 1 GWh of electricity generated from oil produces166,0 tonnes of CO_2
- 1 GWh of electricity generated from all fossil fuels combined produces 1241 tonnes of CO_2.

By increasing efficiency in energy production and consumption, using renewable energy sources, applying modern technologies for the removal of pollutants (SO_2, NO_x and particulates), using quality fuel and by introducing improvements in the use of by-products and waste, environmental pressures per energy consumption unit can substantially decrease.

A steady increase in CO_2 concentration can affect various aspects of national and international relations. One practical way of reducing CO_2 emission into the atmosphere is its removal at the point of creation (Matić, M., 1993). Ignoring the warnings about increased amounts of harmful CO_2 in the atmosphere could have profound effects on the present world order. Table 2 shows the main effects and instruments regulating the environmental impact of the energy industry.

Table 2: Environmental Impact of Energy Industry

Level	**Influence**	**Instrument**
Global	Climate changes	The implementation of the UN Framework Convention on Climate Change (UNFCCC), Kyoto Protocol and future post-Kyoto period obligations
Regional	Eutrophication Acidification Ground-level ozone damage	The implementation of the Convention on Long Range Transboundary Air Pollution (CLRTAP) and the according Protocol The National Emission Ceilings Directive (2001/81/EC) ESPO Convention
Local	Air, water and soil quality impact Noise Space occupation Influence on land Biodiversity	Regulations on quality requirements for products and devices, emission limit values, techniques for emission reductions and environmental quality Regulations on energy efficiency and renewable energy sources Strategic assessment of environmental influence Integrated environmental requirements ("Environmental Permit") Spatial planning documents Nature Protection Act and its implementing regulations

Source: Prilagodba i nadogradnja strategije energetskog razvoja Republike Hrvatske, nacrt Zelene knjige, Ministarstvo gospodarstva, rada i poduzetništva; Program ujedinjenih naroda za razvitak (UNDP), Zagreb, 2008, p. 109, http://www.energetska-strategija.hr/doc/zelena_knjiga.pdf (10/11/2011)

Based on all the above-mentioned, it can be assumed that it will not take long to realise what hasn't been obvious so far, namely that the cost of medical treatments due to

polluted air and water, and toxic substances in food increases enormously. There is a growing realisation of a strong relationship between energy, economy and environmental protection; a relationship accepted and justified as being a natural consequence of technological development and lifestyle. The real damage of environmental pollution in which we live and work in Croatia has not yet been calculated, but can serve as a framework for future research.

3. Economic Effects of CO_2 Emission Reduction

The 2009 United Nations Climate Change Conference, held from 07 - 18 December 2009 in Copenhagen, was to reach a specific agreement to reduce greenhouse gas emissions, and to succeed the Kyoto Protocol expiring in 2012. In the following 10 years, the most developed countries should reduce greenhouse gas emissions by 25-40 percent below 1990 levels. In addition, the richest countries should help the poor ones to adapt to climate changes. However, the developing countries like China, who claim that their priority is economic development, should also contribute to global environmental efforts. China, along with the U.S.A., is the world's biggest polluter and, as such, should make its contribution. China had announced its readiness prior to the conference, but eventually failed to confirm, which resulted in not passing the agreement.

Global CO_2 emissions are estimated to grow from 29 billion metric tons in 2006 to 33.1 billion metric tons in 2015, and 40.4 billion tons in 2030, which is an increase of 39% over the projection period. Strong economic growth and the continuing heavy reliance on fossil fuels, especially in countries that are not members of the OECD, are expected to increase carbon dioxide emissions. For this reason, it is necessary to consider the following possibilities of producing electricity without CO_2 emissions (Dokmanović, V., 2008.):

- renewable energy sources
- nuclear energy
- fossil fuels with CO_2 capture and storage

In addition, there are some medium-term potentials for CO_2 emission reduction (Dokmanović, V., 2008.):

- increasing the efficiency of fossil-fuel power plants using
- increasing the production of energy from renewable energy sources
- using nuclear energy only when socially acceptable

Renewable energy sources represent both a long-term and a medium-term option for CO_2 emission reduction. However, without economic or fiscal burdens, it is difficult to talk about reducing CO_2 and other emissions. In other words, the use of both fiscal levies and renewable sources of energy that need to be financially encouraged, could make the reduction of CO_2 emission into the atmosphere possible.

Setting restrictions on greenhouse gas emissions in the production, transformation, transmission, distribution and consumption of energy in order to reduce their concentrations in the atmosphere, produces a new parameter in the cost of energy - the costs of reducing greenhouse gas emissions. It is quite certain that the global policy for emission reduction will increase the cost of energy, and that the price of reducing greenhouse gas emissions will result from all the above-mentioned influential factors. Since the final price is difficult to predict because it is affected by both global and local factors, cost estimates will vary from one country to another. Presently, analyses show the final price could be more than 100% higher

than the current price. The price distribution among subjects participating in the energy sector will partly be governed by the situations and relations in energy and technology markets, while the other part will be allocated to the state, energy companies, equipment manufacturers and, naturally, energy consumers. The final cost of greenhouse gas emission reduction will be paid by energy consumers, either directly through the price of energy or through state taxes on energy distribution.

Radical reductions of CO_2 and other greenhouse gases emissions significantly alter the relationships in the energy sector. In order to achieve the objectives of greenhouse gas emission reduction, it is necessary to increase energy efficiency. This should be done by changing the structure of energy consumption, since the means of reducing greenhouse gas emissions are different at every point of production, transformation and consumption. There will be a process of abandoning the fossil-fuel household technologies that produce CO_2 and other greenhouse gases and replacing them with zero emission technologies. The use of fossil fuels will be concentrated in places where capture and storage are possible, i.e. large heating and electric power plants. The consumption of electrical energy from the so-called clean technologies will significantly increase, and will substitute other forms of energy for the final customer. These results show that the set CO_2 emission reduction of 50 percent below 2005 in 2050, given the size, development level, economic strength of Croatia and the necessary investments in new technologies, is an ambitious goal for the Croatian energy system and, consequently, the entire Croatian economy. For developing and transition countries like Croatia, it is important that the agreement on climate preservation is equitable and sustainable and that each country's obligations are equal for all inhabitants.

Even though it may sound controversial, climate change can significantly influence the positive social development of Croatia and become a new opportunity for further development. This primarily refers to the need to respond to climate change with new technologies that, in Croatia, have excellent application possibilities (industry, sea, tourism, agriculture, forests, etc.). In other words, it offers a possibility of great affirmation of local knowledge and science as ideal tools of development in a country that cannot improve its competitive ability using classic industries and technologies. At the same time, it should be recognized that the development of new technologies, and an optimal response to climate change, are a substantial financial venture and that the state itself has no real resources to deal with such challenges. There is both a practical and objective need for cooperation and partnership with the private sector (Perić, J., Dragičević, D., 2007.). A research conducted at the Faculty of Mechanical Engineering and Naval Architecture in Zagreb established that Split-Dalmatia County, with its potential of renewable energy sources, mainly solar energy, is able to provide its own uninterrupted economic growth with a significant reduction in CO_2 emissions, and further assist Croatia in the implementation of different measures to reduce CO_2 emissions in the energy sector (Vitaljić, N., 2006.).

4. SWOT Analysis of Croatian Environmental Protection Regarding CO_2 Emissions

Environmental protection is a serious social and economic issue that needs to be addressed very seriously if we want to achieve and maintain the high life quality of residents, and of generations to come. Croatia has a developed system of environmental protection; its strengths, weaknesses, opportunities and threats are shown in Table 3.

Table 3: SWOT analysis of Croatian Environmental Protection Regarding CO_2 Emissions

Strengths (S)	**Weaknesses (W)**
- A unique natural environment with good legal protection and high levels of biodiversity - A preserved eco-system - Key environmental strategic plans either formulated or in the making (air quality management plan, general water management plan and waste management plan) - Low CO_2 and other emissions levels - Low pollution - A great potential for renewable energy sources - High air and water quality - A low rate of illnesses / deaths due to pollution	- The principles of EU's environmental policy not fully applied - Environmental protection insufficiently integrated into other sectoral policies - A clash of economic and environmental interests - Insufficient awareness and informing the public about environmental protection and sustainable development - Insufficient awareness about individual responsibilities and the impact on the environment - Insufficiently used water resources potential (for renewable energy sources, tourism and recreation)
Opportunities (O)	**Threats (T)**
- Improving life quality - Domestic and foreign investor interest in the environmental sector as the driving force of economic development - Investing in new technologies for waste management, water management and renewable energy sources leads to new and secure jobs - Complying with EU legislation and fulfilling international commitments (reduction of CO_2emissions) - Using international and EU fundings - A globalisation of technologies and market - Increase in the price of energy (fossil fuel and electricity) leads to a greater economic attractiveness of renewable energy sources - Public support of the exploitation of renewable energy sources - Reduction of greenhouse gasses emission - Increased tourism attractiveness; attracting investments due to quality sites - Employment through the provision of environmental goods - ecotourism	- Low public awareness of renewable energy sources and their advantages - Climate changes - Increased risk of respiratory illnesses - Increased risk of pollution-related illnesses - Increased damage to buildings and crops - Increase in tourist traffic - Insufficient natural areas protection - Insufficient protection of flora and fauna - Easy access to protected natural areas

Source: Authors adjusted according to Operativni program za okoliš 2007. – 2009., instrument pretpristupne pomoći, 2007HR16IPO003, Zagreb, 2007, pp. 46-47 and Pristupanje Europskoj Uniji - očekivani ekonomski učinci, Institute of Economics in Zagreb, 2007, p. 114

It can be concluded that Croatian environmental protection of the environment with emphasis on CO_2 has many more strengths and opportunities than weaknesses and threats. The EU accession process is not only important for achieving its environmental standards, but also for the adoption of new procedures. It can be argued that increased standardization of processes and products and improved business efficiency represent a significant support within the legal framework for environmental protection. Croatian businessmen are preparing

for higher environmental standards in the production process, while the standardization of processes and products encourages commercial (production) cooperation since it reduces the technological risks and environmental damage liability.

CONCLUSION

Climate changes and the constraints arising from them are the key factors that will affect future methods and results of energy sector development planning. Up till now, the planning has acknowledged only national restrictions and the individual impact of each energy facility and industrial building, or similar national restrictions in the construction industry. This made the planning system considerably simpler in comparison to future planning. With international (global) commitments to reduce greenhouse gas emissions, we enter a new system of cumulative commitments for each particular country, whose fulfillment is no longer simple because it depends on a number of factors that partially extend beyond national influence and limitations.

In the short term, economic instruments promote cost-effective solutions while, in the long term, they encourage companies to search for new technologies for reduction of pollution control costs, and reduce the amount of information needed for decision making.

Reducing CO_2 and other greenhouse gases is a feasible project which must be based on international agreements and responsibilities of all countries. The project plan is achievable as long as the price of energy is realistic and includes environmental protection cost. An additional assumption is a significantly greater financial redirection and a synergistic effect in scientific research and technological development.

In order to achieve the objectives of climate preservation and meet the obligations to reduce CO_2 and other greenhouse gases emissions, it is necessary to bear in mind the long-term vision of all processes and obligations at least until 2050; this, in turn, will allow setting unambiguous long-term and short-term goals and measures. For Croatia, as well as for all the other EU countries, energy sector development strategies should be planned for a period at least until 2050, preferably longer. Furthermore, it is necessary to set the overall framework for achieving the goals of economic, energy and development policies and climate protection policies in Croatia, including the legislative framework, financial resources, rational procedures and appropriate education for the following priority activities:

- Systematical encouragement of technological development in Croatia in order to increase energy efficiency, the use of renewable energy sources and advanced nuclear energy technology.
- The basic principle of future synergy policies should strive for achieving the same effectiveness and service quality using less energy for each process stage: energy production, transformation, transportation/ transmission, distribution and consumption by the final customer
- Increasing energy efficiency of the construction industry
- Increasing energy efficiency of traffic
- Increasing energy efficiency in all technological processes
- Supporting the introduction of a single environmental cost analysis system, primarily CO_2 emissions
- Discouraging the use of all technologies and energy solutions that increase the CO_2 emissions level, and encouraging all energy and technological solutions that are viable from the standpoint of long-term environmental preservation

- Creating the necessary conditions for the continuous increase in the use of renewable energy sources
- Including national production and services in all plans

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