CROSS-SECTORAL POLICY INTEGRATION – ENERGY, ENVIRONMENT AND TRANSPORT

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Abstract: *The importance of policy integration has become widely recognized at the global and regional levels as part of the sustainable development approach. Cross-sectoral cooperation can be defined between different segments of environmental policy, and between the environmental policy sector and various other sectors. Energy and transport are among the major driving forces that impact on sustainable development. Integration of environment into energy and transport policies is reviewed at the pan-European and the EU level. As an example, market development of alternative fuels in the EU is addressed in greater detail. Finally the challenges of cross-sectoral policy integration for Croatia are discussed.*

Key words: cross-sectoral policy integration, global and regional, UN, EU, energy, environment and transport, market development of alternative fuels

1. INTRODUCTION

Economic growth, the main drive of socio-economic development, represents the aggregation of activities in the various economic sectors. Worldwide it has shown unprecedented development in the 20th century. It is indisputable that many economic activities adversely affect environmental and human health, and that the elimination or reduction of environmental degradation to an acceptable level calls inevitably for concrete action.

In the past decade, the importance of policy integration has become widely recognized at the global and regional levels. In 1987, the World Commission on Environment and Development published its report, "Our Common Future," better known as the Brundtland Report. The report set out the concept of "sustainable development," an integrated approach to policy- and decision-making in which environmental protection and long-term economic growth are seen as complementary and mutually dependent. The Brundtland Report set in motion a process which culminated in the United Nations Conference on Environment and Development (UNCED), held at Rio de Janeiro in 1992 (the "Rio Conference"). Agenda 21, adopted at the Conference, identified transport as one of the key sectors where action towards sustainable development is to be undertaken both at the national and international levels. In the Plan of

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Implementation adopted WSSD in Johannesburg [6], the energy issues are handled in a prominent way as key issues of poverty eradication and for changing unsustainable patterns of consumption and production.
International environmental agreements and instruments also promote integration of environmental issues to sectoral policies, notably in the fields of climate change and biodiversity[2]. The Protocol on Strategic Environmental Assessment (SEA) adopted in 2003[3], includes a provision on the assessment of the strategic policy decisions in all sectors. The decisions are evaluated regarding their potential environmental and health consequences. This provides practical means to facilitate the integration of health and environmental aspects as part of planning in other sectors.

The purpose of the present paper is threefold:
- to highlight the challenges of policy integration;
- to address the cross-sectoral integration of transport, energy and environment policies in the EU, with special emphasis on alternative fuels;
- to discuss some cross-sectoral integration challenges for Croatia.

2. THE CHALLENGE OF POLICY INTEGRATION[4]

The structure of economies and societies are essential to an understanding of the mutual relationship between environment (including human health) and the economic sectors. Policy integration is a challenging task to put into practice due to the often-conflicting interests between the different fields of policies, and impediments of political, organizational, economical and financial nature.

Integration implies going beyond the mere co-ordination of policies and involves joint work among the sectors, with attempts to create synergies between policies, sharing goals for their formulation and responsibility for their implementation. It applies both across the different sectors (horizontally) as well as across the different levels of government (vertically).

The supportive conditions for policy integration include a strategic policy and/or legislative framework to ensure that individual policies are coherent and consistent with national goals and priorities. Decisions on transport and planning should also undergo integrated assessments on their environmental and health impacts, and involve participation of the public and other stakeholders. Political commitment, availability of sufficient funds and institutional and professional capacity are further success criteria for implementation of cross-sectoral activities.

From the institutional point of view, coping with cross-sectoral issues within central and local governments presupposes also adequate organizational support and adapted institutional structures. Traditionally, governmental structures tend to be compartmentalized, characterized

[2] The UN Framework Convention on Climate Change and Convention on Biological Diversity
[3] The SEA Protocol to the UNECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991) was adopted on 21 May 2003 during the Ministerial 'Environment for Europe' Conference (Kiev, Ukraine). It is open for signature and ratification to all United Nations member States.
[4] Much of the present chapter is based on the UNECE/WHO-EURO document “Institutional Arrangements and Mechanisms for Integrated Policy and Decision-Making”, ECE/AC.21/2004/11 and EUR/04/5045236/11, 22 January 2004.

by autonomous policy developments for specific domains and a hierarchy of relations, which is likely to limit the flow of information between ministries and hinder co-ordinated action.

In some countries, relatively more efforts have been made over the years in terms of institutional and administrative developments, to overcome the vertical structures of policy making and to ensure the horizontal consistency among the different policy fields. Countries have opted for a variety of different integrative solutions, depending, *inter alia,* on the governmental system in place (centralized, federal, formerly centrally planned, etc.). In recent years, countries in Central and Eastern Europe acceding to the EU have undertaken profound administrative restructuring and institutional reforms to comply with the *acquis communautaire*, including with fairly new requirements for policy integration.

In Europe, energy and transport are among the major driving forces that drive or impact on sustainable development through a complex mix of interactions, which are often difficult to oversee or predict. Cross-sectoral cooperation can be defined between different segments of environmental policy, and between the environmental policy sector and various other sectors: economic, social, health and other sectors. As an example, at the UNECE Regional Conference on Transport and the Environment held in 1997, Ministers decided explicitly to "work towards a close integration of environment, health and transport policies at the local, national and international level"[5]. Two years later, in 1999, Ministers at the London Conference on Environment and Health emphasized the urgent need for "multi-sectoral integration of environment and health requirements and involvement of health authorities in decision-making on transport, land-use and infrastructure policies"[6].

In spite of the consensus on the importance of policy integration, relatively little information is available on how it can be achieved in practice. The European Commission has funded a certain number of research projects, e.g. to develop strategic approaches and methodologies in urban planning that promote more sustainable urban transport and development, which have addressed decision-making processes as well as institutional and behavioural barriers[7]. At the pan-European level, the European Conference of the Ministers of Transport (ECMT) and the Organisation for Economic Cooperation and Development (OECD) carried out, between 1998-2001, a project "Implementing sustainable urban travel policies" involving (a) a series of thematic workshops, including on "Overcoming institutional barriers to implementing sustainable urban travel policies"[8]; (b) a survey of cities; and (c) a series of national policy reviews on urban travel[9]. Drawing on the findings of the project, recommendations were presented for endorsement at the ECMT Ministerial Council in Lisbon, in May 2001. Follow-up work is currently being undertaken within the framework of the ECMT to test, disseminate and promote the recommendations[10].

The second High-level meeting on Transport, Environment and Health, held in July 2002, considered on the basis of the intergovernmental preparatory work that "integrating

[5] Vienna Declaration and the Programme of Joint Action (POJA)
[6] London Charter on Transport, Environment and Health and the Charter Plan of Action
[7] http://www.lutr.net and http://www.cordis.lu/transport/src/dante.htm
[8] http://www1.oecd.org./cem/UrbTrav/Workshops/InstBarriers/index.htm.
[9] For more information see: http://www1.oecd.org./cem/UrbTrav/
[10] To this end, a first workshop was organized in Washington DC on 5-7 November 2003, and is expected to be followed by a workshop in Moscow in autumn 2004 as well as later on in Asia, Northern/Western Europe or North Africa (CEMT/CS/URB(2001)8/REV2).

environment and health concerns in the decision making on transport, both at the national and local levels" remains one of the main challenges for achieving sustainable and healthy transport[11], and should constitute a priority area where further action should be pursued jointly by the UNECE and WHO/Europe under the framework of the Transport, Health and Environment Pan-European Programme (THE PEP).

The overarching framework covering transport, health and the environment sectors was deemed particularly favourable for bringing together the relevant expertise from all the sectors for promoting integration. It has been pointed out that in the existing regional and international policy documents there has been relatively little focus on integrating health aspects into the decision-making processes on transport alongside the environmental ones. The institutional and organizational issues seem to have been less focused on, as opposed to policy options, instruments and assessment methods for integration[12]. However, even the more recent cross-sectoral activities tend to be limited to urban transport issues. This is understandable because of the relative importance of urban transport for energy consumption, environmental pollution and health effects.

3. POLICY INTEGRATION IN THE EU

At the EU level, integration of environmental issues in other policy areas has been on the agenda since the early 1980s and has gained importance with the successive amendments made to the EC Treaty, notably with the Amsterdam Treaty signed in 1997[13]. The following year, at the 1998 European Council in Cardiff, the heads of Government of the EU called for specific strategies for the integration of environmental concerns into three areas of policy, starting with the transport, energy and agriculture sectors. The **Cardiff process** now embraces nine sectors (in addition to the transport, agriculture and energy sectors, Cardiff covers industry, internal market, development, fisheries, General Affairs and economic and financial affairs). As part of the implementation of the EU sustainable development strategy, a unified system for ex-ante impact assessment of all major policy proposals was introduced in the Commission in 2002[14]. The environmental integration history of the EU can be found on the website[15]. A complete overview of integrating environmental considerations into other policy areas is to be found in a recent working document of the European Commission[16].

Energy and transport policies are at the centre of environment concerns, jointly contributing with more than 90% to Europe's CO2 emissions balance and causing other negative environmental impacts. Both sectors have developed a guiding vision and first practical steps to put environmental integration and sustainable development into practice. Today's understanding is that sustainable energy and transport policies should maximise the long-term

[11] Synthesis Report, ECE/AC.21/2001/1-EUR/00/5026094/1; Declaration ECE/AC.21/2002/8-EUR/02/5040828/8

[12] "The integration of land use planning, transport and environment in European policy and research", Harry Geerlings and Dominic Stead, Transport Policy, 10 (2003)

[13] Article 6 of the Amsterdam Treaty stipulates that integration of environmental concerns into the policies of other sectors is one of the main means of achieving sustainable development.

[14] Commission Communication on Impact Assessment, COM (2002) 276 final, 5 June 2002

[15] http://europa.eu.int/comm/environment/integration/integration_history.htm

[16] Commission Working Document "Integrating environmental considerations into other policy areas – a stocktaking of the Cardiff process", COM (2004) 394 final, 1 June 2004

welfare of citizens by keeping a reasonable balance between the traditional policy objectives of "secure(safe)", "competitive" and "environment-friendly" energy and transport services.
In terms of transport policy documents, the need for policy integration has been strongly advocated, e.g. by a corresponding Council Resolution (4-5 April 2001)[17] and the European Commission White Paper on Transport Policy (12 September 2001)[18].

Table 1. Political commitments and priority objectives of environmental integration into transport and energy policies

TRANSPORT	ENERGY
Political commitments	Political commitments
6 October 1999: Transport integration strategy adopted in the Council	November 1999: Energy integration strategy adopted in the Council
	29 November 2000: Commission Green Paper "Towards a European strategy for the security of energy supply"
21 March 2001: Commission review of Transport Council's integration strategy	21 March 2001: Commission review of energy integration strategy
4-5 April 2001: Council Resolution on integration of environmental concerns into transport policy	14-15 May 2001: Industry/Energy Council Resolution on Energy Integration, setting deadline of December 2002 for second review
12 September 2001: Commission White Paper on Transport Policy	15-16 June 2001: Second set of indicators presented to the Gothenburg European Council
6 December 2002: Council Conclusions on the integration of environment and sustainable development into transport policy	25 November 2002: Council Conclusions on sustainable development – commitment to pursue the implementation of the strategy in a way that is supportive to the conclusions reached at the 2002 WSSD
Priority objectives of environmental integration into transport policy	Priority objectives of environmental integration into energy policy
Shifting the balance between modes of transport	Promoting the efficient use and production of energy
Fair and efficient pricing of transport infrastructure	Developing an efficient internal energy market
Quantified targets and indicators	Increasing the competitiveness and use of renewable energy sources
Reduce greenhouse gas emissions from transport	Internalising external costs/environmental benefits
Reduce other air pollutants	Giving adequate priority to energy research and technological development and demonstration activities in Europe
Reduce noise originating from transport	Develop integration indicators to monitor progress
Safer and cleaner maritime transport	Contribute to meeting the Kyoto targets
Decoupling of transport growth from economic growth	

Source: Integrating environmental considerations into other policy areas – a stocktaking of the Cardiff process

[17] Strategy for integrating environment and sustainable development into the transport policy, Council Resolution 7587/01, Luxembourg 4-5 April 2001.
[18] Commission White Paper on "European transport policy for 2010: time to decide". COM(2001) 370 final, 12 September 2001

The answer to many concerns is reflected by the political commitment of the European Parliament, the Council and the Commission to vigorously integrate environment and sustainable development in transport an energy policies, at the strategic, legislative and operational levels. Table 1 shows the various commitment steps and the priority objectives.

It should be emphasised that each of the priority objectives mentioned in Table 1 implies a whole range of policy measures in the form of binding directives and operational programmes. The present paper cannot address all these measures, but as an example, one may consider the Directive on the promotion of the use of biofuels or other renewable fuels for transport[19]. This Directive aims at promoting the use of biofuels or other renewable fuels to replace diesel or petrol for transport purposes, with a view to contributing to objectives such as meeting climate change commitments, environmentally friendly security of supply and promoting renewable energy sources. As such, the Directive is an operational instrument to fulfil the priority objective *Reduce greenhouse gas emissions from transport.* Article 3 of the Directive stipulates that Member States should ensure that a minimum proportion of biofuels and other renewable fuels is placed on their markets, and, to that effect, shall set

national indicative targets. A reference value for these targets shall be 5,75%, calculated on the basis of energy content, of all petrol and diesel for transport purposes placed on their markets by 31 December 2010. Clearly, the technical and economic status and developments of alternative fuels for road transport are a key issue in this respect. The market development of alternative fuels will be considered in the next chapter

4. MARKET DEVELOPMENT OF ALTERNATIVE FUELS

The European Commission, following the Communication on alternative fuels in 2001[20], set up a stakeholder **Contact Group** in 2002 to advise on technical and economic status and developments of alternative fuels for road transport, with priority on natural gas and hydrogen, and on measures by which the Community could promote their use. Topic Groups on natural gas and hydrogen, respectively, and a Working Group on Biomass-to-Liquid fuels deepened the assessment of these alternative fuels. The Contact Group published a comprehensive Report[21] in December 2003, offering the basis for a more detailed strategy on these fuels (see the above mentioned Directive on the promotion of the use of biofuels or other renewable fuels for transport).

A **well-to-wheels** study on greenhouse gas emissions, energy efficiency and cost of the use of alternative fuels in cars undertaken by a consortium consisting of organisations representing the European oil industry (CONCAWE), the European car manufacturers (EUCAR) and the Joint Research Centre of the European Commision (JRC, Ispra) accompanied the work of the Contact group and laid an important basis for the assessment in its Report. 75 different pathways from primary energy sources have been investigated. For the reference fuels gasoline and diesel, only technologies with the potential for mass market series production by

[19] Directive 2003/30/EC of the European Parliament and of the Council of May 2003 on the promotion of the use of biofuels or other renewable fuels for transport, OJ L 123, 17.5.2003, p.42-46

[20] Communication from the Commission on alternative fuels for road transportation and on a set of measures to promote the use of biofuels, COM(2001) 547, 7 November 2001 (provisional version)

[21] « Market development of alternative fuels », Report of the Alternative Fuels Contact Group, December 2003. Much of the contents of the present chapter is based on this Report.

2010 were considered, while for alternative fuels also technologies with the potential for market entry by 2010 were accepted.

Natural gas as a motor vehicle has a CO2 advantage over gasoline and is comparable to diesel today. With 2010 technology, natural gas vehicles are projected to have 16% lower CO2 emissions compared with gasoline vehicles and 13% lower CO2 emissions compared with diesel vehicles. Natural gas vehicles today have advantages for local air quality as well, in particular as regards particulate emissions.

A main driving force for the large-scale introduction of natural gas as motor fuel is concern for the security of supply for the transport sector currently solely dependent on oil products. The potential in market share of natural gas as a motor fuel is not likely to be limited by primary supply to the 10% envisaged in the Alternative Fuels Communication for 2020. According to the Contact Group report, natural gas is the only alternative fuel with potential for significant market share well above 5% by 2020 which could potentially compete with conventional fuels in terms of the economics of supply in a mature market scenario. Expansion of the re-fuelling infrastructure and of captive fleets from ongoing programmes should minimise costs in the transition period. In order to develop a broader, stable market share for natural gas, long-term tax and excise duty advantages are needed. Mature vehicle technology is available, but diversity of products and services need to be improved.

Hydrogen is a potential future main energy carrier. Due to its broad feedstock flexibility it could considerably broaden the energy supply base for the transport sector. There may be doubts about the conclusion of the Contact Group that "hydrogen offers the long-term potential for full reliance on renewables". Still, the Group believes that the share of hydrogen in road transport fuels could reach a few percent by 2020. Linking hydrogen and natural gas fuel infrastructures and technologies may support the introduction of hydrogen as fuel.

Liquefied petroleum gas (LPG) is an established alternative motor vehicle fuel with scope for additional market share, possibly up to 5% by 2010. The potential of LPG for improving security of energy supply and reducing greenhouse gas emissions needs still to be assessed on a well-to-wheels analysis under the same conditions as the other recognised alternative fuels, including the perspective of future market and technology developments.

Biofuels form maybe the most exciting and promising development in the field of alternative fuels. Originally, they were not included in the scope of the mandate of the Contact Group. During the early stages of the work of the Contact Group, however, a number of stakeholders pointed out the potential benefits of synthetic diesel produced from biomass using gasification and subsequent fuel synthesis thereby widening considerably the range of potential biomass resources and their possible share in the fuel market. The biological origin of the raw materials implies that the final product is CO2-neutral.

The term **Biomass-to-Liquid (BTL) fuels** in principle covers several potential motor vehicle fuels being produced from synthesis gas (a mixture of carbon monoxide and hydrogen) by gasification of biomass: methanol, dimethylether (DME), gasoline hydrocarbons or diesel hydrocarbons. Producing fuels suitable for diesel combustion seems particularly attractive:

- Diesel is growing in demand beyond what is easily produced through oil refining;
- BTL-diesel and DME have exceptionally good diesel properties;

- BTL-diesel can be used as high value blending component in oil derived diesel without any additional cost for separate distribution network or engine modifications.

Whereas "conventional" biofuels (ethanol, biodiesel) are based on the conventional agricultural crops such as plant oil, sugar or cereals, BTL fuels would primarily be produced on the basis of either waste products from agriculture (straw), forestry (thinning wood, residuals) or wood-based industries (saw dust, "black liquour" from pulp and paper industry) or on energy plants specifically grown for the purpose (short rotation trees or other cellulose material).

A demonstration plant for BTL-diesel (expected full size production of 13.000 tons diesel per year) has recently been inaugurated in Freiberg, Germany. Production of DME/methanol via black liquour gasification is projected in Sweden, as well as fuel manufacture based on traditional biomass gasification (Värnamo).

The BTL fuels could largely enhance the market share of biofuels beyond the EU target of approximately 6% for 2010[22]. The maximum technical potential for all biomass-derived fuels, depending on land availability for the necessary crops beyond what can be supplied by waste products, is estimated at about 15% in EU-15. The higher land area relative to fuel consumption in the new Member States will add to the potential as well as high yield biomass production schemes. An advantage of BTL fuels is that the resource supply has a more modest impact on agricultural land than conventional biofuels. This implies a possible continued expansion of biofuels during the period 2010-2020, beyond the 7-8% foreseen as a maximum in the Commission Communication of 2001. Purpose-tailored fuels as available in the BTL process could also support improved engine technology with better energy efficiency and lower emissions.

Apart from the uncertainty of the cost aspects of the gasification process, two costs factors are important: the size of the plant, and the cost of the raw material. Unfortunately, the two work against each other. The bigger the plant, the higher the cost of transport of raw material supply which will have to be brought in over longer distances and consequently higher transportation cost. It has been estimated that a plant size of 100.000 ton/year fuel production would present a reasonable compromise. Assuming 5 tons raw material per ton liquid fuel, this is equivalent to approximately 1,500 t of biomass being processed daily. Such a level is usually achieved in modern paper pulp mills. With a production of 10 tons per hectare, the plant would require biomass from 50,000 hectare, which in an ideal case would correspond to a surface area of about 30 km diameter, assuming 70% of the available land being used for energy crops. Further development projects could help to improve the economics of the production process and the logistics of feedstock supply. They also could combine BTL and hydrogen production.

BTL fuels have a high greenhouse gas avoidance potential, up to 85% reduction over crude oil-based diesel. BTL fuels could offer advantages on regulated emissions in the existing fleet equipped with an older engine technology. The further environmental aspects of the production of biomass remain uncertain. Intensive wood production for pulp and paper (e.g. eucalyptus plantations) has been questioned for its impact on water balance and biodiversity.

[22] Directive 2003/30/EC of the European Parliament and of the Council of May 2003 on the promotion of the use of biofuels or other renewable fuels for transport, OJ L 123, 17.5.2003, p.42-46

Any definitive decision on large scale, national or European wide, biomass production for BTL fuels needs further impact assessment, both SEA and EIA.

The Contact Group Report concludes that **alternative motor fuels** have the technical potential to gain significant market share within the next decades, even exceeding the 20% substitution target suggested by the Commission for 2020. The technical potentials identified for different alternative fuels are not necessarily additive: competition for raw materials or for customers may result in a somewhat lower actual overall potential. Vigorous and long-term guaranteed action plans across the whole Union are required to build and support a sufficient market pull from the customer side. Such concerted action could improve the environmental performance and start a transition away from today's high dependence on oil in the transport sector, thereby improving security of energy supply.

5. CROSS-SECTORAL CHALLENGES FOR CROATIA

Like other European countries, Croatia needs to confront the challenges of integrating environmental concerns in economic sectors. Due to the delayed process of approximation to the EU, Croatia's experience with cross-sectoral integration is limited and needs to be improved. Undoubtedly, the favourable prospects of joining the EU within a relatively short period will accelerate the urgency of complying with the EU rules in the area of cross-sectoral integration. However, even disregarding the EU rules, the need of integrating environment in transport and energy policies is becoming an issue of high political priority. The highly heated and dragging discussion surrounding the Druzhba-Adria pipeline shows the urgency of defining more clearly the strategy and administrative procedures in the policy area where energy, transport (both shipping and pipelines) and tourism overlap both mutually and with environmental concerns. Similarly, there is an urgent need to address the relationship between transport (including the imbalance between the local and inter-city transport), tourism and spatial planning: if transport and tourism are not matched in a sustainable and harmonious way, both are likely to suffer and possibly fail.

As has been pointed out earlier, cross-sectoral integration implies going beyond the mere co-ordination of policies and involves joint work among the sectors. In order to be effective in this respect, the public administration will need to identify its own deficiencies and introduce some sweeping changes in its functioning. This process of changes would involve (following the recommendations of a UNECE/WHO-EURO document[23]) gathering relevant experiences, good practices and lessons learned, and focusing in particular on issues such as:
(a) Central overview and coordination capacity; e.g. involving reporting requirements to the Prime Minister, or other responsibilities of the highest political levels on overseeing and co-ordinating the consistency among policies;
(b) Vertical relation between central government level and sub-national and local levels (e.g. in terms of policy direction coherence, local autonomies and prerogatives, etc);
(c) Role and involvement of the ministries other than the Ministry of Transport in decision-making processes on transport (institutionalized or ad hoc, obligatory or voluntary);
(d) Public participation, involvement of NGOs, interest groups and other stakeholders in decision making processes at the national and local levels;

[23] "Institutional Arrangements and Mechanisms for Integrated Policy and Decision-Making", ECE/AC.21/2004/11 and EUR/04/5045236/11, 22 January 2004.

(e) Use of integrated assessment tools (e.g. EIA, SEA) and monitoring mechanisms, including indicators, both at the national and local levels;
(f) Mechanisms in use to promote interaction and dialogue between Ministries responsible transport, environment, tourism and energy; (inter-ministerial working groups, movement of staff between sectors, secondments);
(g) Mechanisms in use to promote interaction and dialogue between transport, environment, tourism and energy departments at the local level (inter-department working groups, movement of staff between sectors, secondments);
(h) Sharing of responsibilities, accountability and budgets between ministries and between central and local government levels;
(i) Availability of education and training to develop cross-disciplinary skills both as part of professional skills acquisition (e.g. universities) and as part of continued education during career development (e.g. training on the job);
(j) Mechanisms for anticipating, detecting and reconciling conflicting priorities and sorting out inconsistencies and conflicts between policy sectors and different levels of government;
(k) Appraisal systems for inter-sectoral projects (e.g. enabling to reward contributions to joint achievements).

The assessment of the relative merits and weaknesses of the various mechanisms, and their effectiveness in terms of time, resources and expertise should be given particular attention.

6. CONCLUSIONS

Cross-sectoral policy integration, and in particular integration of environment in economic sectors, has been taken up as an important goal and tool for sustainable development, both at the Pan-European level and in the EU. The corresponding initiative at the Pan-European level aims at the strengthening of cooperation between transport, health and environment, with limitation and exclusive focus on the issues related to road transport.

At the EU level, the integration of environmental issues in other policy areas is vigorously taking place in the context of the Cardiff process, covering nine different sectors. The Cardiff process is ambitious in several ways, not only by covering a large number of sectors, but also since it addresses all main issues within each sector, and because the goals are in most cases well-defined, with clear deadlines and success criteria. Monitoring energy and transport markets reveals, however, that – while some progress is being made – major problems remain and some developments give rise to major concerns. Critical trends are especially:

- Europe's increasing energy import dependency and its implications for energy security;
- The return of growth in European fossil fuel consumption and the corresponding increase in CO2 emissions;
- The continuous growth of road and aviation transport demand, which is creating traffic congestion of a size and a frequency that will further escalate its current negative impacts on European industry's competitiveness.
- In addition, the great variety of different and serious environmental problems in these two sectors is a specific challenge, such as the continuing threat to the marine environment due to shipping accidents.

Croatia, as a future EU member state, is confronted with the challenge of designing its own approach to cross-sectoral policy integration, both with the view of fulfilling the requirements of the *acquis communautaire*, and because of the urgent need to resolve a number of cross-sectoral conflicts that are of paramount importance for a sustainable future of the country.

MEĐUSEKTORSKA INTEGRACIJA - ENERGIJA, OKOLIŠ I TRANSPORT

***Sažetak**: Značaj međusektorske integracije postao je opće priznat na globalnoj i regionalnoj razini kao dio pristupa održivom razvoju. Međusektorska suradnja može se definirati između pojedinih segmenata okolišne politike, ali i između okolišne politike i raznih drugih sektora. Energija i transport su među glavnim gospodarskim djelatnostima koje utječu na održivi razvoj. Rad daje pregled integracije okoliša u energetsku i prijevoznu politiku na pan-europskoj razini i unutar EU. Kao primjer detaljnije se razmatra razvoj tržišta alternativnih goriva u EU. Rad konačno uočuje izazove međusektorske integracije za Hrvatsku.*

Ključne riječi: međusektorska integracija; globalna i regionalna razina, UN, EU, energija, okoliš i transport, razvoj tržišta alternativnih goriva.