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ECONOMIC INCENTIVES IN THE EUROPEAN UNION FOR REDUCTION OF CO_2 EMISSIONS FROM ROAD TRANSPORTATION

EKONOMSKI PODSTICAJI U ZEMLJAMA EVROPSKE UNIJE ZA SMANJENJE EMISIJE CO_2 IZ DRUMSKOG SAOBRAĆAJA

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Abstract: *The first part of this paper discusses the contribution of the transport sector to global warming and climate changes. Than the base types of economic instruments are shown. In coordination with the traditional forms of regulation these instruments may represent an effective tool in the realization of economic, social and environmental objectives. In the second part, emphasis is placed on the initiative of European Commission in connection with the introduction of a CO_2–dependent element in the tax base of the passenger car related taxes and the way in which some EU member states included emission of CO_2 and/or fuel consumption as a criterion for calculation of motor vehicles related taxes.*

Key words: *greenhouse gases, CO_2 emission, road traffic, economic instruments, taxes and fees, motor vehicle.*

Apstrakt: *U prvom delu ovog rada se govori o doprinosu transportnog sektora, globalnom zagrevanju i klimatskim promenama. Zatim su prikazani i osnovni tipovi ekonomskih instrumenata. U koordinaciji sa tradicionalnim oblicima regulisanja ovi instrumenti mogu predstavljati efikasno sredstvo u ostvarivanju ekonomskih, društvenih i ekoloških ciljeva. U drugom delu rada akcenat je stavljen na inicijativu Evropske Komisije u vezi sa uvođenjem elementa baziranog na emisiji CO_2 u osnovicu poreza u vezi sa putničkim vozilom i način na koji su neke države članice EU emisiju CO_2 i/ili potrošnju goriva, uključile kao kriterijum za obračun poreza u vezi sa motornim vozilom.*

Ključne reči: *gasovi sa efektom staklene bašte, emisija CO_2, drumski saobraćaj, ekonomski instrumenti, porezi i takse, motorna vozila*

1 INTRODUCTION

Efficient and well-developed transportation system to a large extent contributes to: undisturbed functioning of the economy and its development, increase of competitiveness, increase of employment, faster and better exchange of goods and services and greater mobility of people for the purpose of achieving professional and other social activities. Particularly important strategic role of transport is reflected in its contribution to opening

1 UVOD

Efikasan i dobro razvijen saobraćajni sistem u velikoj meri doprinosi: nesmetanom funkcionisanju privrede i njenom razvoju, povećanju konkurentnosti, povećanju zaposlenosti, bržoj i kvalitetnijoj razmeni dobara i usluga i većoj mobilnost ljudi u svrhu ostvarivanja profesionalnih i drugih društvenih aktivnosti. Posebno važna strateška uloga saobraćaja ogleda se u njegovom doprinosu otvaranju nedovoljno razvijenih regiona ili

under-developed regions or economies and their integration in national, European and global economic trends. It is, in fact, one of the most important factors in the realization of total economic prosperity of the country and the economic welfare of its citizens. However, well-developed transport sector has its price. It is not only reflected in the increase of construction and maintenance costs of transport infrastructure, which already represent a significant item in government spending, but also in the increase of the effects which can have a very harmful affect on the environment, human health, and in final instance on economy as a whole.

The EU is becoming increasingly aware that solving the problem of sustainable transportation development requires participation of large number of interested parties, as well as the development and use of a wide range of different instruments through which both supply and demand in transport can be affected. In addition to the application of regulatory measures, lately, use of different economic instruments as efficient means to simultaneously achieve economic, social and environmental goals, is actively considered, on the level of the European Union as well as on national levels.

2 TRANSPORT SECTOR AND GLOBAL POLLUTION

In order to obtain a complete picture of how transport sector actually contributes to air pollution, it is necessary to take into account the negative impact of different transport modes and the negative impact of different activities that are associated with transport (e.g., vehicle design, construction and maintenance of appropriate infrastructure and etc.). However, special attention should be brought to road traffic as the major source of pollution.

Although much cleaner, and in terms of fuel economy much more efficient than ever before, motor vehicles still represent one of the most important sources of emissions of different pollutants which have a very harmful affect on the environment and human health. Some of these influences are manifested in the immediate vicinity of the pollution sources, while other consequences can be manifested on regional or global level.

privreda i njihovoj integraciji u nacionalne, evropske i globalne privredne tokove. On, zapravo, predstavlja jedan od najvažnijih činilaca u ostvarivanju celokupnog privrednog prosperiteta jedne zemlje i ekonomskog blagostanja njenih građana. Međutim, dobro razvijen transportni sektor ima i svoju cenu. Ona se ne ogleda samo u porastu troškova izgradnje i održavanja saobraćajne infrastrukture, koji ionako predstavljaju značajnu stavku u vladinim izdatcima, već i u porastu onih efekata koji mogu veoma štetno uticati na životnu sredinu, zdravlje ljudi, a u krajnoj instanci i privredu u celini.

EU postaje sve svesnija da rešavanje problema održivog razvoja saobraćaja zahteva učešće velikog broja zainteresovanih strana, kao i razvoj i korišćenje širokog spektra različitih instrumenata putem kojih se može uticati, kako na ponudu tako i na tražnju u transportu. Pored primene regulativnih mera, u poslednje vreme se aktivno razmatra i upotreba, kako na nivou Unije tako i na nacionalnim nivoima, različitih ekonomskih instrumenata kao efikasnih sredstva za istovremeno dostizanje ekonomskih, društvenih i ekoloških ciljeva.

2 TRANSPORTNI SEKTOR I GLOBALNO ZAGAĐENJE

U cilju dobijanja kompletne slike o tome koliko transportni sektor zaista doprinosi zagađenju vazduha potrebno je uzeti u obzir negativan uticaj različitih vidova transporta, ali i negativan uticaj različitih aktivnosti koje su povezane sa transportom (npr. konstruisanje vozila, izgradnja i održavanje odgovarajuće infrastrukture i sl.). Ipak, posebnu pažnju treba posvetiti drumskom saobraćaju kao najvećem izvoru zagađenja.

Iako, mnogo čistija i u pogledu potrošnje goriva mnogo efikasnija nego ikad pre, motorna vozila i dalje predstavljaju jedan od najznačajnijih izvora emisije različitih zagađivača koji veoma štetno utiču na životnu sredinu i ljudsko zdravlje. Neki od ovih uticaja se ispoljavaju u neposrednoj blizini samog izvora zagađenja, dok se posledice drugih mogu ispoljiti na regionalnom ili globalnom nivou.

The two most significant negative impacts of transport of global character are:

- Climate changes and greenhouse effect, to witch transport sector is a major contributor, above all through the emission of carbon dioxide (CO_2).
- Ozone layer depletion, to which transport contributes a little through air transport emissions.

Climate change, caused by the increased concentration of greenhouse gases in the atmosphere, particularly CO_2, is one of the biggest challenges for mankind in the 21st century. Due to the increasing use of fuels that are based on carbon, transport sector becomes one of the most important sources of CO_2 emissions, and therefore its contribution to global warming is increasingly important. The transport sector also contributes to potential climate changes with the emissions of other gases that have "greenhouse effect ", such as methane (CH_4), nitrous oxide (N_2O), and F-gases (fluorinated gases with greenhouse effect). CH_4 and N_2O are released during processing, transfer and use of natural gas as a motor fuel, and F-gases are released during the use and maintenance of vehicle air conditioning systems.

CH_4 emission is in range of 0.1-0.3% of the total transport greenhouse gases emissions, and N_2O emissions between 2.0-2.8% (based on US, Japan, and EU data only). Worldwide emissions of F-gases in 2003 were between 0.3-0.6 $GtCO_2$, about 5-10% of the total transport CO_2 emissions.[1]

During the period 1990-2004 global emissions of CO_2 across the world has increased by 27%, from 20,463 to 26,079 $MtCO_2$. In the same period energy demand from the transport sector has increased by 37%.[2] Therefore in 2004 the transport sector was responsible for even 23% world energy-related CO_2 emissions, or 6.3 $GtCO_2$.[1] Road traffic, as the largest source of CO_2 emissions, is responsible for 74% of the total CO_2 emissions from transport, where contribution of passenger transport is far greater than the contribution of freight transport.

Between 1990 and 2006, total EU-27 greenhouse gases emissions decreased by 7.7%, or 430 $MtCO_2$.[3] In the same period, transport sector (excluding international air and water traffic),

Dva najznačajnija negativna uticaja transporta globalnog karaktera su:

- klimatske promene i efekat staklene bašte, za koje se transportni sektor može smatrati i glavnim krivcem i to, pre svega, kroz emisiju CO_2 i
- oštećenje ozonskog omotača čijem stvaranju transportni sektor malo doprinosi i to putem emisije zagađivača iz vazdušnog saobraćaja.

Klimatske promene, prouzrokovane povećanom koncentracijom gasova sa efektom staklene bašte u atmosferi, posebno CO_2, predstavljaju jedan od najvećih izazova čovečanstva u 21. veku. Zbog sve veće upotrebe goriva koja se baziraju na ugljeniku, transportni sektor postaje jedan od najznačajnijih izvora emisije CO_2, pa je samim tim i njegov doprinos globalnom zagrevanju sve značajniji. Potencijalnim klimatskim promenama transportni sektor doprinosi i putem emisije ostalih „gasova staklene bašte", kao što su metan (CH_4), azot-suboksid (N_2O) i F-gasovi (fluorovani gasovi sa efektom staklene bašte). CH_4 i N_2O, se oslobađaju prilikom prerade, prenosa i upotrebe prirodnog gasa kao pogonskog goriva, a F-gasovi se oslobađaju tokom upotrebe i održavanja sistema za klimatizaciju vozila.

Emisija CH_4 se kreće u rasponu od 0,1-0,3% ukupne emisije svih gasova koji izazivaju efekat staklene bašte za koje je odgovoran transport, a emisija N_2O između 2,0-2,8% (bazirano samo na podacima US, Japana, EU). Emisija F-gasova širom sveta u 2003. godine bila je između 0,3-0,6 $GtCO_2$, odnosno, oko 5-10% od ukupne emisije CO_2 iz transporta.[1]

Tokom perioda od 1990. do 2004 godine, ukupna emisija CO_2 širom sveta je porasla za 27%, sa 20.463 na 26.079 miliona tona CO_2. U istom periodu potražnja za energijom od strane transportnog sektora je porasla za 37%.[2] Zato je u 2004. godini transportni sektor bio odgovoran za čak 23% ukupne emisije CO_2 u vezi sa proizvodnjom i potrošnjom energije, odnosno 6.3 $GtCO_2$.[1] Drumski saobraćaj, kao najveći izvor emisije CO_2, odgovoran je za 74% ukupne emisije CO_2 iz transporta, pri čemu je doprinos putničkog daleko veći od doprinosa teretnog saobraćaja.

Između 1990-2006. godine u EU-27 ukupna emisija gasova sa efektom staklene bašte smanjenja je za 7,7%, odnosno 430 $MtCO_2$.[3] U istom periodu transportni sektor (bez međunarodnog avio i

because of the increased volume of traffic despite increase in energy efficiency and introduction of renewable energy sources, recorded an increase in emissions of greenhouse gases in the amount of 27.4%.[4] This undermines the achievement of EU Kyoto targets as well as of individual member countries. For that reason EU increasingly promotes the use of economic instruments to resolve the problem of sustainable transport development.

3 ECONOMIC INSTRUMENTS

Economists for a long time advocate the implementation of economic incentives to solve ecological problems. This includes the use of economic instruments which use price and market mechanisms for motivating polluters to change behavior and thus contribute to reducing the harmful impact on the environment and human health, i.e., to achieving environmental objectives of economy and society. Economic instruments at the same time provide greater state revenue.

For solving ecological problems it is not enough to have isolated application of these instruments. Therefore, they should be combined with other instruments and measures for the purpose of achieving sustainable development. Besides, clearly defined regulatory framework for the action of economic instruments is a basic prerequisite.

In comparison with traditional forms of regulation, economic instruments have certain advantages which are expressed through:

- the creation of additional state revenue,
- ensuring cost efficiency,
- ensuring the dynamic efficiency through action of innovative activities in the long run,
- use of market forces, i.e., price mechanism as a mean for external effects internalization
- greater flexibility because they offer the possibility of easier acceptance and adjustment of interested parties to these instruments and
- the possibility of control a large number of small and widely spread sources of pollution (especially characteristic for transport sector where there is a large number of vehicles).

vodnog saobraćaja), zbog povećanog obima transporta i pored povećanja energetske efikasnosti i uvođenja obnovljivih izvora energije, beleži porast emisije gasova sa efektom staklene bašte u iznosu od 27.4%.[4] Ovo ugrožava ostvarivanje postavljenih Kyoto ciljeva EU, ali i pojedinačnih zemalja članica. Zato EU sve više promoviše upotrebu različitih ekonomskih instrumenata za rešavanje problema održivog razvoja transporta.

3 EKONOMSKI INSTRUMENTI

Ekonomisti već duže vreme zagovaraju primenu ekonomskih podsticaja u rešavanju ekoloških problema. To podrazumeva upotrebu ekonomskih instrumenata koji koriste cenovne i tržišne mehanizme za motivisanje zagađivača da promene ponašanje i tako doprinesu smanjenju štetnih uticaja na životnu sredinu i ljudsko zdravlje, odnosno, ostvarenju ekoloških ciljeva privrede i društva. Ekonomski instrumenti istovremeno obezbeđuju i veće državne prihode.

Za rešavanje ekoloških problema nije dovoljna izolovana primena ovih instrumenata. Zato ih treba kombinovati sa drugim instrumentima i merama u cilju ostvarivanja održivog razvoja. Pri tome, jasno definisan regulativni okvir delovanja ekonomskih instrumenata predstavlja osnovni preduslov.

U poređenju sa tradicionalnim oblicima regulisanja ekonomski instrumenti imaju određene prednosti koje se ispoljavaju kroz:

- stvaranje dodatnog državnog prihoda,
- obezbeđivanje troškovne efikasnost,
- obezbeđivanje dinamičke efikasnosti kroz delovanje inovativnih aktivnosti na duži rok,.
- korišćenje tržišnih snaga, odnosno, cenovnog mehanizma kao sredstva za internalizaciju eksternih efekata,
- veću fleksibilnost jer pružaju mogućnost lakšeg prihvatanja i prilagođavanja zainteresovanih strana ovim instrumentima i
- mogućnost kontrole velikog broja malih i široko rasprostranjenih izvora zagađenja (posebno karakteristično za transportni sektor gde postoji veliki broj vozila).

There are two basic types of economic instruments that are used for pollution control:

- price based and
- quantity based.

Price based instruments have a direct impact on the prices of products and services and thus direct the behavior and decisions of producers and consumers in the desired direction. Therefore, they are increasingly used as instruments for the achievement of certain objectives of the transport, energy and environmental policies. The most important price based instruments are taxes and fees. Taxes are an instrument, through which state, constraint without immediate return, collect funds for the purpose of coverage of its financial needs and to achieve other, above all economic goals.

On the other hand, fees include public revenues that state and its authorities receive as compensation from individuals or groups for services provided by state bodies and institutions.

Quantitative instruments restrict the availability of goods and leave their price to be formed in the market. One example is an emission trading permit. Otherwise, the transport sector is one of those sectors which are not included in emission trading scheme.

Although in economic terms price-based and quantity-based economic instruments work in more or less similar way, among them there are some differences. While, on the one hand, quantitative instruments provide much greater certainty in terms of achieving specific policy objectives of sustainable development (e.g. emission limits), price based instruments, on the other hand, provide much greater security in terms of costs necessary for the achievement of these objectives. In addition, the application of price based instruments is much simpler. Difference also stems from the fact that the taxes are primarily used as a mean to affect change in the behavior of interested parties, but also as a tool for the generation of revenue, while the emission permits are used for the purpose of generating revenue only in the case when the permits are auctioned by public authorities.

Postoje dva osnovna tipa ekonomskih instrumenata koji se koriste za kontrolu zagađenja:

- cenovni i
- kvantitativni.

Cenovni instrumenti imaju neposredan uticaj na cene proizvoda i usluga i na taj način usmeravaju ponašanje i odluke proizvođača i potrošača u željenom pravcu. Zbog toga se oni sve više koriste kao instrumenti za ostvarivanje određenih ciljeva saobraćajne, energetske i politike očuvanja životne sredine. Najznačajniji cenovni instrumenti su porezi i takse. Porezi predstavljaju instrument, kojim država, prinudno bez neposredne protivusluge, prikuplja sredstva u svrhu pokrivanja svojih finansijskih potreba i postizanja drugih, prvenstveno ekonomskih ciljeva.

S druge strane, pod taksama se podrazumevaju javni prihodi koje država i njeni organi primaju kao protivnaknadu od pojedinaca ili grupa za učinjene usluge svojih organa i ustanova.

Kvantitativni instrumenti ograničavaju raspoloživost dobara i ostavljaju da se njihove cene formiraju na tržištu. Jedan od primera su i dozvole za emisiju zagađujućih materija koje mogu biti predmet trgovine. Transportni sektor je jedan od onih sektora koji nisu uključeni u ovaj sistem trgovine pravima za emisiju zagađujućih materija.

Iako u ekonomskom smislu cenovni i kvantitativni ekonomski instrumenti funkcionišu na manje više sličan način, među njima postoje i određene razlike. Dok, sa jedne strane, kvantitativni instrumenti pružaju mnogo veću izvesnost u smislu ostvarivanja određenih ciljeva politike održivog razvoja (npr. ograničenje emisije), cenovni instrumenti, sa druge strane, pružaju znatno veću sigurnost u pogledu troškova neophodnih za ostvarivanje tih ciljeva. Osim toga primena cenovnih instrumenata je mnogo jednostavnija. Razlika, takođe, proizilazi i iz činjenice da se porezi, pre svega, koriste kao sredstvo kojim se utiče na promenu ponašanja zainteresovanih strana, ali i kao sredstvo za stvaranje prihoda, dok se dozvole za zagađenje koriste u svrhe stvaranja profita samo u situaciji kada se aukcije ovih dozvala vrše od strane organa javne vlasti.

4 VEHICLE RELATED TAXES AND FEES

The main objective of the introduction of taxes and fees in the transportation is to, by increasing the price of transport services, provide a reduction of the total demand for transport services and dissimulate the use of transport modes and technologies which are harmful for environment and human health.

In the EU member states, vehicles related taxes and fees are found in one of the following forms:

- non-recurrent payment in connection with the purchase and registration of vehicles,
- periodic taxes in connection with possession or ownership of a vehicle and
- taxes in connection with the use of vehicles.

In addition to VAT (value added tax), many EU member states apply some form of taxes and/or fees which are charged at the time of first registration into the national register of vehicles. Some of them, charge these kinds of taxes and fees with any change in ownership of the vehicle. These types of taxes and fees are related, first of all, for passenger cars. Basis for their calculation is not unique, and usually uses the purchase price of the vehicle and cubic capacity.

Periodic taxes that relate to the possession or ownership of the vehicles exist in almost all EU member states. Exceptions are the Estonia, Lithuania and Poland witch do not apply such taxes on passenger vehicles, while in France, the Czech Republic and Slovakia these kinds of taxes are not applied only to private owners.[5] Basis for calculating these types of taxes differ among countries, and may include some of the key characteristics of vehicles such as the cubic capacity, engine power, vehicle weight, type of engine, age of vehicles etc. In many countries, these taxes are differentiated depending on whether it is commercial or passenger motor vehicles, and in some countries depending on whether it is petrol or diesel vehicles.

Both, above mentioned, types of taxes and fees can significantly affect the reduction in the traffic volume, and thus, the reduction of negative external effects, such as congestion, pollution, traffic accidents etc. This particularly applies to taxes and fees that are charged when registering a

4 POREZI I TAKSE U VEZI SA VOZILOM

Osnovni cilj uvođenja taksi i poreza u saobraćaju i transportu jeste da se putem povećanja cena transportnih usluga obezbedi smanjenje ukupne tražnje za transportnim uslugama i destimuliše upotreba po životnu sredinu i zdravlje ljudi štetnih transportnih tehnologija i vidova transporta.

U zemljama članicama EU porezi i takse u vezi sa vozilom se javljaju u nekom od sledećih oblika:

- jednokratna plaćanja u vezi sa kupovinom i registracijom vozila,
- periodični porezi u vezi sa posedovanjem ili vlasništvom nad vozilom i
- porezi u vezi sa korišćenjem vozila.

Kao dodatak na PDV (porez na dodatu vrednost), mnoge zemlje članice EU primenjuju i neki oblik poreza i/ili taksi koje se naplaćuju prilikom prve registracije u nacionalni registar vozila. Neke od njih, ovakvu vrstu poreza i taksi naplaćuju i pri svakoj promeni vlasništva nad vozilom. Ovakve vrsta poreza i taksi se vezuju, pre svega, za putnička vozila. Baza za njihov obračun nije jedinstvena, a najčešće se koriste nabavna cena vozila i radna zapremina motora.

Periodični porezi koji se odnose na posedovanje ili vlasništvo nad vozilom postoje gotovo u svim zemljama članicama EU. Izuzetak su Estonija, Litvanija i Poljska koje uopšte ne primenjuju ovakvu vrstu poreza na putnička vozila, dok se u Francuskoj, Republici Češkoj i Slovačkoj ova vrsta poreza ne primenjuje samo za privatne vlasnike.[5] Osnovica za obračunavanje ove vrste poreza se razlikuje među zemljama, a može obuhvatati neke ključne karakteristike vozila kao što su: radna zapremina motora, snaga motora, masa vozila, tip motora, starost vozila i sl. U mnogim zemljama ovi porezi se diferenciraju i u zavisnosti od toga da li se radi o komercijalnim ili putničkim motornim vozilima, a u pojedinim zemljama i u zavisnosti od toga da li motorna vozila koriste dizel ili benzin kao pogonsko gorivo.

Obe, gore pomenute, vrste poreza i taksi mogu u značajnoj meri uticati na smanjenje obima saobraćaja, a samim tim i na smanjenje negativnih eksternih efekata, kao što su zagušenje, zagađenje, saobraćajne nezgode i nesreće i sl. To posebno važi za poreze i takse

vehicle. They can lead to a significant increase in the vehicle prices, and also to less demand for vehicles, i.e., to decrease the number of private passenger vehicles and the development and strengthening the importance of public transport that is much more environmental friendly.

Taxes and fees in connection with the use of vehicles appear in the form of road pricing (e.g., tools - purely revenue rising instruments which are unrelated to environmental protection, congestion pricing – instruments which are related to environmental protection because they intended to reduce peak-period traffic volumes to optimal levels) and fuel taxes.

Fuel taxes primarily have fiscal character, but their ecological function, may also be expressed. They appear as a very good solution that provides internalization of environmental costs caused by transport activity, since the emission of harmful materials is, to a large extent, in proportion to the amount of fuel consumed. Ecological function of these taxes is particularly visible in cases where there is high price elasticity of demand, and where there are a large number of possible substitutes (other transport modes, more efficient vehicles, new types of fuel, etc.).

In all EU member states, fuels are subject to a large number of taxes. In addition to VAT and excise taxes, in some member states there are also some other special taxes such as fuel storage taxes (Netherlands, Germany and Finland), carbon taxes (Denmark, Netherlands and Finland) etc.[6] Otherwise, it is important to note that EU member states, in comparison with the rest of the world, have the highest fuels tax rates for the following reasons: most of these countries import oil, desires and obligations to achieve the goals defined by Kyoto protocol and because the income on the basis of fuel taxation is an important source for the state budget.

5 ECONOMIC INCENTIVES IN THE EUROPEAN UNION

The EU is a leading force in the world, which advocates a sustainable environment. It puts special emphasis on solving the problem of global warming and climate change caused by

koje se naplaćuju prilikom registracije vozila. One mogu dovesti do značajnog povećanja cene vozila, a samim tim i do manje tražnje za vozilima, odnosno, do smanjenja broja privatnih putničkih vozila i razvoja i jačanja značaja javnog prevoza koji je mnogo više u funkciji očuvanja životne sredine.

Porezi i takse u vezi sa korišćenjem vozila se javljaju u obliku naplata za vožnju na određenom putu ili u određenom području (npr. putarine–instrument koji je isključivo u funkciji povećanja prihoda i nije povezan sa očuvanjem životne sredine, ili naplate učešća u saobraćajnim zagušenjima–instrumenti povezani sa očuvanjem životne sredine, jer su namenjene svođenju obima saobraćaja u špicu na optimalni nivo) i poreza na gorivo.

Porezi na pogonska goriva imaju prvenstveno fiskalni karakter, ali i njihova ekološka funkcija, takođe, može doći do izražaja. Oni se javljaju kao veoma dobro rešenje koje obezbeđuje internalizaciju troškova zagađenja životne sredine prouzrokovanih transportnom aktivnošću, s obzirom da je emisija štetnih materija u velikoj meri u srazmeri sa količinom utrošenog goriva. Ekološka funkcija ovih poreza je posebno vidna u slučajevima gde postoji visoka cenovna elastičnost tražnje, ali i gde se nudi veliki broj mogućih supstituta (drugi vidovi saobraćaja, efikasnija vozila, novi tipovi goriva i sl.)

U svim zemljama članicama EU goriva su predmet velikog broja poreza. Osim PDV i akciza, u pojedinim zemljama članicama postoje i neke druge vrste specijalnih poreza, kao što su porez za skladištenje pogonskih goriva (Holandija, Nemačka i Finska), porez na ugljenik (Danska, Holandija i Finska) i sl.[6] Inače, važno je napomenuti da zemlje članice EU, u poređenju sa ostatkom sveta, primenjuju najviše stope poreza na goriva iz sledećih razloga: većina ovih zemalja uvozi naftu; želje i obaveze da se dostignu ciljevi definisani Kyoto protokolom; zato što su prihodi po osnovu oporezivanja goriva veoma važan izvor prihoda u državnom budžetu.

5 EKONOMSKI PODSTICAJI U EVROPSKOJ UNIJI

EU predstavlja vodeću snagu u svetu koja se zalaže za održivu životnu sredinu. Ona poseban akcent stavljana na rešavanje problema globalnog zagrevanja i klimatskih promena izazvane sve

increasing greenhouse gas concentrations, as a consequence of, above all, increased demand and use of fossil fuels. Under the Kyoto Protocol, the EU-15 (the 15 countries that were Members of the EU at the time of ratification of the Protocol) committed to reduce its greenhouse gas emissions by 8% below 1990 levels during the 2008-2012 commitment period. Additionally, the EU-27 is committed to achieving at least a 20 % reduction of greenhouse gas emissions by 2020 compared to 1990. Otherwise, the EU is ready to reduce the emission up to 30% if a new agreement on climate changes is achieved, by which other developed countries would make similar efforts.[3]

The European Commission in 2002 has ordered a study whose aim was to assess the extent to which vehicle related taxes can be effective means to reduce CO_2 emissions from new cars. The study conducted by international consultancy group COWI reveals that the purely CO_2 differentiated vehicle related taxes would provide the biggest reduction in Denmark and the Netherlands, 8.5% and 7% respectively and the smallest reduction in Portugal, 3.3%. Redaction potentials from partially related vehicle taxes lie in the range of 2.1% in Portugal and 5% in Denmark and.[7].

Since the transportation sector substantially contributes to the greenhouse gases emission in the atmosphere, especially CO_2, the European Commission and other EU institutions have adopted a series of incentive measures in order to ensure the sustainability of all transport modes and to direct demand towards less harmful types of transportation.

One of the incentives of the European Commission is a proposal for a Council Directive on passenger car related taxes.[8]. The aim of the proposed Directive is two-fold: to improve the functioning of the Internal Market and to implement the Community's strategy to reduce CO_2 emissions from passenger cars.

Adoption of this directive in the foreseeable future and its application together with the legal framework for the reduction of CO_2 emissions from vehicles (Regulation (EC) No 443/2009 of the European Parliament and the of Council of 23 April 2009. in relation with setting emission performance standards for new passenger cars),

većom emisijom gasova sa efektom staklene bašte, kao posledice, pre svega, povećane potražnje i upotrebe fosilnih goriva. Prema Kyoto protokolu EU-15 (15 zemalja koje su bile članice EU u vreme ratifikacije protokola) se obavezala da u periodu od 2008-2012. godine smanji ukupnu emisiju gasova sa efektom staklene bašte za 8% u odnosu na nivo iz 1990. godine. Pored toga, EU-27 se obavezala da ostvari najmanje 20% smanjenja emisije gasova sa efektom staklena bašte do 2020. godine u poređenju sa 1990. godinom. Inače, EU je spremana da smanji ovu emisiju i do 30% ukoliko bi se postigao novi sporazum o klimatskim promenama, u okviru kojeg bi i druge razvijene zemlje učinile slične napore. [3]

Evropska komisija je 2002. godine naručila sprovođenje studije koja je trebala da proceni u kojoj meri porezi u vezi sa vozilom mogu predstavljati efikasno sredstvo za smanjenje emisije CO_2. Analiza sprovedena od strane vodeće međunarodne konsultantske grupe COWI nalazi da bi u potpunosti prema CO_2 emisiji diferencirani porezi u vezi sa vozilom obezbedili najveće smanjenje u Danskoj i Holandiji, 8,5, odnosno 7%, a najmanje smanjenje u Portugalu 3,3%. Potencijalno smanjenje emisije po osnovu poreza u vezi sa vozilom delimično diferenciranim prema CO_2 emisiji se kreće od 2.1% u Portugalu do 5% u Danskoj. [7]

S obzirom da transportni sektor u značajnoj meri doprinosi emisiji gasova sa efektom staklene bašte u atmosferu, posebno CO_2, Evropska komisija i druge institucije EU su usvojile niz podsticajnih mera u nameri da obezbede održivost svih vidova transporta i usmere tražnju ka manje štetnim vrstama prevoza. Kao efikasno sredstvo za ostvarivanje ovog cilja u EU se sve više favorizuje upotreba ekonomskih instrumenata.

Jedan od podsticaja Evropske Komisije predstavlja i predlog direktive o porezima u vezi sa putničkim vozilom.[8] Cilj predložene direktive je dvojak: unaprediti funkcionisanje unutrašnjeg tržišta Unije i sprovesti strategiju smanjenja emisije CO_2 iz putničkih vozila.

Usvajanjem ove direktive u doglednoj budućnosti i njenom primenom zajedno sa zakonskim okvirom za smanjenje emisije CO_2 iz vozila (Uredba (EC) No 443/2009 Evropskog parlamenta i Saveta od 23. aprila 2009. godine u vezi sa postavljanjem standarda emisije za nova putnička vozila) i oporezivanjem energenata, bi

and energy taxation, should affect the reduction of CO_2 emissions from passenger cars and enable the EU to achieve set objectives regarding the greenhouse gases emission and climate changes.

Directive contains three new measures:

- abolition of registration taxes over a ten year transitional period,
- establishment of a registration taxes refund system and
- restructuring the tax base of registration taxes and annual circulation taxes to be totally or partially CO_2 based.

Today, 17 EU member states charges passenger vehicles related taxes that are totally or partially based on the CO_2 emissions and/or fuel economy. These are Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Malta, The Netherlands, Portugal, Romania, Spain, Sweden and the United Kingdom.

Several EU member states have an element of fuel consumption in their tax systems, but it is more apparent applied only in Austria and Denmark. Austria applies fuel consumption as a base for calculation of registration taxes, and Denmark for calculation of annual circulation taxes. In Denmark rates range from 520 DKK (for vehicles driving at least 20 km per liter of fuel) to 18,460 DKK (for vehicles driving less than 4.5 km per liter of fuel) for petrol vehicles, and from 160 DKK (for vehicles driving at least 32.1 km per liter of fuel) to 26,060 DKK (for vehicles driving less than 5.1 km per liter of fuel) for diesel vehicles.[9]

Registration taxes are totally based on CO_2 emissions in Ireland, Finland and Spain. In Ireland vehicles are classified in seven bands, and the rates range from 14% (for vehicles with CO_2 emissions of up to 120gr/km) to 36% (for vehicles with CO_2 emissions above 225gr/km) [10]. In Finland, this rates vary from 12.2% (for vehicles emitting 60 g/km or less) to 48.8% (for vehicles emitting 360 g/km or more) and in Spain, from 0% (up to 120 g/km) to 14.75% (200 g/km or more).[9] According to the emission of CO_2, partially differentiated registration taxes exist in France, Romania, Malta and Cyprus.

Annual circulation taxes totally based on CO_2 emissions currently exist in Ireland, Luxembourg,

trebalo da se utiče na smanjenje emisije CO_2 iz putničkih vozila i omogući da EU dostigne postavljene ciljeve po pitanju emisije gasova sa efektom staklene bašte i klimatskih promena.

Direktiva sadrži tri nove mere:

- ukidanje poreza na registraciju vozila u tranzicionom period od 10 godina.
- uspostavljanje sistema za refundiranje poreza na registraciju vozila.
- promenu poreske osnovice u vezi sa registracijom i godišnjih poreza, potpuno ili delimično vezani za emisiju CO_2.

Danas, 17 zemalja članica EU naplaćuje poreze na putnička vozila koji su u potpunosti ili delimično bazirani na emisiji CO_2 i/ili na potrošnji goriva. To su Austrija, Belgija, Kipar, Danska, Finska, Francuska, Nemačka, Irska, Italija, Luksemburg, Malta, Holandija, Portugal, Rumunija, Španija, Švedska i Velika Britanija.

Nekoliko zemalja članica EU ima uključen element potrošnje goriva u svoj poreski sistem, ali je njegova primena najuočljivija u Austriji i Danskoj. Austrija primenjuje potrošnju goriva kao osnovu za obračun poreza na registraciju, a Danska za obračun godišnjih periodičnih poreza. U Danskoj se ovaj porez kreće od 520 DKK (za vozila koja prelaze najmanje 20 km po litru goriva) do 18.460 DKK (za vozila koja prelaze manje od 4.5 km po litru goriva) za vozila sa benzinskim motorom, i od 160 DKK (za vozila koja prelaze najmanje 32.1 km po litru) do 26.060 DKK (za vozila koja prelaze manje od 5.1 km po litru) za vozila sa dizel motorom.[9]

Porezi u vezi sa registracijom vozila se u potpunosti baziraju na CO_2 emisiji u Irskoj, Finskoj i Španiji. U Irskoj su vozila razvrstana u sedam grupa, a stopa ovog poreza se kreće od 14% (za vozila sa emisijom CO_2 do 120gr/km) do 36% (za vozila sa emisijom iznad 225gr/km)[10]. U Finskoj ova stopa varira od 12,2% (60 i manje gr/km) do 48,8% (360 i više gr/km), a u Španiji od 0% (više od 120 gr/km) do 14,75% (200 i više gr/km).[9] Prema emisiji CO_2, delimično diferencirani porezi u vezi sa registracijom postoje u Francuskoj, Rumuniji, Malti i Kipru.

Godišnji porezi na vozila u potpunosti bazirani na CO_2 emisiji postoje trenutno u Irskoj,

United Britain, Malta (only during the first five years) and Sweden (for cars meeting at least Euro 4 exhaust emission standards). From 2010 its introduction in Finland is planned. In Ireland rates range from €100 per year for the greenest cars (up to 120 g / km) to €2000 for cars with the highest emissions rating (above 225 g/km).[10] In the UK this tax (vehicle excise duty) divided into 13 ranges varies from £0 (up to 100 g / km) to £405 for petrol and diesel vehicles, respectively, to £390 for alternative fuels (more of 255 g / km). [11] According to the emission of CO_2, partially differentiated annual circulation taxes exist in Portugal and Cyprus and from 1 July 2009 year in Germany.

Luksemburgu, Velikoj Britaniji, Malti (samo tokom prvih pet godina) i Švedskoj (samo za vozila sa euro 4 motorima i većim euro standardima). Od 2010. godine planirano je njegovo uvođenje i u Finskoj. U Irskoj, porez se kreće od porez se kreće od 100€ godišnje za ekološki najčistija vozila (do 120 gr/km) do 2.000€ za vozila sa najvećim iznosom emisije (iznad 225 gr/km).[10] U Velikoj Britaniji ovaj porez (vehicle excise duty), razdeljen u 13 opsega, varira od 0£ (do 100 gr/km) do 405£ za vozila sa benzinskim i dizel motorom, odnosno, do 390£ za vozila na alternativna goriva (više od 255 gr/km).[11] Prema emisiji CO_2, delimično diferencirani godišnji porezi na vozila postoje u Portugaliji i Kipru, a od 1. jula 2009. godine i u Nemačkoj.

6 CONCLUSION

With intensifying the problem of global warming, in the EU increase awareness of the necessity of coordinated action of countries, and even bigger engagement in the direction of reducing greenhouse gases emissions. Confirmation of this is acceptance of obligations under the Kyoto Protocol as well as set goal of the EU-27 to reduce the greenhouse gases emission until 2020 by 20%, in relation to the 1990.

In the EU is increasingly emphasized the use of economic instruments which could, in coordinated implementation with the regulatory and other instruments, represent an effective tool for solving environmental problems. In order to increase the success of implementation of these economic instruments, good knowledge of the advantages and disadvantages of each instrument is needed. This would help in the selection of the instrument or mix of instruments capable to provide the maximum possible positive effects. Therefore, in the EU more and more emphasis is put on active monitoring of the implementation of these instruments to solve environmental problems in different areas and emphasizes the necessity of exchange of positive experiences.

From the transportation sector, as one of the greatest sources of greenhouse gases emissions, particularly CO_2 is expected to significantly contribute to achievement of the above goals. This sector is one of those areas in which it is possible to achieve greater application of economic instruments to solve environmental problems, but also the area where it is necessary to ensure greater harmonization in their implementation at the EU level. Harmonization is particularly important in the implementation of

ZAKLJUČAK

Sa pooštravanjem problema globalnog zagrevanja, u EU sve više jača svest o neophodnosti koordiniranog delovanja zemalja, ali i još većeg angažovanja u pravcu smanjenja emisije gasova koji izazivaju efekat staklene bašte. Potvrda toga je prihvatanje obaveza po osnovu Kyoto Protokola kao i postavljeni cilj EU da se, do 2020. godine smanji emisija gasova sa efektom staklene bašte za 20% u odnosu na nivoom emisije iz 1990. godine.

U EU se sve više naglašava upotreba ekonomskih instrumenata koji bi u koordiniranoj primeni sa regulativnim i drugim instrumentima mogli da predstavljaju efikasno sredstvo u rešavanju ekoloških problema. Da bi uspešnost primene ekonomskih instrumenata bila veća potrebno je dobro poznavanje prednosti i nedostataka svakog instrumenta. To bi pomoglo u izboru onog instrumenta ili miksa instrumenta sposobnih da obezbede maksimalno moguće pozitivne efekte. Zato se u EU akcenat sve više stavlja na aktivno praćenje primene ovih instrumenata u rešavanju ekoloških problema u različitim područjima i naglašava neophodnost razmene pozitivnih iskustava.

Od transportnog sektora, kao jednog od najvećih izvora emisije gasova sa efektom staklene bašte, posebno CO_2, se očekuje da u značajnoj meri doprinose ostvarivanju gore pomenutih ciljeva. Upravo ovaj sektor predstavlja jedno od onih područja u kojem je moguće ostvariti veću primenu ekonomskih instrumenata u rešavanju ekoloških problema, ali i područje gde je potrebno obezbediti veću harmonizacija njihove primene na nivou EU. Harmonizacija je posebno važna kod primene onih instrumenata

those instruments whose action transcends national borders and has a great impact on the functioning of the EU internal market.

European Commission and other EU institutions have recently adopted a series of measures in order to ensure the sustainability of all transport modes and direct demand towards less harmful types of transportation. One of these incentive measures of the European Commission is the introduction of a CO_2–dependent element in the tax base of the passenger car related taxes in order to encourage car buyers during the purchase to take into account energy efficiency and CO_2 emission of the vehicles. It would contribute to a great extent to the reduction of greenhouse gases emissions from road traffic and solving the problem of climate changes.

Since it is a global issue, the aim is, of course, the revival of ecological awareness of people and sensibly greater engagement in the field of environmental policy in countries outside the EU.

čije delovanje prevazilazi nacionalne granice i ima veliki uticaj na funkcionisanje unutrašnjeg tržišta EU.

Evropska Komisija i neke druge institucije EU su nedavno usvojile niz mera u nameri da obezbede održivost svih vidova transporta i usmere tražnju ka manje štetnim vrstama prevoza. Jedna od ovih podsticajnih mera Evropske Komisije je i uvođenje elementa baziranog na emisiji CO_2 u osnovicu poreza u vezi sa putničkim vozilom u nameri da se ohrabre kupci vozila da prilikom kupovine u obzir uzmu energetsku efikasnost i emisiju CO_2 datog vozila. To bi u značajnoj meri doprinelo smanjenju emisije gasova sa efektom staklene bašte iz drumskog saobraćaja i rešavanju problema klimatskih promena.

S obzirom da se radi o globalnom problemu cilj je, svakako, oživljavanje ekološke svesti ljudi i osetno veće angažovanje u domenu ekološke politike i u zemljama izvan granica EU.

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