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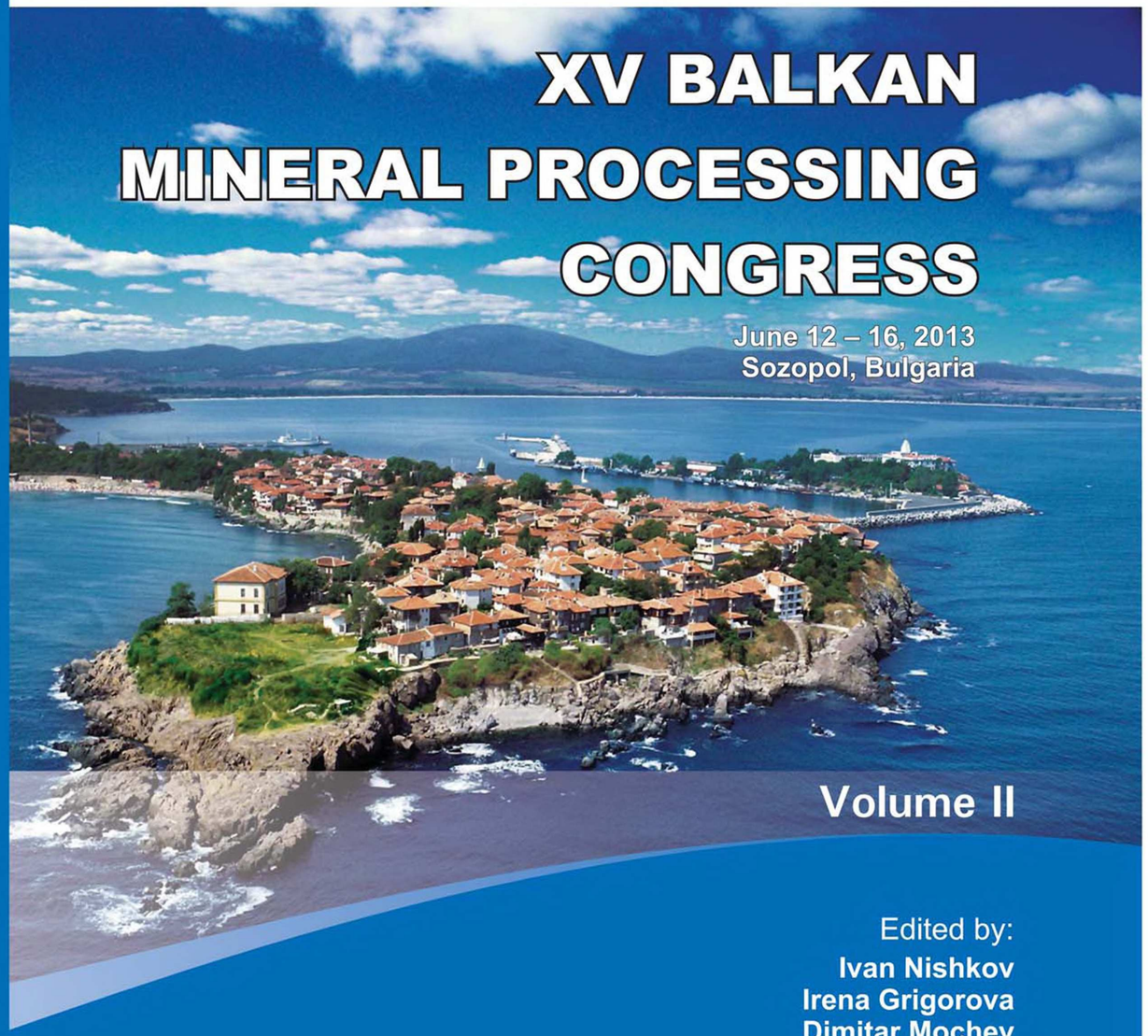
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Department of Mineral Processing and Recycling
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TRENDS IN THE AREA OF BUDGETARY SUPPORT AND TAX EXPENDITURES TO THE COAL MINING INDUSTRY IN UKRAINE

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ABSTRACT: The article is devoted to research of global trends in energy subsidies, considered the impact of energy subsidies on energy prices, the volume of their consumption and ultimately the case for emissions of pollutants into the air. The analysis of dynamics and structure of energy subsidies in Ukraine, the ways of rationalization that will promote fiscal consolidation.

Key words: coal-mining, fiscal support, rationalization of energy subsidies, carbon dioxide emissions.

Energy is the basis of modern life, it is provided by economic growth, mobility and comfort. But at the same time, production, supply and consumption of energy causes a significant negative impact on the environment and on human health. Thus, the present energy emits a significant amount of emissions CO_2 (global share of energy sector in total emissions in 2009 – 84 %, in Ukraine - 69% (UNFCCC, 2010), methane (CH_4), sulfur oxides (SOx), nitrogen oxides (NOx) and volatile organic compounds (VOCs). Coal is a strong energy resource in the world, the most common and available in abundance of minerals in the world and will remain so in the future. at the same time, the share of CO_2 emissions from the burning of coal in the world from 2002-2010, and is gradually increasing from 37.6 to 43.2% of the total carbon dioxide emissions (IEA, 2012). In Ukraine, the proportion ranges from 40.4 to 48.3%.

Rapid population growth and economic growth lead to an annual increase in global demand for energy, especially in developing countries. According to forecasts by the International Energy Agency in such countries to in 2035 will account for 90% of total growth in global demand for energy. In 2050 the world economy will grow by 4 times and will consume 80% more energy than it consumes today. Without taking adequate measures to reform the energy sector is the cause doubling emissions of "energy" CO_2 and lead to a substantial increase in anthropogenic disturbance.

On reducing energy consumption are not talking, because this time 1.3 billion people worldwide still lack access to electricity, besides "If humanity will try to slow down consumption (energy), by going across the laws of evolution, die ... Life and Society appeared on Earth in the natural evolution towards intensification of metabolism and gyres" (Haytun SD, 2005). The scientific quest should be directed into the channel rationalization processes of production, distribution and consumption of energy resources.

In this regard, the feasibility and necessity of reforming the power to reduce the intensity of greenhouse gas emissions (hereinafter GHG) emissions and other pollutants no doubt. Experts of the OECD and IEA developed main directions of reforming energy, which may differ depending on the country and the energy sector. In general, they include: (1) establishment of a reliable energy market and regulatory framework, (2) rationalize and phase out inefficient energy subsidies, (3) providing price signals about the value of externalities (eg through the introduction of environmental taxes), (4) radical energy efficiency, (4) stimulating innovation in relation to "green" technologies (OECD, 2011).

In our study, the focus will focus on the analysis and evaluation of energy subsidies in general and the coal industry in particular. Their gradual reduction and removal of all in the long term is an important task in the context of structural reforms needed to boost growth and employment, post-crisis global economic recovery in the developed world. Introducing reforms to rationalize subsidies cause economic (more efficient distribution and management of energy resources, etc..), Fiscal (budget by reducing spending and tax incentives can reduce the budget deficit and reduce the external debt) and, more importantly - the environmental effect (reduce greenhouse gases and other pollutants into the air).

Currently there is no generally accepted definition of energy subsidies. Mainly used definition given in the IEA report, including energy subsidies - is any government action concerning, above all, the energy sector and reduce the cost of energy production, increase the price received by energy producers or reduce the price paid by consumers energy. Forms introducing subsidies may be different: some have a direct impact on the price (budget expenditures and tax credits), others - act indirectly, for example, rules that create favorable market conditions for the benefit of a particular fuel or government funding of certain research and development (IEA, 1999).

One of the goals of energy subsidies is to reduce the cost of energy resources for population and industrial sector. But providing energy subsidies cause significant adverse effects, which include: (1) the promotion of unsustainable consumption, (2) accelerate the decline in exports, (3) creating imbalances in the distribution of income in favor of the middle class and the rich, (4) increase the burden on the state budget, (5) create threats to energy security through increased imports, (6) market distortion and obstruction (or displacement) for investments in energy saving technologies; (7) encourage fraud and corruption in subsidized.

The effects of energy subsidies on greenhouse-gas emissions are as complex as those on economic activity and investment. Subsidies to producers or consumers that result in a lower price for fossil fuels to end users normally cause more of those fuels to be consumed, which (in the absence of carbon sequestration) lead to higher greenhouse-gas emissions (Fig. 1).

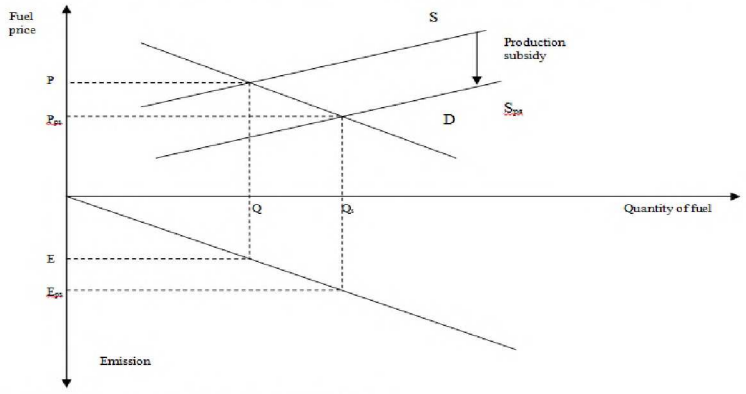


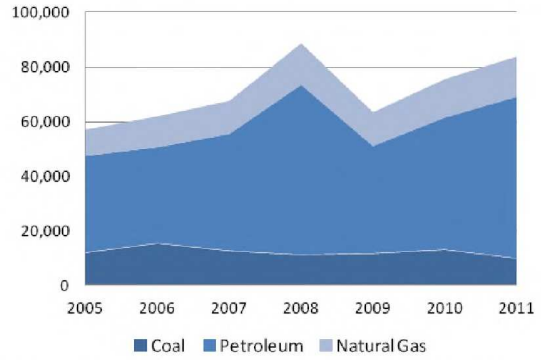
Fig. 1 The Impact of Energy Subsidies on Greenhouse -Gas Emissions

The chart opposite demonstrates how production and consumption subsidies on fossil- fuel production can increase greenhouse-gas emissions. The introduction of a per-unit subsidy on fuel production shifts the supply curve down from S to Sps, causing the price to drop to Pps and the quantity of the fuel sold to rise to Qps. This equates to an increase in emissions from E to Eps. The precise impact of any production subsidy depends on the shapes of the demand, supply and the emission curves. The less sensitive supply and demand are to price, the less impact subsidies have on the environment. Interfuel substitution will determine the overall environmental impact of a subsidy on a given fuel, since that subsidy will normally affect the use of other fuels (Morgan T., 2007).

Energy subsidies have caused a decline in global energy prices and amounted to 523 billion dollars. U.S. in 2011 (in 2010 - 409 billion. U.S.), thereby leading to an economically inefficient allocation of resources, market imperfections and at the same time did not fulfill their goals. In particular, only 8% of subsidies allocated for fuel and energy minerals in 2010, received 20% of the poorest segments of the population (IEA, 2012).

Rationalization of energy subsidies includes a set of measures to their inventory, analysis and evaluation, to search inefficient mechanisms of the transition from providing benefits to energy consumption for targeted support for the poor, which reduces energy subsidy burden on the state budget, more efficient allocation of resources and reduce the anthropogenic impact on the environment. Without further reform, spending on energy subsidies reached 660 billion dollars. U.S. in 2020 or 0.7% of world GDP. A phase out energy subsidies by 2020 would reduce the growth in energy demand by 4.1%, reduce demand for oil by 3.7 million brl. / D, to reduce the growth of CO2 emissions by 1.7 Gt. (IEA, 2011).

Analyzing energy subsidies in the 24 industrialized OECD countries[1], who started rationalization, we can say that at present there are 250 kinds of energy subsidies, on average per year for the period 2005 - in 2011 their volume is 45-85 billion dollars. Approximately 65.1% of the amount of support for the production of oil, 17.8% - subsidies to support the production and consumption of natural gas, 17% - coal (Fig. 2).



Source: Inventory of estimated budgetary support and tax expenditures for fossil fuels. - OECD 2011. – 353 p.

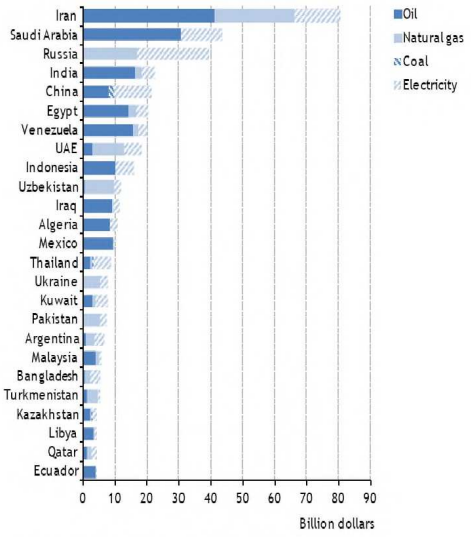
Fig. 2 Support to fossil fuels in OECD countries by year and type of fuel, millions of current USD

Currently formed structure of the national economy with shipment of low-technology, energy-intensive and environmentally hazardous enterprises. Between 1992 and 1999 carbon intensity grew by 29% in 2010 to 2 times higher than the world average. At the same time the world's GDP declined carbon intensity more than 1/3 between 1971 and 2010 From 2005 to 2009 Ukraine this indicator ranked 8th in the world in 2010 - 9th place. Calculations International energy agency energy intensity of GDP in 2010 was 0.47 (see Table 1). Which is 3 times more than the world average, in EU energy consumption is 0.12.

Much of the state aid provided in OECD countries at the expense of tax incentives, including tax credits, exemptions or reduced tax rates. Their inventory was one of the first measures to rationalize an energy subsidy that was the first step towards greater transparency and accountability, energy policy, helped identify inefficient mechanisms for energy subsidies, as well as finding the best options for energy reform.

[1] In this countries accounted for about 95% of energy demand

Relevance decline in energy subsidies for Ukraine is not in doubt, because the volume of energy subsidies Ukraine is among the 25 countries with the highest level (Fig. 3).



Source: World Energy Outlook (2011).

Fig. 3 Energy subsidies in 25 countries with the largest amounts of them in 2010, bln. USA.

The average share of energy subsidies in Ukraine (as a percentage of total fiscal support) for the years 2005-2011 was 31.9%, and amounted to 1.9% of GDP (in the OECD - 0,17% of GDP).

Since 2006, the pattern of energy subsidies by type of industry, the majority of FEA provided "Electricity, gas and water." The largest share of energy subsidies granted this FEA constitute expenditure, of which the average for 2002-2011 biennium 83.64% were aimed at reduction of natural gas to households and businesses with district heating. According to research of the State Environmental Investment Agency of heat tariffs for households not cover the cost of production companies with district heating. As a result of inefficient pricing policy, company DH is bankrupt and calculated about 55% of their bills for gas to Naftogaz. As a result, Naftogaz cross-subsidize companies with DH (NEIA, 2010). We believe the potential of reducing energy subsidies that FEA is to redirect funds from Annie reduce the cost of natural gas for households in energy efficiency in housing and targeted assistance to the poor.

Energy subsidies in FEA "Mining of coal and lignite, peat 'time were mostly directed to cover the difference between cost and price. According to the Ministry of Energy and Mines in 2004 when the price was 80% of the cost, in 2008 - 75%. Coal prices do not even cover the actual operating costs, not to mention the cost of repairs, maintenance and capital investment. The average cost of coal is much higher than the price and there is a tendency to increase in this difference. Providing energy subsidies FEA "Coal, lignite, peat," leads to devastating consequences for the environment, especially with regard to greenhouse gas emissions. Since coal is the most vuhletsevoyemnym source of energy, and subsidies encourage the use of coal as fuel, reducing subsidies to the coal industry will reduce the negative impact on the environment. Analysis of recent foreign studies on providing energy subsidies coal industry in developed countries suggests the gradual reduction and contrast. Thus, the late 1980s, subsidizing coal completely stopped in Belgium, France, Ireland, Japan and Portugal. The average rate of decline in fiscal support in Australia and Canada. Germany, Spain, Great Britain and the United States (OECD) in 2008-2011 compared with the period 2000-2002 is 58% (Table 2). According to research experts IEA requires a reorientation of energy subsidies to the coal industry in support of clean technologies of production and processing of coal. Wide application equipment to control pollution led to a decrease in industrial emissions of sulfur dioxide, nitrogen oxides and dust into the atmosphere, so that in many countries the air was much cleaner, and it's just one example of the use of clean technologies. Since the early 70-ies of the last century as a result of a number of policy and regulatory measures have created a growing commercial market for clean technologies of production and processing of coal, which resulted in a reduction of costs against performance improvement. Later, due to climate change need to reduce emissions of carbon dioxide in the atmosphere has led to the fact that clean production

Tabl. 1 Carbon and energy intensity of Ukraine, the EU-27 and the world, 2005-2010

		Ukraine	EU-27	World	Ukraine / EU-27	Ukraine / World
CO_2 emissions per GDP (PPT) using purchasing power parities, kg CO_2 / US dollar (2005 prices)	2005	1,16	0,30	0,47	4	2
	2006	1,10	0,29	0,46	4	2
	2007	1,03	0,28	0,45	4	2
	2008	1,00	0,27	0,45	4	2
	2009	0,94	0,26	0,44	4	2
	2010	0,96	0,26	0,44	4	2
Total primary energy supply (TPES) per thousand US dollars of GDP (PPT)[2]	2005	0,54	0,13	0,20	4	3
	2006	0,49	0,13	0,19	4	3
	2007	0,45	0,12	0,19	4	2
	2008	0,44	0,12	0,19	4	2
	2009	0,42	0,12	0,19	3	2
	2010	0,47	0,12	0,19	4	3

Source: Calculate from data CO_2 Emissions from Fuel Combustion, 2012

Tabl. 2 Budgetary support and tax expenditures coal mining industry in selected OECD countries

Country	Type of support	Unit in millions of national currency (nominal)	Av. 2000-2002	Av. 2005-2009	2010	2011
Australia	Support for capital formation: accelerated depreciation for mining buildings, capital expenditure deduction for mining et al., exploration and prospecting deduction	Australian dollars	109.8	57.6	23.6	42.7
Canada	Excess of Resource Allowance over Non Deductibility of Royalties, earned Depletion Allowance, flow Through Share Deductions Mining Exploration Tax Credit, Your Energy Rebate, Funding for Geoscience BC	Canadian dollars	9,5	9.9	9.5	10.2
France	Capital Contribution to CdF, interest Payments on 1997-99 Debt of CdF, excise-Tax Exemption for Biomass Producers	Euros	378.0	79.8	3*	3*
Germany	Compensation for the difference in price of high-quality or low-quality coal, the cost of reducing capacity, tax benefits from royalties, bonuses Miners	Euros	5029.75	3039.7	2455.2	2498.2
Spain	Producer Support Estimate: support to unit returns: operating aid to HUNOSA, operating aid to coal producers, subsidy for the interbrain transport of coal; income support: adjustment aid to coal producers	Euros	659.44	701.1	697.1	635.8
U.K.	Circuit operational support coal producers	British pounds sterling	130.45	67.3	117.7	85.7
U.S.	Tax cuts to companies that extract coal from thin layers of financing capital investment spending in support of security, tax benefits from royalties, etc.	US dollars	1768.81	2649.1	4452.1	1351.9

Source: Formed from: Inventory of estimated budgetary support and tax expenditures for fossil fuels (2011), OECD
*Capital Contribution to CdF, Interest Payments on 1997-99 Debt of CdF – not applicable

[2] The ratios are calculated by dividing each country's annual TPES by each country's annual GDP expressed in constant 2000 prices and converted to US dollars using purchasing power parities (PPPs) for the year 2005. TPES consists of primary energy production adjusted for net trade, bunkers and stock changes. Production of secondary energy (*e.g.* oil/coal products, electricity from fossil fuels, etc.) is not included since the "energy equivalent" of the primary fuels used to create the secondary products or electric power has already been counted. TPES is expressed in tons of oil equivalent (see the International Energy Agency sources below for details on how TPES is calculated

technology and processing coal included as a technology to capture and store CO_2. Thus, in particular in 2008 the Australian government established a AUD 500 million National Clean Coal Fund to support research, technology development, demonstration projects, CO_2 storage sites, and associated infrastructure in relation to clean coal. The fund will operate until 30 June 2012. This program is allocated to the GSSE since it benefits Australia's coal sector as a whole and does not increase current production or consumption of fossil fuels. We allocate annual budgetary transfers to the different types of coal on the basis of production data from the IEA's Energy Balances. The amount of the fund was greater than energy subsidies to the coal industry 17.6 times.

According to our research, energy subsidies the coal industry in Ukraine is caused significant positive momentum for either companies which provided for either business related industries (Tarangul L., Serebryanskyy D., Novytska N, 2011). This suggests the need to review the mechanism and extent of fiscal support Energy of Ukraine, which obviously will release additional financial resources in the public finances. These resources can be effectively put in those economic activities that actually can provide positive impulses of related industries. In particular, agriculture, engineering, and development of infrastructure. Very productive tool for reduction of subsidies is the process of privatization, which enables business independently on a market basis to operate self-sustainable way.

Therefore, we consider it appropriate to provide for a gradual cessation of subsidizing the cost of state-owned coal enterprises, but due to the released funds to increase funding for employment and social support workers. Also provide funds for the restructuring of coal mining enterprises from the concentration of production capacity and efficient use of financial resources to carry out the further privatization of perspective and eliminate unpromising coal industry to provide budgetary support and tax expenditures clean technologies of production and processing of coal.

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