
ABSTRACTS

*doi:10.22306/atec.v5i2.48**Received: 22 Mar. 2019**Accepted: 02 Apr. 2019***NEGATIVE IMPACTS OF PHOTOVOLTAIC ELECTRIC STATION
OPERATION FOR DISTRIBUTION OF ELECTRICAL ENERGY IN
SOBRANCE**

(pages 23-27)

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simon@lm.uniza.sk**Keywords:** photovoltaics, photovoltaic power plant, electricity distribution**Abstract:** Photovoltaic power plants recorded in the world of very rapid increase in installations connected to the distribution network. Although they are referred to as the cleanest sources of electricity, their unpredictability causes major problems for distribution network operators. If the current commissioning rate continues, PV power would lead to the modification of several aspects of power system and could influence the stability of the system. The report is dealt to a problematic of negative impact photovoltaic electric stations installed in location Sobrance for distributing electric energy. The main task and idea of the report is advert to the positive and negative impact of installation photovoltaic electric stations on base of measurement of real operation.

*doi:10.22306/atec.v5i2.44**Received: 01 Mar. 2019**Accepted: 16 May 2019***REDUCING THE ENVIRONMENTAL POLLUTION ON TRANSPORT IN
CITIES**

(pages 29-36)

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szolyak.zsuzsanna@gmail.com**Keywords:** CNG, air pollution, energy consumption, air pollutants, transport, filling stations**Abstract:** According to recent estimates, transport accounts the quarter of the world's energy demand, thus contributes significantly to the release of greenhouse gases. Most of it comes from fossil fuels, and therefore it is important that governments support the users to choose one of the environmentally friendly modes of transport. One of the main causes of air pollution is primarily the amount of gases emitted by gasoline and diesel engines. The air pollution of road traffic is determined by the number of vehicles, their modernity, technical condition and the type of used fuel. The legal and technical measures created to reduce the environmental pollution include tightening the regulation of vehicle entry, propagating new generation of vehicles that meet environmental requirements and mandating an environmental review. The goal of the research is to sum up the causes of air pollution in large cities, focusing on the traffic loads. In the research the writer will evaluate and quantify the environmental impact of the use of CNG in transport based on statistical analyses and description of the related technologies.

*doi:10.22306/atec.v5i2.52**Received: 26 Apr. 2019**Accepted: 16 May 2019***HYDROGEN COMPRESSOR UTILIZING OF METAL HYDRIDE**

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Keywords: metal hydride, hydrogen, absorption, hydrogen compressor**Abstract:** After low pressure hydrogen production by electrolysis of water, compression is required to increase the storage pressure in the final containers. The use of metal hydride materials seems to be a very effective way to increase the pressure of stored hydrogen. Heating these alloys significant increase the hydrogen pressure. The article describes the design of the compressor for using the generated heat at absorption process of the hydrogen into metal alloy during compression process. The equilibrium pressure, by which the absorption process occurs, is highly dependent at temperature of alloy. Difference in equilibrium pressures of MH materials at acceptable temperature change led to the effort to create a hydrogen compressor. The article describes the basic characteristic of hydrogen compressor and its actual state of development.*doi:10.22306/atec.v5i2.54**Received: 10 June 2019**Accepted: 25 June 2019***RISK EVALUATION IN ENERGETIC INDUSTRY**

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Keywords: energetic industry, energetic security, energetic sector risk, energetic services**Abstract:** The keywords should be Energetic industry is presently meeting the pressure to provide stable availability of supplies with aim to secure economic growth, as well as pressure of living environment protection. There is therefore necessary to search position of energetic industry from the view of its risk to provide long-term prosperity and contribution for national economy in individual countries. Presented contribution searches external and internal aspects of threatening of the energetic industry stability from the view of sector risk and prediction of demand and offer development from area of energetic services. The prediction shows high dependence in EU on import of energetic commodities from unstable regions, which threatens energetic security of countries. There is therefore necessary to provide long-term prosperity by creation of positive financial indexes that would provide decreasing of bankruptcy risk.

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ACCUMULATION OF HIGH-POTENTIAL CHEMICAL ENERGY OF METHANE TO HYDRATES

(pages 49-53)

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Keywords: hydrate, hydrate formation, energy source, accumulation, methane

Abstract: For countries with limited access to conventional hydrocarbon gases, methane hydrates appear as a possible source of energy or as a strategic concern for the creation of alternative natural gas reserves. Currently, natural gas hydrates are beginning to be included in the considerations of gas supply for the next decades. From a perspective point of view, the accumulation of natural gas in the form of hydrate structures and subsequent release, if necessary, proves to be very advantageous. Storing gas in such a form creates an energy-efficient interest in developing and innovating technology in this area.
