Recently thermal power stations are co-incinerating coal increasingly with wood pellets in Europe and North America. Especially widely such fuel mixtures are used in USA, Great Britain, Netherland, Poland and Spain.

The main advantage of co-incineration is the possibility to use existing coal combustion equipment. It provides the lowest capital costs compared with the construction of new boiler units. Such technology allows to utilize a significant amount of biomass, partially replace fossil fuels and reducing emissions of nitrogen oxides and sulfur oxides.

Among the varieties of technology for co-incineration of coal and biomass, flaring combustion systems was the most widespread. The distribution of this technology was obtained in the United States, Great Britain and Finland. There are two main principles of using industrial pellets for energy production: burning only pellets as fuel or burning the mixture of pellets and coal.

The current issue for Ukraine is the replacement of natural gas by coal. Indeed, an essential economic effect with such kind of replacement will be received when using cheap fuel. Low-reaction (anthracite and brown coal), or low-quality (high-ash and fine fractional) coal can be used in Ukraine as actually interesting. Deposits of such coal are located in various regions of Ukraine.

In modern economic conditions, Ukraine does not have an opportunity to equip small and medium power plants with cost effective and environmentally sound manner equipment. Coal which is used in Ukraine has high ash content, which can reach 40 %. This results in significant emissions of solid particles and sulfur oxides. Pellets have very low ash and sulfur content.

So the use of such mixtures will reduce emissions of solid particles and sulfur oxides into the atmosphere using the existing in Ukraine equipment even with highly ash coal. However, pellets have significantly lower heat of combustion than coal. Taking into account the properties of pellets and pyrolysis char of ELT, we decided to propose to apply them in a coal-pellets-ELT char triple mixture.

Our suggestion is to produce alternative fuel from wastes without using food raw materials.In our opinion, the pyrolysis technology can become one of the most attractive ways of tyres utilization not only in Ukraine but in other countries as well.

In our opinion, the technique of pyrolysis can become one of the most attractive ways of tyres utilization for Ukraine and not only for Ukraine.

CLIMATE CHANGE IN ARGENTINA

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Argentina has an area of almost 3 million km^2 and extends from 22°S to 55°S and from 75°W to 55°W, in other words, from the subtropic to the subpolar region. The eastern portion of the country is essentially plain, rising gradually from east to west. On the western side of the country there are the Andes mountain range, the most important topographic feature in South America. Mountains in Argentina have heights greater than 4000 m up to 40°S. Beyond this latitude, the height of the mountains decreases appreciably. Argentina has a population of 36 million people. Almost 34% of this population lives in the Buenos Aires Metropolitan Area (BAMA), an area of 4082 km^2 around Buenos Aires City. The most industrialized region of the country stretches from the Rosario City to the La Plata City, enclosing the BAMA.

In the lower layers of the atmosphere, close to the surface, two types of predominant circulation flows over Argentina can be distinguished. Winds from the west prevail over Patagonia, while in the rest of the country winds are driven by the South Atlantic high pressure system (hereafter 'high'), which brings humid and sometimes hot air from the east and the north. Hereafter, the region under the influence of the South Atlantic high will be called subtropical Argentina. In Patagonia, from 40∘S to the southern tip of the country, the Andes Mountains are progressively lower allowing the passage of westerly winds coming from the Pacific Ocean. This air, forced to ascend, produces abundant rainfall and cloudiness in Chile and in a narrow strip along the Andes on the Argentine side where it loses its humidity. Thus, the prevailing westerlies become dry and the rest of the Argentine Patagonia receives very little precipitation. In the subtropical region, the average annual rainfall varies from a maximum of more than 1200 mm in the northeast to about 100 mm in the desert plains of the southwest; i.e., the isohyets are aligned roughly north to south. This zonal gradient in precipitation is due to the fact that moist air from both the tropical continent and from the Atlantic Ocean arrives more frequently in the east than in the west of the region.

For all Argentine meteorological stations, trends in temperature extremes from 1901 to 2010 show a strong warming of the night-time temperature, with fewer cold nights and more warm nights. However, the highest annual maximum temperature decreased between 1956 and 2003 consistently with more precipitation in summer months, while the lowest annual minimum temperature increased in central Argentina. This has led to a decrease in the maximum annual range of temperature.

From December 13 to 31, 2013, a strong heat wave occurred over central Argentina with maximum temperatures over 40∘C and minima over 28∘C. This heat wave was the longest and the most intense, considering the accumulation of degrees over thresholds, ever registered in the region. Record values of minimum temperature were verified in a station close to Buenos Aires with an estimated 100-year return period. The power system collapsed in many sectors of Buenos Aires and of other cities because of the intense use of air conditioning. There is not yet a comprehensive assessment of casualties, but they may have been significant, according to the international experience of similar events.

One of the reasons for this situation is greenhouse gas (GHG) emissions.

The composition of Argentina's total GHG emissions in 2005, excluding land use, land-use change, and forestry (LULUCF) and measured as CO_2 equivalent through each gas's global warming potential, is 47.4 % CO_2, 31.2 % CH_4, and 20.5 % N_2O. The remaining 0.9 % comprises other GHGs. Methane emissions come mainly from cattle (enteric fermentation) and landfills, and N_2O emissions mainly from agriculture. The bulk of emissions come from the energy (almost half) and agriculture

(42 %), as is the case in countries with similar economic structure. Minor contributions come from waste and industry. Net emissions from LULUCF were negative mainly because of forest regrowth. The forest sector therefore constitutes a net carbon sink reducing net GHG emissions by 4 %. GHG emissions from the energy sector mostly concentrate in the transport and energy industries, together constituting about 63% of the sector emissions. The rest of industries accounts for 14 %, and household, commercial, and public consider for 24 %.

Between 1990 and 2005, Argentina's GHG emissions grew about 40 % (39 % excluding LULUCF sector and 43 % including LULUCF). As of 2005, per capita GHG emissions were 8.2 tons CO_2 eq.,79 over the world average of about 7.5 tons CO_2 eq., but well below the average for OECD countries of 15 tons CO_2 eq. The waste sector showed the highest growth, 497 %, due to the increase in waste, but more importantly because of the trend to its burial disposal in landfills and better accounting. The industry sector, which only includes process emissions and not the energy used, had also an important increase of 135 %, while agriculture had the smallest sectoral increase of only 15 %. If total GHG emissions estimates include LULUCF, the emissions intensity ratio (GHG emissions/GDP) of Argentina declined in the period between 1990 and 2005, falling by about 5 % from 1.16 million tons CO_2 eq./M USD in 1990 to 1.10 million tons CO_2 eq./M USD in 2005.

For the present, as well as for the near future, although many aspects should be considered, three main issues appear to require special attention. The first and more urgent need is public adaptation to heat waves and extreme precipitation events and their associated floods and destructive winds. Reducing damages and casualties from such events requires enhancing early warning systems, both in equipment and personnel. Improving contingency planning is also called for, as well as modifying building designs of new infrastructure when needed. It is also necessary to raise the public awareness and understanding of these impacts of such events, as well as the manner to avoid their impending damages.

THE ECOLOGICAL PROBLEMS OF KAZAKHSTAN

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One of the important domestic policy directions in a sovereign Kazakhstan is the attempts to solve regional environmental problems of the republic. The fact is that the development of the productive forces of Central Kazakhstan fully corresponded to the general trends of the economic development of the Republic of Kazakhstan, which is characterized by a long-term movement without taking into account the environmental characteristics of the region with increasing strain in industry proportions and socio-economic structure. All this led to a serious aggravation of the