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Monitoring waste generation and emissions
of harmful substances

Taking into consideration that higher waste generation poses threat to the country`s sustainable growth, this problem needs special attention. Waste is becoming perhaps the most acute environmental problem of the humanity as a whole and Ukrainian society in particular. Significant resource consumption, energy and raw material specialization of Ukraine's economy together with outdated technological base cause serious annual quantities of waste generation and accumulation. Man-caused load on the environment in Ukraine is 4-5 times higher than similar indicators of the developed countries. The difference between Ukrainian and developed countries` case of waste lies in the larger quantities of waste generation and lack of waste management infrastructure, which is the integral part of these economies.

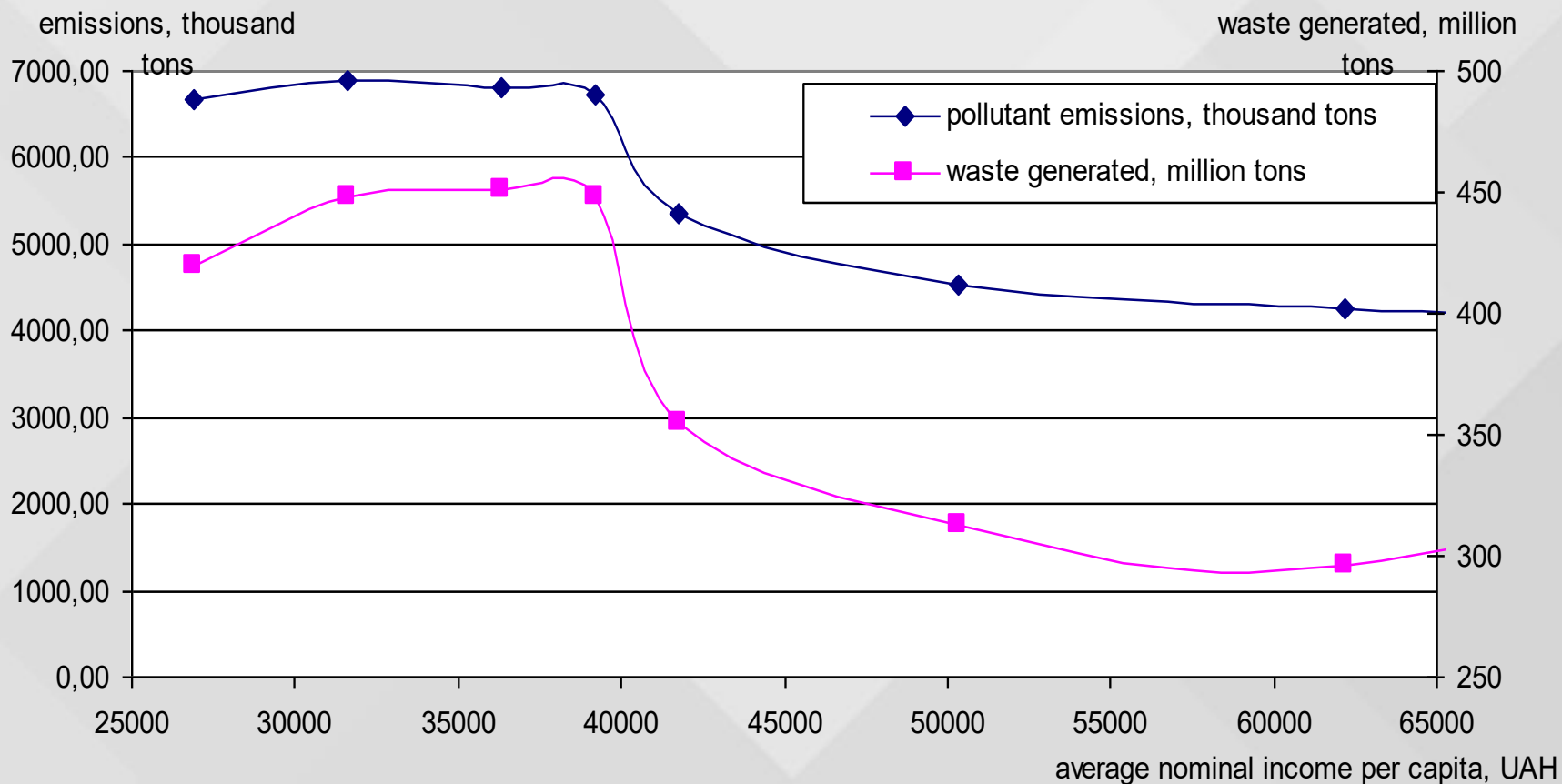


Figure 1. Dynamics of correlation between average nominal income per capita in Ukraine, masses of emissions and waste generation during 2010 - 2019

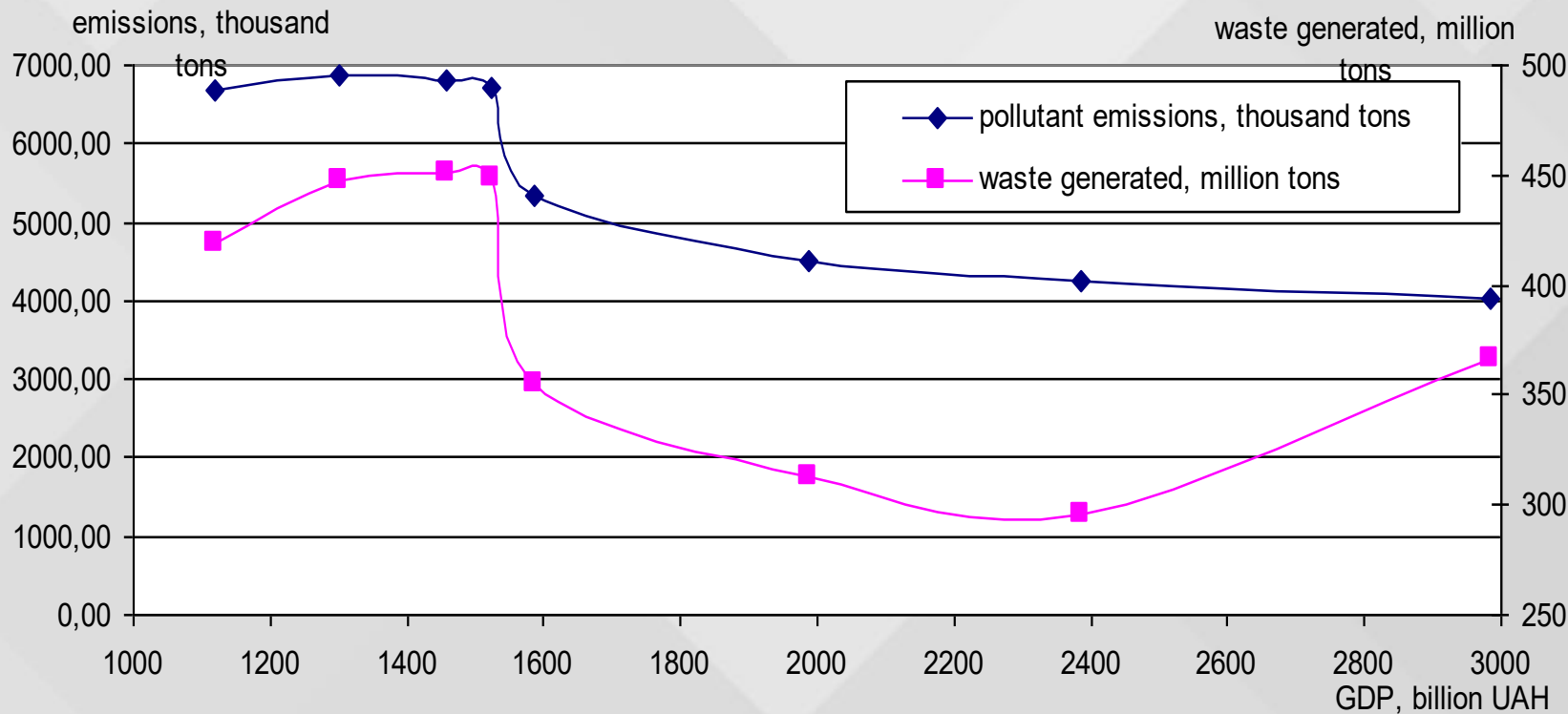


Figure 2. Dynamics of correlation between GDP in Ukraine, masses of emissions and waste generation during 2010 - 2019

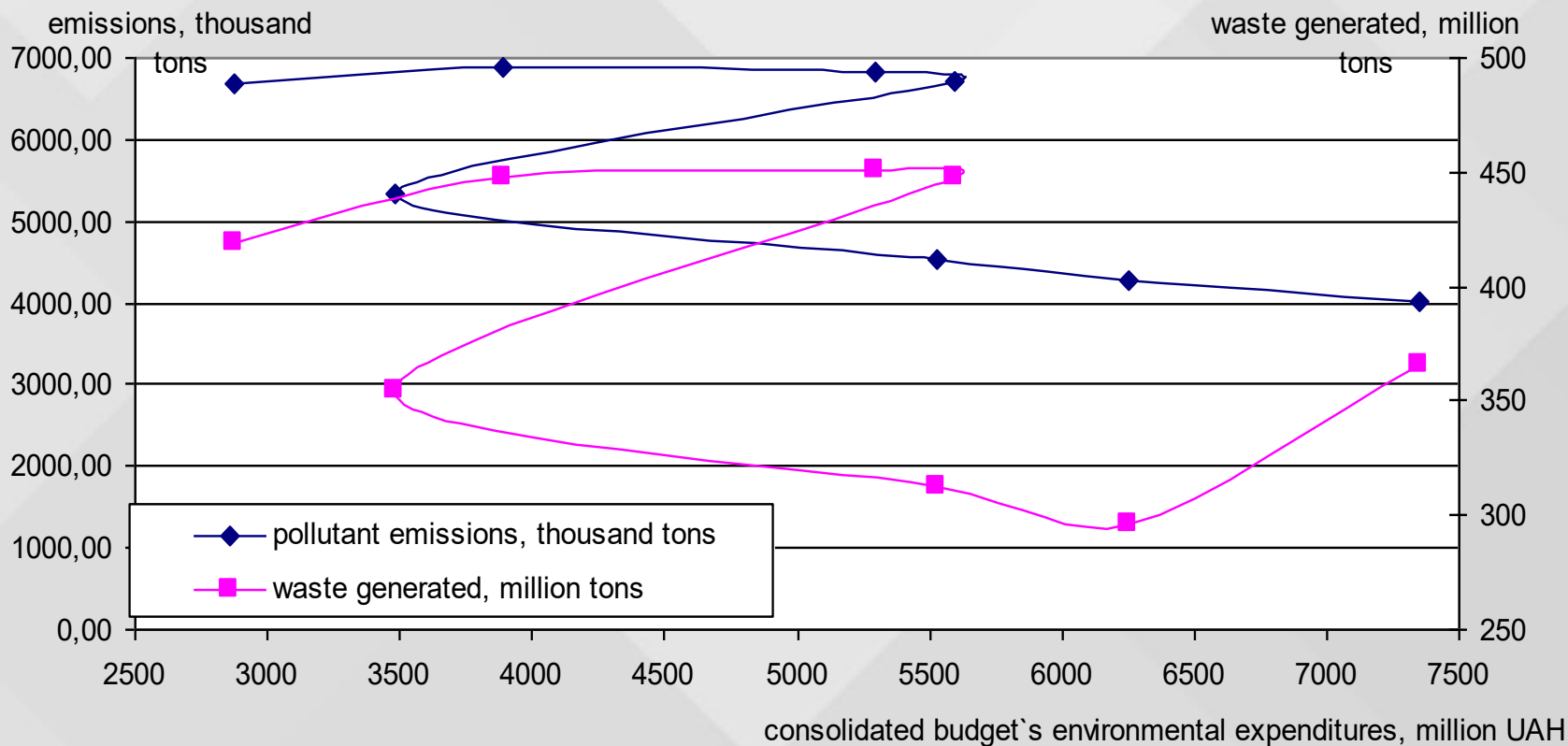


Figure 3. Dynamics of correlation between consolidated budget's environmental expenditures in Ukraine, masses of emissions and waste generation during 2010 - 2019

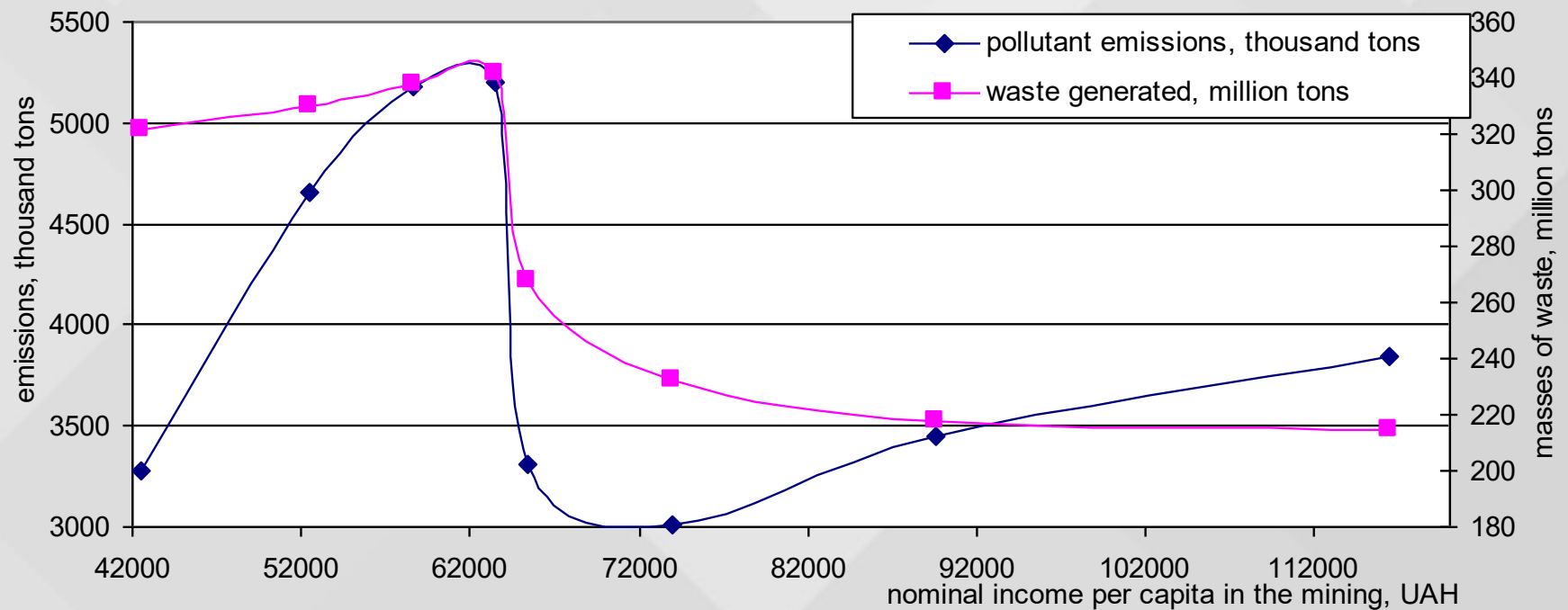


Figure 4. Dynamics of correlation between average nominal income in the mining in Ukraine, masses of emissions and waste generation during 2010-2019

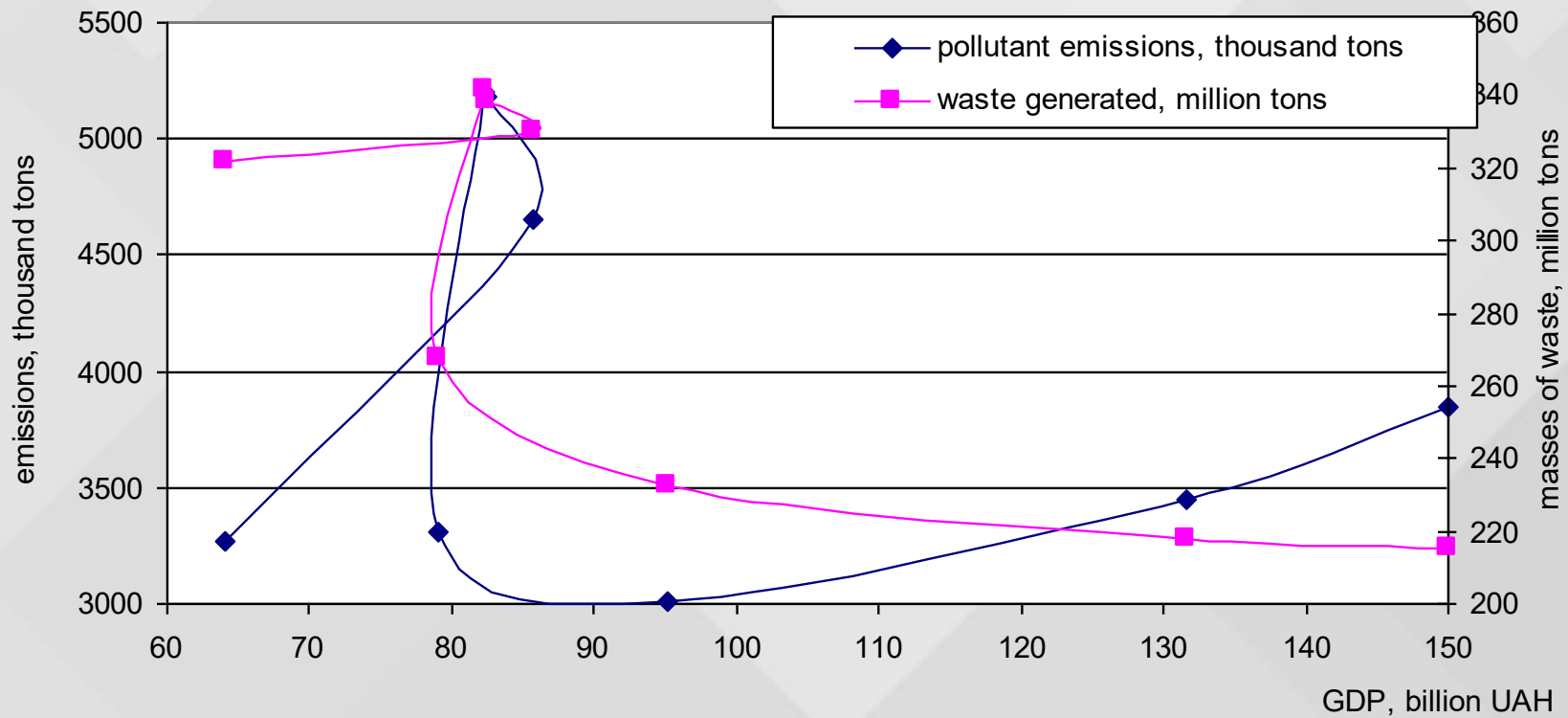


Figure 5. Dynamics of correlation between GDP in the mining in Ukraine, masses of emissions and waste generation during 2010-2019

Conclusions

It has been proved that the EKC model should be used not only for the pollutant emissions parameters, but also for the masses of waste generation.

Moreover, it is necessary to take into account not only national indicators, but the contribution of the leading sectors of national economy. The EKC modelling for waste has been made for the following industries: processing; mining and quarrying; agriculture, forestry and fisheries; electricity, gas, steam and air conditioning supply; transport, warehousing, post office and courier service. The models are based on correlation between GDP, average nominal income per employee, environmental expenditures and waste generation at the national level and for the leading industries of national economy.

It has been found out that to reach the "turning point" in sectoral EKCs for waste generation, one has to consider the remuneration rate in the industry, the value added (sectoral GDP) and total sectoral environmental investment by the field specifics.

It has been determined that the key factor to ensure country's sustainable development is environmental investment both at the national level and by its driving economic sectors. Thus, the sectoral EKC reflects the progress towards industries' sustainable development that form main revenue receipts of the government and determine the rate of remuneration in the real sector.

Modelling of the EKC parameters for waste and emissions of harmful substances fully corresponds to the trends of sustainable economic growth and its transition to the innovative type of development.

Thanks for your attention!