The Climate Alliance Carbon Calculator for

Ukrainian and Georgian municipalities

Cities and towns committed to climate protection and aiming to reduce greenhouse gas emissions need **regular accounting** of the emissions to track progress of their local climate and energy policy. The growing interest and commitment undertaken by Ukrainian and Georgian local authorities in the context of the Covenant of Mayors initiative led Climate Alliance to develop specific tools to support them in the calculation of CO_2 emissions. Climate Alliance has more than two decades of experience in CO_2 monitoring and has been at the forefront offering technical support to its member municipalities.

What does Climate Alliance Carbon Calculator offer?

The tool allows municipalities to calculate the CO_2 emissions associated to the energy consumption that takes place in their territory by sector and by energy carrier. The sectors covered are: households, services, industry, agriculture, transport (passenger and freight), municipal buildings and facilities, and public lighting.

How does it work?

The Climate Alliance Carbon Calculator tool includes a database of national energy, economic and demographic data that can be used to derive local energy data. This means that in the absence of local energy data for certain sectors, the tool scales energy consumption data from **the national level to the municipal level** by using a **scaling variable**, i.e. an indicator that is both available at national and municipal levels. For instance, for the residential sector, the scaling variable is the **number of inhabitants**, while the number of employees (workforce) is used to estimate the energy consumption in the services, industry and agriculture sector. The tool includes data from 2000 to 2010. It also offers an extrapolation function, which allows local authorities to extrapolate their data for the years that they do not have data available. CO_2 emissions are calculated by using Life Cycle Analysis (LCA) default emission factors which take into account the impacts of the entire energy supply chain.

What data is needed?

If data on energy consumption is available at the local level, the local authority is invited to complete the tables with their own collected data. Otherwise, local authorities can provide data for some indicators such as the number of inhabitants, the number of employees by sector, and the number of vehicles registered and have their energy consumption by sector estimated based on national statistics, with the exception of the municipal sector.

What are the benefits for local authorities?

The tool was developed in Microsoft Excel, a software spreadsheet which is widely available in public administration in Ukraine and Georgia. The comprehensive database incorporated in the tool makes the tool very useful for when local data is not readily available. The tool adopts a standardised methodology, ensuring that your emission inventories are consistent along time. Municipalities using the same tool can easily compare their values against each other. Finally, the tool respects the Covenant of Mayors methodological requirements and **all the data required to compile a Baseline Emissions Inventory can be directly exported from the tool to the** Sustainable Energy Action Plan (SEAP) **document** in table and graphical formats.

Who can use the tool?

The tool is available for all municipalities in Ukraine and Georgia, in English and in Russian. Climate Alliance members can use the tool for free. Training can be organised upon request.

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