



Greenhouse gases (GHG) can be produced at each stage of a product's life cycle: from raw material extraction, transport, manufacturing, use and final treatment or disposal of materials. By relating this life cycle to the waste hierarchy, we can see how each level of the hierarchy impacts on climate change.

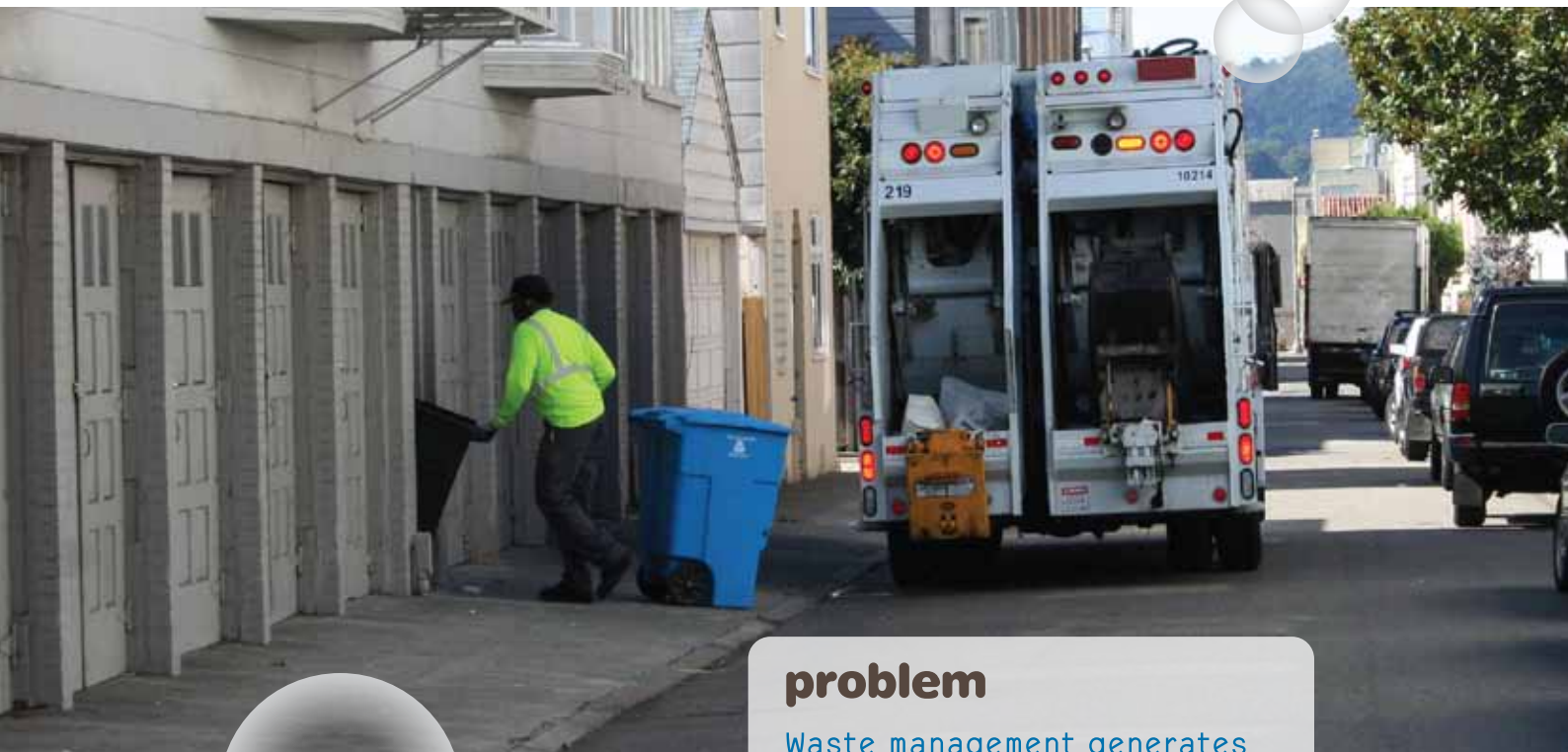
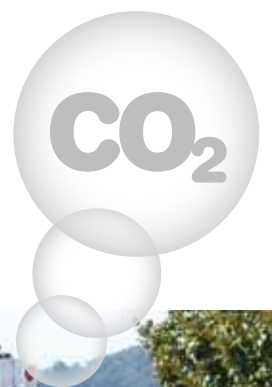
The impact of solid waste management (SWM) on the global warming equivalence of European GHG emissions comes mostly from CH_4 released as biodegradable wastes decay under the airless (anaerobic) conditions in landfills. According to the EC, about a third of anthropogenic emissions of CH_4 in the EU can be attributed to this source. In Greece ~75% of the waste goes to landfills, thus creating a major problem in methane emissions management and control.

Combating climate change is a top priority of the EU policy. In the EU region, municipal waste management activities alone could potentially account for 18% of the 2012 Kyoto GHG reduction target.

The waste sector offers proven, practical and cost effective technologies which can contribute to GHG mitigation. When adapted and deployed according to local traditions and needs, they can help secure significant global GHG emissions savings.

possible solutions

waste prevention • recycling • reuse
biological treatment • energy recovery
engineered landfilling



problem

Waste management generates CO_2 and CH_4 which are both greenhouse gases





project goals

WASTE-C-CONTROL is a joint project between EPEM SA (Environmental Planning, Engineering and Management) and three Greek Waste Management Authorities: the Waste Management Authority of Eastern Macedonia and Thrace (DIAAMATH), the Waste Management System of Western Macedonia (DIADYMA) and the Trans-Municipal Enterprise of Solid Waste Management of Chania (DEDISA).

The project is co-financed by the EU LIFE+ 2009 Program and will last for 27 months (10/2010 to 12/2012). Its main objectives include:

- Develop the appropriate tools that will enable Waste Management Authorities and other stakeholders to substantially reduce GHG emissions resulting from their waste management (WM) activities
- Develop appropriate assessment, monitoring, controlling and reporting activities related to different WM options and the respective GHG emissions reductions
- Evaluate the EU policy (waste prevention and recycling, energy policy etc) and legislation (Waste Framework Directive) options and opportunities, in order to reduce GHG emissions by using alternative WM practices
- Promote awareness, provide training and disseminate information on WM options and climate change mitigation
- Initiate GHG emission reductions at a local (Region of Eastern Macedonia and Thrace, Region of Western Macedonia and Regional Union of Chania, Crete) and sectoral (waste management) level

innovative software tool

The WASTE-C-CONTROL project aims to reduce GHG emissions through the development of a software tool that will:

- Provide "decision support" for the optimization of SWM in terms of GHG emissions and financial data
- Contain extensive information (data, libraries etc) for the available solid waste treatment options
- Assist the user to "assemble" his own WM model and to control its environmental performance according to emissions and costs
- Monitor, control and report GHG emissions from WM activities and calculate the GHG footprint of various WM technologies
- Facilitate the design of a GHG emissions abatement plan (Local Action Plan), through the optimization of the current WM practices.

pilot implementation – local action plans

The project will examine various waste management options in relation to their GHG emissions. This will enable the identification of procedures and practical tools for the development of Local Action Plans, which aim to reduce GHG emissions from WM activities. Each plan will set specific quantitative goals for GHG emissions reductions, will specify the means to attain them, as well as the relevant investments that need to take place, and will contain an appropriate monitoring program.