



Trends for compost production and application in the EU and the potential contribution of compost to tackle Climate Change

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Trends and perspectives in the EU

Recent years have seen a remarkable increase in the biological waste treatment in Europe. Looking ahead, we must assume that at least 32 % of urban waste and a large proportion of industrial waste - approximately 40 % of the total waste production in Europe - could be biologically treated via composting and anaerobic digestion. The final products from the treatment are usually used as soil improvers or as fertilisers. They have to meet environmental and market requirements which will lead to an improvement of the compost quality produced in Europe in the future.

Separate collection looks set to play a key role, in this respect, as a pre-requisite to ensure high quality of feedstocks for composing. Although in some Countries mixed MSW composting is still an option, it seems set to be progressively replaced by source separated organic waste; programmes for separate collection are being developed successfully across Europe, and they show viability in terms of operational and economic optimisation. The contribution also provides an overview of ongoing trends in this respect.

The growth of composting is being driven in Europe by different provisions coming from environmental policy and legislation:

- the Landfill Directive (99/31 CE) that mandates diversion of biodegradable

waste from landfill in order to cut uncaptured emissions of methane, attraction of pests, production of leachate, etc.

- the ongoing revision of the Waste Framework Directive, that is focusing on establishment of possible targets for recycling and mandatory programmes for separate collection of biowaste in various Member States
- the EU Soil Strategy, which includes depletion of organic matter in soils among the “threats” for soils, and considers the need for programmes to revert decline.
- The need to cut greenhouse gases, as e.g. considered in the European Climate Change Programme, which considers the potentially important role of soils to act as a “sink” of C, besides reducing emissions from production and application of fertilizers

Compost as a tool to optimize C management

The potential contribution of the agricultural sector to tackle climate change, widely neglected in the past, starts now being acknowledged.

The absorption potential of agricultural soils could contribute significantly to fulfilling the reduction objective of the EU, which is -8% between 2008 and 2012 from a 1990 base.

Many measures related to organic fertility of soils have been singled out by the WG agriculture of the European Climate Change Programme, among which

- “Mitigation potential of Nitrous Oxide emissions from agricultural soils” and
- “Sequestration potential of agricultural soils”

This might be properly tackled through a strategy aiming at proper reuse of composted organic waste. Actually, in addition to the measures listed above, many other possible side-effects of compost application may have some relevance, e.g.

- replacement of chemical fertilisers (implies avoidance of Greenhouse Gases and energy uptake related to their production)
- reduced use of pesticides (might imply avoiding emissions for their production),
- improved tilth and workability (might lead to less consumption of fuels) etc.

Also, some LCAs seem to show some intrinsic limitations related to criteria for accountability of effects (as far as e.g. C sequestration is concerned) which impairs a true assessment of the potentially powerful contribution of proper management of Biowaste.

The contribution singles out basic figures and (above all) strategic views for a preliminary assessment of the contribution of composting to tackle climate change issues, which, albeit affected by various uncertainties, cannot be neglected any more when it comes to environmental policy-making.