

## Questionnaire Green Waste Municipalities

NEWAPP is a research project founded by the European Commission under FP7 program, aiming to develop a new valorization pathway for wet biomass waste streams, such as the organic fraction of municipal waste, sewage sludge or other industrial biodegradable waste like waste from food industry, vegetable or agricultural waste, sludge from waste or wastewater treatment through HTC technology.



The HTC process converts wet biomass waste streams into carbon. Instead of releasing carbon dioxide into the atmosphere, the carbon biomass is completely transformed into a peat-like material. This carbon can be employed for instance for energy generation, or as a secondary raw material. Desired raw materials for the HTC process are, for instance, vegetable material, wood, green pruning, compostable waste, paper, pulp, or similar lignocellulose or cellulose substrates with a water content in the range of 30 to 90%. Other contents should be limited to up to 20%. We have identified green waste like garden prunings and forest residuals as a potentially interesting stream.

We seek your cooperation to characterize this waste stream at European level.

### Questionnaire

#### General data

1) Country

2) Name of municipality / region

3) Municipal area (km<sup>2</sup>) / inhabitants

4) Amount of green waste treated

tons/week

tons/year

5) Origin of green waste / prunings ( in %):

Private household / public park areas / forest exploitation / agriculture / industry

6) Other characteristics of the biodegradable waste:

a. Elementary composition if known (in %)

C                      O                      H                      N                      Metals

b. Average moisture content of the biomass waste streams (in %)

c. Higher heating value if known (MJ/kg)

d. Bulk density (kg/m<sup>3</sup>)

e. Contamination with plastics and other inorganic materials: Type and percentage

7) Type of collection

Separate collection:                      yes                      no

If not how do you collect?

Which frequency?                      daily                      weekly

Collection during all year?                      yes                      no

Do you observe significant seasonal variations of composition of waste stream?

Please indicate the seasonal distribution for collecting green waste [tons / month]

Jan / Feb / Mar / Apr / May / Jun / Jul / Aug / Sept / Oct / Nov / Dec

8) Current treatment system(s) of green waste

Composting                      Incineration                      Landfilling                      Other

9) Outputs of different treatment systems (in tons/y)

Compost

others (state which)

10) Treatment costs per ton of treated waste for the different treatment systems

11) Main problems/drawbacks of your current treatment systems

Thank you for your help.