Ref. no: 1-C	Project title	An Integrated Environmental Life Cycle Assessment and Life Cycle Costing Analysis of Agricultural Waste And Residue Based Bioethanol as an Alternative Transportation Fuel					
Name of legal entity	**Country**	**Proportion carried out by legal entity (%)**	**No of staff provided**	**Name of client**	**Origin of funding**	**Dates (start/end)**	**Name of consortium members, if any**
Sustainable Development and Cleaner Production Center (SDCPC)	Turkey	100	3	Bogazici University	Bogazici University, Scientific Research Projects	May 2009-June 2011	

Detailed description of project	**Type of services provided**
The objective of the study was to conduct an environmental and economic analysis of second generation bioethanol production fuel from lignocellulosic biomass using simultaneous saccharification and co- fermentation for conversion of cellulose to ethanol. The environmental and economic analysis was conducted using GaBi4 life cycle assessment (LCA) and life cycle costing (LCC) software with collected data from published literature. In the first part of the study, a comparative LCA study of bioethanol fuel and conventional gasoline (CG) considering an overall evaluation of the impacts of these fuel systems from production to combustion on the environment throughout their life cycle have been analyzed. In the second part of the study, environmental life cycle costing analysis (ELCC) for the same product group and system boundary was conducted in order to make an economic comparison between renewable bioethanol fuel and conventional gasoline. The cost data was taken from a fuel ethanol plant producing approximately 202×10^6 L bioethanol per year.	- Analysis of second generation bioethanol production fuel from various lignocellulosic feedstock - LCA comparison of bioethanol produced from different feedstock and with conventional petroleum-based gasoline - Cost analysis of bioethanol production from lignocellulosic biomass