OPENING SPEECH

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Tradition, Traditions, Traditions!! Now it is time for the fourth Kalmar Eco-tech, which started in 1997. The first theme of Kalmar Eco-tech was "Waste Management and the Environment". Today it is directed towards "Bioremediation and Leachate Treatment" and has the objective of sharing knowledge and information between the countries generally around the Baltic Sea, and also between researchers/teachers, engineers in companies/industries, city engineers and administrators dealing with environmental issues.

There is a worldwide increase in health problems due to contamination of the environment and foodstuffs. Groundwater and surface waters are easily contaminated by wastewater, stormwater and leachate from landfills and city dumps as well as by leakage from contaminated industrial areas, agricultural land and mining districts. One month ago, when I was travelling in Asia, I was reminded that millions or perhaps billions of people are dumping their waste directly into the rivers and lakes and the wastewater is usually discharged in the same way. This is not exceptional; in the majority of the countries of the world, waste and wastewater are handled improperly. According to the UN, just 1/3 of the population of the world will have enough water of suitable quality for drinking purposes in the year 2025. Do we in the Baltic Sea region need to bother about this warning from the UN? Will we have enough water of acceptable quality in the future?

The Baltic Sea is unique because is the largest brackish water body in the world, with a total area of 377,400 km^2, a little less than whole area of Sweden, and has a corresponding volume of 21 200 km^3. It is separated into five sub-basins: the Bothnian Bay, the Bothnian Sea, the Gulf of Finland, the Gulf of Riga and the Baltic Proper but usually the Danish Sounds and the Kattegat are considered as the sixth sub-basin. Nine countries share the shoreline of the Baltic Sea and its drainage basins encompass territories from 14 countries. The total basin area of 1,729,000 km^2 is four times that of Sweden, and the total population within this drainage area is 85 million people. The largest river, the Neva, has an annual mean flow of 2500m^3/s. The mean annual flow for the whole Baltic Basin is 485 km^3/yr. It is likely we create about 10 km^3 of wastewater per annum and probably about 30 million tons of municipal solid waste are produced. Industrial waste and wastewater, agricultural wastes and mining waste should be added to that figure.

How is the situation today? Have we reduced the contamination of the Baltic Sea since 1997 when the first ECO-tech was held? In Sweden, the total amount of waste going to landfills has been reduced by 30–40%. The number of landfills has decreased by approximately 30%. However, in many countries, the production of waste per capita is

still increasing. How do we stop that? We can see a lot of improvement in the form of new landfills, plants for treatment and reuse of hazardous waste, and wastewater treatment plants. The standard of teaching in environmental engineering has been improved, as has the awareness of the public. However, the number of old landfills in the Baltic Sea region is still 75,000–100,000 and, because they are poorly situated or poorly managed, they are emitting leachate, sometimes in considerable volume. There are also about 200,000–300,000 leaking oil and petrol tanks and numerous industrial areas that are polluting the environment. There is, therefore, a threat to the quality of our groundwater. We tend to believe that drinking water problems are something that occurs in other areas of the world, because the Baltic Region has lots of water, but nevertheless, our groundwater and surface water resources must be protected.

What have YOU done in order to improve the situation in the Baltic Sea area? We as researchers, teachers, engineers, practitioners, and administrators have an important role in the future remediation of landfills and treatment of wastewater or leachate. The experts around the Baltic must work together.

Future environmental engineering development must be based on the exchange of interdisciplinary knowledge, and mankind must be in focus, which means technology development must be good for man and cause no harm to nature.

Already Albert Einstein said: the problems of today cannot be solved by the same approach and thinking as when they were created. We are in great need of new approaches and thought about technology development and protection of nature. Here at Kalmar Eco-tech, we can create something together that will benefit us all. During this conference, we want to intensify the cooperation and the environmental work.

Last time we met, at ECO-TECH'01, Carolina Lindh was here, a youngster who made magic things with water. She told us not to forget the youngsters involved in environmental work. However, even younger children could be involved in environmental work and help with research. When mothers are carrying their babies and visit their doctors for the first time, they will receive environmental information. Later, nursery schools or pre-schools shall take part or what do you say Mrs Kennedy. The floor is yours!