

Session II: Promoting Local Industry

Protection of the Environment and its Promotional Effects on Economic Development and Revitalization in Nordrhein-Westfalen

Astrid Becker

NRW Japan K.K.

(Japan Office of the State of Nordrhein-Westfalen [NRW], Germany)



Nordrhein-Westfalen has already pursued for a few decades now the recovery of the environment and its further protection from pollution by promoting environmental technologies, introducing ecological and resource-efficient processes, enhancing waste collection and recycling, as well as improving the recovery of resources. Today, I would like to report on the roles and objectives of Nordrhein-Westfalen in these fields.

1 Overview of Nordrhein-Westfalen

Let me begin with a brief introduction to Nordrhein-Westfalen (NRW).

NRW is located in the western most part of Germany where bordering with The Netherlands and Belgium. With 18 million inhabitants and a GDP of 481 Billion Euro, NRW accounts for one fifth of the population and GDP of Germany and thus represents the biggest economic power of our country. Nevertheless, NRW is not well known in Japan for this fact, as it is more known for its capital Dusseldorf. Dusseldorf is home to the largest Japanese community in Europe at 7,000 strong. Almost 10,000 Japanese live in all of NRW. Over the past few decades, more than 500 Japanese companies have settled in and around Dusseldorf, providing employment to about 30,000 people. In short, this shows how important NRW is for Japanese businesses as a business location and

hub, and illustrates the significance of the Japanese business's engagement in NRW. It is well understood how important new developments in the rules and regulations regarding environmental policy in the European Union are for Japanese industry and their concerns are taken very seriously.

The source of Nordrhein-Westfalen's economic power dates back even before the establishment of the state in 1946, and it is mainly the result of the development of the Ruhr Industrial Area. For decades since, the Ruhr Industrial Area has functioned as an industrial and economical engine not only for Germany but also for the whole of Europe.

After World War II, this region contributed considerably to the recovery from the war and the creation of Germany's mesmerizing postwar industrial growth. However, this growth and development depended heavily on the coalmining and steel industries.

Nowadays, the service industries account for 70% of NRW's GDP, while the chemical industry and mechanical engineering remain the leading industrial sectors. Despite the structural problems that arose from such industrial concentration, rapid and concentrated industrial growth also provided an excellent basis for technological development and innovation. This potential has proven to be of benefit not only for big players of the heavy industry, but also for small and medium sized companies, who actually account

for 70 % of NRW's GDP and for 60% of its exports. The small and medium-sized companies in German provide, through their diversification, a very important fallback position in the event of a crisis in a certain industrial sector. Because of this, the government is very much concerned about promoting economic conditions for small and medium-sized companies.

2 The start of environmental protection

The area of technologies, systems and services related to the protection and recovery of the environment turned out to be in the long run a promising field for the promotion of small and medium-sized businesses.

After a period of rapid growth and development following WWII, NRW faced two severe challenges: first with the coal crisis of the late 1950s and early 1960s, and then again with the oil crisis in the beginning of the 1970s, both accompanied by steel crises. These crises led to a downturn of the steel, mining and related industries, and resulted in a rapid rise in unemployment, thus affecting society as a whole.

The downturn of the main industries of NRW forced the state to consider measures to counterbalance the rapid destabilization. Strategies for providing infrastructure more suitable for modern industries, better education and qualifications for workers and employees, and countermeasures against unemployment became necessary.

As industries withdrew from their production sites, the high price that had been paid for industrial prosperity became visible; many of the production sites and dumping sites used by industry were polluted beyond imagination and in a state that was neither suitable for the settlement of new industries nor private households.

Against this backdrop, the state decided, at the beginning of the 1970s, to take up measures of revitalization by investments in infrastructure, including the regeneration of polluted areas and living environments. For the first time, measures for industrial re-

talization were combined with ecological recovery and protection.

At the beginning of the 1970s, when the Club of Rome expressed the first warning of threatening shortages of physical resources, the concept of "Kreislaufwirtschaft" (Economy with a Closed Cycle of Resources) was first mentioned in Germany.

However, at that point in time, a combination of environmental recovery and economical recovery had yet to be looked at as a strategic idea.

3 Environmental protection and industrial revitalization

This approach of "both environmental protection and industrial development" became a political strategy only after reviewing the results of the measures in the early 1980s and the general public started becoming conscious of the need for environmental protection. This also led to new demand for solutions, systems and services to solve these problems.

In effect, environmental protection became an industry unto itself. New services were created first dealing with the disposal of waste and, later on, more and more with the prevention of waste.

The NRW State Government promotes a future-oriented policy of waste management based on the concept of sustainability. It combines ecological responsibility, economical feasibility and social acceptability. To this end, the classical approach to waste management has reached its limits. With regards to waste disposal, sustainable concepts have to take into consideration first efficient recycling and second environmentally-friendly treatment methods. Good results have been produced so far by applying coherent standards for thermal disposal and dumping. In addition to that, the management of closed-cycle use of resources is needed as a future-oriented style of waste management.

In order to achieve this, products themselves must be put more in the focus of attention. These new and innovative products require an integrated approach for

providing an environmentally-friendly lifecycle of products. This is the responsibility of the manufacturers.

On the other hand, we also have to pay more attention to the reusability of waste, which contributes to the protection of our natural resources. To that end, it is necessary to further promote technologies for the efficient recovery of resource materials from waste and develop the markets for such materials.

The separation of waste especially by households has proven to be an efficient tool towards the effective recovery of resource materials from waste. We now need to develop new methods to further improve the quality of such recovered materials in order to achieve more suitable substitutes for primary resources. Here, we see another possible field of enhanced activities by our small and medium-sized businesses.

Nowadays, legal provisions concerning waste management are generated more and more on the EU level, namely by the European Commission in Brussels.

It is important for NRW to actively influence and take part in the decision-making process of these legal provisions. NRW sees need for action especially in the areas of "clear directives for a distinction between waste and non-waste", "clear directives for the distinction between the reuse of waste and waste disposal" and "a clear definition of equal standards of recycling processes and their implementation".

Competition on equal terms can only be ensured if all parties fulfill equal requirements. It is the view of the NRW Government that a mere harmonization of environmental standards would not suffice to meet this precondition. The government sees the need to include equal environmental standards as well as a clear distinction between waste recycling and waste disposal in the proposed directives. It is our view in NRW that there exist many opportunities to support economic revitalization and job creation through the promotion and implementation of strategies for environmental protection. The government aims at making use of these opportunities, for example, through

ecological innovation in the environmental industry and in the field of alternative energy.

Many companies from Nordrhein-Westfalen are strongly represented in the global environmental product and technology market. The environmental sector by now counts as one of the major branches of industry. The same is true for the renewable energy sector. Many enterprises and businesses have become role models of a sustainable economy.

In NRW alone, there are 2,100 small and medium-sized enterprises that are engaged either directly or indirectly in the field of renewable energy. Their annual revenues amount to 3 billion euro. And, they employ upwards of 200,000 people. Moreover, among these companies, there are firms that have moved their focus away from mining technology to specialize in solar and biomass gas technologies. Furthermore, we expect a significant effect on the number of jobs in the machine and plant construction industries.

We are equally optimistic about the generation of electricity from biomass. Biomass, we believe, could become an important source of revenue for many farmers, who are currently depending, to a large degree, on incentives on the EU-level.

The shape and content of environmental politics have changed dramatically in the last few decades. The main focus point at the outset was to establish environmental standards and to create a minimum amount of protection, both for the environment and for human health. Today, we have progressed to strategies that avoid environmental harm by business activities from the start and at the same time take into consideration a sound basis for business.

We believe it necessary to increase the economic and ecological efficiency of our production processes, products and services, which should be done in a cooperative process between government and industry. We need to mobilize the innovative strengths available. By doing so, we can make decisive progress.

4 Roles of the efficiency agency

The rising prices of raw materials and energy on a global scale clearly show that we have to deal with this situation quickly and comprehensively. Only referring to new environmental strategies is not sufficient; we are in need of integrated concepts to promote innovation, to boost competitiveness and - last but surely not least - to create and safeguard jobs.

The scarcity of resources and thus the rising prices of raw materials are presenting a real challenge for companies. The problem is particularly grave in nations with few raw materials reserves and comparatively high labour costs - a situation equally relevant to Japan and Germany.

While many large companies have already made concerted efforts to improve their resource efficiency, small and medium-sized enterprises often do not have the necessary capacity available to do this. This is why, in 1998, the state of Nordrhein-Westfalen established the Effizienz-Agentur - or efficiency agency - as an institution to support small and medium-sized enterprises in the field of clean and resource-efficient production. We abbreviate this concept of the "integration of resource efficiency and environmental protection in products and their production process" with the acronym PIUS, short for "Produktionsintegrierter Umweltschutz". Please allow me to use the term PIUS in the following.

One of the key services the Effizienz-Agentur offers to small and medium-sized companies is the so-called PIUS check. What a PIUS check is, is a low-cost and easily accessible counselling and evaluation tool.

This is how it works. During a nine-day period, the environmental performance of the company's production processes is analyzed by an external adviser. The company is checked to assess its potential for optimizing processes and cost reductions. Having finished the check-up, a plan of action is drafted.

The measures that are implemented on the basis of the PIUS check range from simple organizational im-

provements to completely new production facilities. Approximately 350 PIUS Checks have been performed since the Effizienz-Agentur was established. Actions for improvement were implemented in 120 enterprises. As of July 2005, investments of approximately 19 million euro were made. In the meantime, annual savings of 4.7 million euro have been achieved by the enterprises. A significant part of these investments paid off already within two years.

The PIUS-Check concept is currently being tested in five Japanese companies and its transferability is being reviewed.

A new tool offered by the Effizienz-Agentur is currently being tested; it is called "resource-cost accounting". Based upon the existing internal cost accounting system of each company, resource-cost accounting facilitates cost transparency for all resource-related costs, and thus provides more options to tap potentials for savings.

As the next step, we are currently increasing our efforts beyond the production process and onto the product itself. The objective is a product-related approach to environmental protection - or an "Integrated Product Policy (IPP)" as it is referred to by the European Union. Therefore, beyond production processes, we also are considering aspects such as product development, the selection of materials, and the use, disposal and recycling phases of a product.

The Effizienz-Agentur is developing a consultancy tool for small and medium-sized enterprises that will enable companies to optimize product development processes while giving due consideration to ecological requirements.

5 Use of biomass energy

Besides saving resources and energy in production and consumption, power generation is a key issue for global development. In view of the limitations of our natural resources, it is clear that we have to promote alternatives to fossil fuels, particularly to petroleum, and to expedite the changeover to renewable energy

on a worldwide scale.

Due to the natural circumstances in NRW, the use of biomass plays an important role in our state. Today, on a global scale, biomass comes second only to hydro-electric power in terms of regenerative power production. Biomass represents a whole range of fuels and organic residues. This includes wood and unpolluted timber waste of any kind, farm waste such as straw or manure, energy-intensive plant or residues from food processing, and palm husk and coconut oils.

On a worldwide scale, biomass has the largest development potential for the future as it is a "universal energy" that is suitable for decentralised use and available everywhere. It offers itself for base load power generation, for cooking and heating purposes, and for use in the fuel sector. The Government of Nordrhein-Westfalen is going to increase the role of renewable energy in the next few years, and rely on the bio-energy sector to an even greater extent in the future.

Biogas plants are a very good example of the practical use of bio-energy. They work around the clock, and are extremely well suited for base load supply. Approximately 140 biogas plants are in operation in Nordrhein-Westfalen to date, and another 100 are currently being planned or under construction so that a total of approximately 240 plants will be in operation by early next year.

Due to improved emission technologies for private households as well, the use of wood for heating purposes has seen a real boom in the last few years, and is becoming even more attractive due to the rising oil prices. Indigenous wood is of particular importance for the heating market because of its technical usability, its sustainable availability and efficiency.

In the field of biofuels, Germany will very likely

be one of the few EU member states that will meet the standard set by the EU of a 2% share in overall fuel consumption by the end of 2005. The EU Commission' target is to increase this share to 5.75% by the year 2010.

Considering the current trends in the global energy market and the increasingly noticeable effects of climate change, Nordrhein-Westfalen is supporting an admixture obligation of 5% by 2010. With renewable energy, we are acquiring new sources of income for the agricultural and forestry industries and providing alternatives for oil and other finite resources.

6 Dialogue of business and environment

The government of Nordrhein-Westfalen is introducing a new initiative entitled "Dialogue of Business and Environment". The aim of this dialogue is to achieve agreements within industry concerning "the improvement of resource efficiency", "the strengthening of product- and production-integrated environmental protection (Cleaner Production)" and "the increase in energy efficiency".

Nordrhein-Westfalen is committed to securing the quality of life for its citizens and to making a significant contribution to global climate, resource and environmental protection. As an export-oriented industrial state, NRW is backing the use of environmental technology in order to achieve these goals. In this context, we aim at continuously developing the available know-how through international exchange.

The opportunities presented to our societies to adapt to the global challenges of our time are plenty - as are possible solutions. The government of NRW is convinced that, on a basis of international cooperation, we will be able to meet these challenges.