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KRAKOW TOWARDS A SUSTAINABLE URBAN LIFE

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INTRODUCTION

Krakow is Poland’s historic capital and is one of the country’s most important economic centres. As a cultural and academic centre, Krakow is second only to Warsaw. Over 1.2 million live within the urban area of which 740,000 live in the City of Krakow (including temporary habitants). The city is one of a kind -- the only large population centre not destroyed in World War II. Visitors are struck with how history and tradition intermingle with the move to a market economy and local democracy that have been under way following the collapse of communism. The city with its long traditions of education, commerce and culture is known as the capital of southern Poland.

CURRENT SITUATION, TRENDS AND PROBLEMS

In Poland’s move to a more market-oriented economy and more of a more democratic society since 1989, five trends have been evident in shaping consumption patterns. These must be taken into account and responded to by local municipalities, such as the City of Kraków, which are committed to encouraging local initiatives towards sustainability. The five trends are: (1) strengthening of local governance; (2) ageing populations coupled with a decline in household size; (3) growing private sector coupled with growing disposable income; (4) increasing availability, affordability and sophistication of consumer products; (5) slow spread of public awareness of the environmental impacts of consumer behaviour and products.

Strengthening of local governance

Institutional reforms in Poland begun in 1989 led to the creation of Local Self-government as a second tier of government with enactment of the Local Government Act (1990). According to that act the Prime Minister, the Voivode, and Regional Audit Chamber oversee the performance of municipal government. The City remains autonomous in land use planning, water and sewage, waste disposal and collection, schools, basic health care services, public transport and has shared responsibility for heating.

Thus Krakow City Administration (UMK) known as City Hall was created in 1990. The Chief Executive Officer of the City Hall is the Mayor of the City who is supported by the City Secretary, the City Treasurer and the Director of City Hall. Krakow’s Local Government has adopted the principle that the most effective way of managing the city is to separate political debate from the day-to-day concerns and professional management at City Hall. Applying this principle a new division of responsibilities arises: the City Council, comprising 75 Councillors, adopts the main regulatory Acts of the City’s activities and development, the City Board determines detailed action plans and assesses the results achieved whereas the City Hall administration is responsible for implementation. The trend is towards increasing the jurisdiction of local government at the national level, whereas City Government is seeking ways to empower and engage stakeholder in the development process and residents in city management and planning, through such initiatives as the creation of District Councils, Local Investment Initiatives program, and public information and communication campaigns.

Ageing population and declining household size
Krakow’s population in 1996 numbers 740,000 residents (inclusive 392,000 males and 348,000 females), who together make up 1.9% of the Polish population and 59% of the Krakow Voivodship population. Density is 2,266 persons per sq. km which approximates the national average in urban areas. Krakow’s natural population increase is negative, 1.37/o/o and has been falling since 1993. Live births numbered 6,258 in 1995 and deaths numbered 7,277. Number of households is estimated at 270,000 with an average household size of 2.7 which compares to the national average of 3.23 (1995). Household size is decreasing on account of an ageing population in Krakow. The proportion of retired has increased by 21% since 1988 whereas the proportion of young people of non-working age has decreased by 10% over the same time period.

Growing private sector coupled with growing disposable income

There are approx. 75,000 companies registered in Krakow. Put another way, the City concentrates 80-85% of the economic capability of the Voivodship. The trend towards privatisation of the state or public sector is comparable to the national average. Unemployment in the years 1992-95 was much lower that the national average and amounted to 6.9% as of the end of 1995 when the national average was 14.8%. Women constitute 58.8% of Krakow’s unemployed. In 1996, Krakow unemployment fell to 5.4% (national average -fell to 13.6%). In Krakow, consumer spending increased over the past three years by 7% -- in line with the national average.

Growing availability, affordability and sophistication of consumer products

The number of telephones is growing rapidly. In 1996, there were 32 for every 100 residents in comparison with 1993 when the comparable figure was only 20. The number of registered vehicles in Krakow now exceeds 230,000 or 316 motor cars per 1000 residents. The trend has been to greater availability of consumer products. By 1996, there were 14,582 retail outlets in Krakow -- almost all in private ownership. This is sixfold increase in the number of shops since 1987. There are 36 markets and a growing number of shopping centres -- with three major shopping centres opened in 1996. Greater product availability has been matched by a growing product sophistication. For instance computers and cellular telephones have become not just tools but also symbols of fast-approaching consumption-oriented high-tech world. Moreover, growing affordability is accelerating consumer spending.

Slow spread of public awareness of the environmental impacts of consumer behaviour

Signs that public awareness and interest in the environmental impacts of new patterns of consumer behaviour and products are sporadic and making themselves known only slowly. Environmental considerations in understanding and responding to consumer patterns are in general low, even though newly created environmental non-governmental organisations have campaigned for greater awareness of bicycles as alternatives to the car in city transport, waste and water use reduction, as well as to raise awareness of the environmental impacts of household activities through the Local Agenda 21 Ecoteam program or packaging as a consideration in shopping. As yet many of the initiatives of local government, often undertaken in partnership with NGOs have limited impact.

Conclusions
Patterns of household consumption and consumer behaviour influence the environmental effects of not just households themselves, but the broader economy. The importance of the household sector lies in its demand for resources, the waste generated by consumption of those resources and its capacity to influence industrial and commercial activities through its spending power. This influence results from the exercise of consumer choice, either in increased demand for perceived ‘environmentally-friendly’ products or in the avoidance of less ‘friendly’ products or manufacturers. In Krakow, consumer patterns have been distorted by heavy state subsidies on housing, transport and household fuels, but as these are reduced or removed, the proportion spent on essentials, especially on housing, will increase significantly. Growth in household numbers has been constrained by economic factors -- and there remains a substantial underlying demand for more land, water and energy for consumption by households.

NEW PLANNING PRACTICES AND INITIATIVES

Present situation

The Land Use Planning Act of 1994 mandated the input of residents and affected parties in the formulation of environmental and land use planning policies, regulations and procedures. All urban land use plans -- such as those developed in Kraków -- must include an assessment of environmental impact. Once completed, plans have to be ‘laid out’ for 3 weeks for public review. All public comments and recommendations raised by the public during the plan preparation process must be addressed by the City Council. If the Council rejects an individual recommendation, the petitioning party may contest the decision in the Administrative Court.

Initiatives

A Socio-Economic Development Strategy has been prepared to consolidate and systematize activities related to city development undertaken since 1990, including three sets of policy and regulatory documents prepared by the City Board and adopted by City Council. These included:

(a) The Policy of Physical Development and the Environmental Protection (1994) - a set of policies including European standards concerning e.g. land use, environmental standards, building regulations, such as ventilation;

(b) Land Use Plan for the City of Krakow (1994) including zoning of land uses and policies, such as: transportation, ventilation, heritage conservation etc.


City residents were able to participate in the process of formulation of city development policies in a variety of ways. During 1993 and 1994 the Policy of Physical Development and Environmental Protection, along with the Land Use Plan were subjected to wide-ranging consultation with professional associations and District Councils. The process
of ‘laying out’ the Land Use Plan for public input elicited approx. 3,000 proposed changes and amendments. All these proposals were assessed on a case-by-case basis.

The 5-Year Development Plans consist of key programmes and planning documents as: 5-Year and 1-Year Socio-Economic Development Plans, as well as Financial and Capital Improvement Programmes. These two documents form the basis for City development policy over the coming five years, specifying municipal investments and priorities for activities aimed at improving living standards. The influence of municipal government is growing in terms of jurisdiction, becoming one of the major investors in municipal infrastructure with a growing annual budget. The process to develop and adopt the policies, as well as the documents themselves form not only the basis for action planning for the City administration, but also inform City residents as to the direction of development activities. Moreover, the documents promote key sites and sectors for development by drawing attention to them.

Conclusions

The Socio-economic development strategy redefines the role of municipal government in the development process and by extension its impact on consumer behaviour and patterns. The strategy represents a move from a top-down prescriptive planning that dominated the post-war communist period to a transactive or negotiated type of planning that sets out to define priorities and actions by working with socio-economic trends. In land use terms, this means moving away from a city structured by effects of “socialistic” planning characterized by huge high-rise housing estates surrounding the historic centre by promoting new single family housing estates, greater social differentiation and infilling of derelict or vacant land. Evidence that a land and housing market is now beginning to influence allocation of resources is accumulating as wealthier families start to escape from high-rise housing blocks to live in single family dwellings. This process is however very slow leading to social differentiation among city districts that is still not comparable to Western European cities. City government is seeking ways to ensure that the process takes place in a balanced, efficient and equitable way through becoming an active participant in the land and housing markets.

HOUSING PROVISION AND POLICIES

Present situation

The City of Krakow’s urban area covers 326.8 sq. km. Residential space per person which was 16.8 sq. m. in 1990 and 18.0 sq. m. in 1995. The number of persons per room fell from 0.99 in 1990 to 0.93 in 1995. The trend is towards investment in housing development with an emphasis on single family dwellings. This is reflected in the issue of building permits. In 1996, the City sold or leased 116 ha. of land as part of a privatisation strategy. Only 4 ha. were bought by the City for the purposes of consolidation of land for development purposes. Krakow City’s housing needs are enormous: approximately 30,000 families have no self-contained dwelling and several thousand families live in sub-standard housing. Unfortunately there is also too small provision of housing. The main barriers of housing development are high interest rates that inhibit the use of mortgage loans, and a shortage of development land with infrastructure (roads, water, sewage). City development strategy is oriented to increasing the efficiency of land markets through promotion of an orderly development focused on the densification of land use, infilling derelict or empty areas left over from the ‘centralistic’ planning of past decades.
Housing resources of the Krakow Municipality (as of 31.12.1996) amounted to 40,091 dwelling units. 18,398 units or 31.5% were bought by the renters but due to lack of effective action to consolidate private ownership, a many as 86% of dwellings still belong to municipal residential associations. Only 50 Associations are independent from the municipal administration. Aside from buildings owned by Municipality or Associations, there are buildings owned by private individuals or ones where the owner is unknown or uninterested in administration.

**Initiatives**

A national policy on rental housing introduced in 1997 is a new initiative aimed at promoting construction of low cost rental housing for low income families. The Social Housing Associations (TBS) built housing from their own resources with support from the National Housing Fund. A residential unit built by a TBS cannot be purchased by the renter and must always remain as rental accommodation. This is consistent with the City of Krakow’s policy aimed at increasing the rental housing stock. As TBS form an entirely new instrument it is very difficult to evaluate the result of that policy.

Another national policy on removal of barriers to infrastructure development was introduced in 1996 entitled ‘Grants from the National Budget for Infrastructure Development for Residential Housing Projects’. The annual grant for infrastructure development for housing undertaken by the municipality is set on the basis of negotiations with the Voivode.

To increase the municipal housing stock, the municipality signed agreements with five Housing Associations to build housing. In this way, 45 new dwellings will be available in 1996/7 (1996 - 9 dwellings). In 1996, the City secured a total of 401 dwelling units, of which 124 were newly constructed and 277 were refurbished dwellings. Plans for 1997 foresee an increase in the municipal housing stock by 138 units through new investments, purchase and renovation.

The inadequacy of national policies in solving housing problems in Poland encouraged the City Council of Krakow to launch a program of Local Housing Initiatives (LIM). The objective is to create a system of co-financing of public-private high density housing projects. The City supply of initiative provides a way of reducing the total cost of a project and has succeeded in generating competition among private developers for municipal co-financing.

**Conclusions**

The land and housing markets are developing slowly. Municipal initiatives of direct investment in housing, innovative arrangements for co-financing through LIM, and favouring infill over outward expansion are all contributing to strengthening land and housing markets. The process is being undermined by continued interest at the national level in state control of land markets as opposed to developing frameworks for regulating them. Yet fewer resources are available from central government. In Kraków, the growing role of municipal government as an active player in creating and participating in housing and land markets offers a way of moving away from the impasse of national commitments to state-financing of housing development. Local governance has to become increasingly results driven as citizens have become increasingly involved in various parts of the priority-setting, formulation,
implementation and evaluation components of the planning process. This is why the City of Krakow has had to be innovative and initiative-taking in developing public-private arrangements and working with emerging land and real estate markets for housing and other developments.

INSTITUTIONAL STRUCTURE AND COMMUNITY INVOLVEMENT

Present situation

The Krakow City Government is committed to open government in which public consultation plays a key role in ensuring effective governance. This means that the Krakow community must be kept informed about planned activities and solutions to problems, as well as relevant constraints. Those affected or potentially affected by municipal decision-making should have the opportunity to express their views to the City Council and Board with regard to the proposed activities as these are prepared by the City Administration. An important instrument for ensuring systematic and strategic community involvement was created in 1991. In Krakow auxiliary governing bodies were introduced in the form of 18 districts. The districts are to activate the local communities and make it possible for wider circles of citizens to participate in city management. District Councils and their Executive Boards make recommendations on proposed local governmental regulations, local development plans, capital improvement proposals. Every year each district is allocated funds from the city budget for District-initiated investment activities. The District Councils have also been granted powers to decide on proposals for roads and schools within their areas.

Initiatives

To ensure effective communication between the municipality and local residents, the city authorities make use of several information-dissemination instruments, including: the ‘Krakow’s Home Newspaper’. It appears three times a year and is delivered free of charge to every family in Krakow with the aim of presenting municipal activities to residents. The Newspaper is apolitical in character and contains important contact information. The Newspaper provides also a forum for comments and criticism of the work of the municipal administration and the strategic initiatives of the City Council and Board. In 1996 three issues of the Newspaper were published with a print-run of 250,000 each. The Newspaper was used to present key issues to Krakow residents, including the issue of municipal bonds, the Socio-economic plan for the years 1996-2000, housing policy, the Krakow 2000 Festival, the basis for the 1997 municipal budget, regulation of prices of municipal services, municipal investments planned for 1997 and subsequent years. The municipal government strives to keep Krakow residents informed on an ongoing basis of important developments.

In 1996, the Information Office together with relevant City Hall Departments and Cracovian non-governmental organisations undertook four public information campaigns concerning School Boards, Housing Co-operatives, Municipal Services - Heating, and Drug Prevention. These campaigns were designed as part of a broader public consultation program relating to the Socio-economic Plan for Krakow to the year 2000. An important outcome of the campaign was the development of linkages with non-governmental organisations based on
partnership with respect to information dissemination and substantive content of the campaigns. An important instrument in public consultation are the District Newsletters. There are 17 of these and each is funded in part from municipal funds earmarked for priority action. This arrangement helps the District Councils to reach citizens and elicit comments on various project proposals to be funded from funds available to the District Council.

In 1994, the City Council introduced the Local Investment Initiatives (LII) program as a way of engaging local residents more directly in defining and implementing municipal investment decisions. The Program aims to promote individual infrastructure and environmental investments at the scale of city districts with co-financing from the municipal budget, municipally-owned companies, the Municipal Fund for Environmental Protection and Water Management. Investment initiatives are undertaken on the basis of proposals and programs developed by Community Based Organisations (CBOs). The LII initiative is very popular. Many CBOs apply to obtain co-financing of the City. The demand is so high that the City Hall had to establish a precise computerised system of evaluation and selection of supported projects. The results were very positive on both sides: better living standard for habitants of districts and improvement of environmental conditions for whole city population.

Conclusions

The reform of municipal government -- its institutional structure and operations -- have been driven by a need to reach out to the public in a more direct way for the purposes of identifying priorities for action and eliciting a constituency of public support for implementation of investment and development projects. In the past, the municipal government was in large part a conduit for national level planning and investment. The tensions created by the system of District Councils -- each with its own priorities -- the involvement of various interest or stakeholder groups in planning processes have helped to promote a more ‘negotiating’ style of governance. The City Government has strived to raise the level or quality of debate by entering into a large scale campaign of information and communication. It is worth noting that these processes result from the increasing inability of national government to provide funding to meet local needs, to formulate legislative and regulation initiatives that respond to local circumstances, and to help in the creation of public-private institutional arrangements for economic development at the local level. The onus is increasingly on local government.

TOWARDS SUSTAINABLE URBAN TRANSPORT

Present situation

City growth coupled with rising numbers of registered vehicles (53,000 new vehicles registered in 1996), greater mobility of their owners and years of neglect in road maintenance have made road and public transport one of the most difficult challenges facing Krakow. The City Government is striving to influence consumer patterns in the field of transportation services by consolidating responsibility and providing a long term vision for future transportation systems in the context of the socio-economic strategy.

Initiatives
In order to influence the development of transportation patterns, the City adopted a Transportation Strategy in 1993 focused on balancing private and public transportation and a more active traffic management. The key strategy is to promote public transport (financial regulations/information and training) and construction of a fast-tram system. Other instruments of the transportation strategy are: implementation of car-free zones and limited parking time zones, construction of major city by-pass roads, development of bicycle paths.

The objective of public transport development is to raise service quality so as to outcompete individual transport where possible. Action has been undertaken to substitute public transport for individual cars through enforcement of limited traffic zones. The City subsidises the operational cost of public transport at approximately 30%. Besides the City investment in new tracks and rolling stock and in improvement of tram tracks constitute an important part of the city budget. The most important initiative in public transport domain is creating a new tramway line of higher standard - the Fast Tram. The Fast Tram service will be extended from the North to the South of the City, linking huge housing estates to each other, as well as to the commercial City centre (with the main railway station) and strategic development zones designated by the City. The City Government has succeeded in negotiating a long term loan of approximately $40M for the project from the European Bank for Reconstruction and Development (EBRD). It is anticipated that the tram system will become the most popular mean of public transport and a centre-piece of a public mass-transit system.

An important objective is to develop transportation infrastructure in order to release the city from intense transit traffic, especially along its east-west axis; to assure accessibility to economic development zones, rail and bus terminals and a park and ride system; to link city districts outside the city centre and expand public transit services to serve all parts of the city. Transportation infrastructure investment in 1996 increased by 30% over 1995. Maintenance of the street network was supplemented also by extension and construction work of 150,000 sq. m of road surface or 15% more than in 1995 and capital renovation of approx. 4 km of roads. The City is developing a system of bicycle paths so as to allow all those who are keen to do so to use bicycles safely. Yet the City plans for new transit and roads construction are confronted with strong opposition from local residents’ groups. Public participation and involvement are being increased to counter act the Not In My Back Yard response so as to assess local objections in the context of city-wide benefits and costs. The process is being increasingly seen by city planners as a way of communicating city development objectives and a program of public education.

Conclusions

Transportation is a key challenge for Kraków. Current trends and patterns favour growth in private car use. Numbers are increasing and use patterns are intensifying. The result is growing pressure for road improvement and new construction. To work against an imbalance of the transportation system, the need is to develop a transportation system based around public mass transit that can counteract as far as possible the expansion of private car use. Thus the priority of City Government is to focus on public transport development through investment, regulation and information and communication. The negotiation or transactive approach to planning adopted by Kraków City Government has led to wider public and community involvement and to the emergence of a mechanism for debating and taking decisions on the balancing of private and public interests that manifest themselves through the Not in My Backyard Syndrome in many development projects. In the past, local opposition would not have been taken seriously and was typically not tolerated at all. Today, it forms part
of a mechanism of checks and balances, as well as an opportunity for public debate and education.

**CONSUMERS AND WASTE**

**Present Situation**

The Local Government is responsible for systematic removal, disposal and recovery of municipal waste. Presently, the system comprises:

1. waste collection of solid waste by the Municipal Waste Company (MPO) and other private companies;
2. disposal of waste in the Barycz landfill (currently 9 ha);
3. since 1994 separation of waste in street containers and transferring separated wastes to companies dealing with recycled materials or directly to producers.

In 1996, almost all Krakow’s solid waste was disposed in the Barycz landfill -- 182,000 Mg of which only 282 Mg was reused. A further 15,200 Mg of sludge was disposed in the P aszów Sewage Treatment Plant and approximately 700 Mg (only 11%) were incinerated in the sanitary waste incinerator. An important challenge is also the storage and disposal of industrial waste which are generated in four sites.

**Initiatives**

Work to improve the conditions of Barycz landfill have been under way since 1993. The second phase of degasification has been recently completed and the landfill has been prepared for energy utilisation. A green belt has been constituted to isolate the second stage of landfill development. Five farms have been expropriated from the buffer zone. A systematic environmental monitoring system has been introduced around the landfill focusing on surface and groundwater, air, as well as microbiological and gas soil parameters. Detailed materials and financial plan for further use of the Barycz landfill has also been prepared which foresees expansion in the westerly direction (Phase 3).

To influence the disposal of products, the City Council has sought to privatize the waste collection and disposal system and to place greater responsibility on waste producers, including residents. Since 1994, an Environmental Protection and Cleanliness Regulation has obliged residents to dispose of domestic waste with a private or public contractor. Tariffs introduced after 1990 provide for self-financing of the Municipal Waste Company and have met with public acceptance. However assessments still indicate that there are at least 50 wild waste dumps in the city and enforcement must be improved (coercive measure). In 1996, only 12% of residents were involved in waste separation program. It results in reduction of 2% of quantity of solid waste disposed at the landfill. Plans are in place to increase this proportion through information and education activities combined with subsidies to waste management contractors from the Municipal Fund for Environmental Protection and Water Management.

**Conclusions**
Development over the next few years will likely lead to increases in waste generated. At the same time, it is more and more difficult to dispose of waste in landfills as new sites are opposed by local populations. For these reasons, the basic objectives of the Local Government with respect to waste management is (1) to minimise the detrimental impacts of the Barycz landfill on both environment and local populations through land reclamation and other related mitigating measures, establishment of a buffer zone, and environmental monitoring activities; (2) to develop a waste management system which would include composting and incineration; (3) to reduce the amount of waste through retrieval of recyclable resources through expansion of the waste segregation program; (4) to eliminate illegal waste dumps, as well as the conditions which cause their appearance; (5) to interest the community in working to improve environmental conditions. As with transportation, the conflicts over waste disposal at the Barycz Landfill are being increasingly recognized by City Government as part of a system of checks and balances and opportunities for public education.

DOMESTIC ENERGY AND WATER CONSUMPTION

Present situation

The water supply system satisfies current needs and the overall trend for water consumption is a declining one. Drinking water quality has been stabilized after decline in previous years. Water is supplied from four sources - the Sanka 24,000 cu. m), Rudawa (60,000 cu. m), D ubnia (45,000 cu. m) and Raba (180,000 cu. m) rivers. The last is the most important. An additional source were 15 wells providing groundwater resources. In 1996, the daily average water consumption was 173,000 cu. m. as compared to 189,500 cu m in 1995. Water prices since 1995 to 1996 increased about 50% for household and about 150% for industrial users. Although price increase has been substantial, they have been accepted on account of growing of disposable income of residents.

Modernisation of the sewage and water treatment system is under way. In 1996, the total sewage effluent was 112,321,000 cu. m annually with only 60,898,000 cu. m treated mechanically and 749,000 cu. m treated biologically. Untreated or inappropriately treated sewage amounts to 111,572,000 cu. m annually. A growing threat to water resources is pollution and eutrophication of the Dobczyce Reservoir which is the main water supply for Krakow.

Domestic heating energy needs have remained roughly stable over the past three years -- approximately 2,801 MW / year of the total 3,100 MW / year of total supply capacity. The main sources of energy production were the Krakow Power Plant in g (78.6% in 1996) and the Skawina Power Plant (19.2% in 1996) both of which have excess production capacity.

Electricity and gas consumption is increasing and needs are being met. In 1996, electricity consumption amounted to 2,656,558 Mwh (2,557,737 Mwh in 1995) of which 579,076 Mwh was consumed by households. There were 301,698 users which included 240,091 households.

Sulphur dioxide and particulate emissions are the two main types of air pollution and responsible for smog alarms. Over the past two years, air quality has improved significantly with no smog alarms -- yet Krakow remains the most polluted among cities of 100,000 or more in terms of particulate emissions (16.4 thousand Mg) and gaseous emissions (185
thousand Mg) and the fourth most polluted in terms of sulphur dioxide emissions (31.8 thousand Mg). The proportion of particulate emissions has been increasing from year to year.

**Initiatives**

With the Socio-economic strategy as a framework for action, the City is formulating specific measures for influencing consumer patterns with respect to domestic energy and water consumption using a combination of four methods: coercive measures, financial regulations, information and training, and institutional instruments (with investment). The City influences the reduction of amounts of products and resources that are used. By promoting market-oriented approaches to provision of municipal services in domestic energy and water supply, the City has influenced changes in energy and water demand. On April 1, 1996 water prices for domestic users rose by 29.9% and by 18.8% for industrial users with water introduction and promotion of water metering (financial measures). An information and education campaign has been associated with the introduction of a new pricing policy (information and education). The development of the Association of the Local Governments of the Lower Raba Drainage Basin to protect water quality of the Raba Reservoir is an institutional measure and improving enforcement of water standards is also now being strengthened to complement the picture (coercive measure). With respect to energy, higher prices have been combined with an Energy Saving Campaign launched in 1996 and implemented with the Polish Ecological Club and Local Media.

An Energy Conversion Program encourages residents to lower emission by converting small coal boiler houses and coal heated stoves into gas boilers or district heating. The City co-financed the conversion through the Local Government Environmental Fund. Within this program approx. 3,250 stoves and 30 coal boiler houses were converted during 1996.

With responsibility for school management, the City Government has supported environmental education programs promoting awareness and encouraging an interest a non-conventional problem-solving among young people through competitions, conferences, workshops, and co-operation with housing co-operatives and District Councils. Another initiative seeking to open the decision-making process to unconventional problem-solving was the initiation of a Green Roundtable in 1996 as a forum for open discussions and exchange between different levels of governments, NGOs, universities and business representatives. The media now routinely inform about the Green Roundtable meetings and on the issues discussed.

**Conclusions**

Significant reductions in air emissions have been achieved thanks to retrofitting and process changes in large industrial plants, especially the Sendzimir Steel Works which reduced production by 17% and emissions by 27%. The Nowa Huta Cement Works decreased its emissions by 23% thanks to installation of scrubbers and modernization. The Krakow Power Plant -- the third largest polluter -- also decreased emissions by 19%. As a result, 1996 was the first year in which total air emissions decreased. Whereas there are decreases in point source air pollution, traffic-related emissions are increasing along the main transportation corridors of the city. Nitrogen oxides are now estimated at being above 32 tons annually per km of road, with carbon monoxide at 500 - 850 tons annually per sq. km and lead at 0.15 - 0.2 tons annually per sq. km.
GENERAL CONCLUSIONS

Experience from Krakow shows that encouraging local initiatives toward sustainable consumption patterns requires municipal government to take an active role through strategic planning to identify needs and priorities, economic instruments to influence trends and democratic decision-making to assure ongoing assessment and a constituency of public support.

With respect to strategic planning, Kraków experience shows that the development of a consolidated and systematic approach to development planning embodied in the Socio-economic Development Strategy once coupled with investment programming and priority-setting provides an effective framework for local governance. The Strategy has helped to focus political and public debate over the practical difficulties of balancing private and public interests and allocated scarce resources. Economic instruments where they have been applied have shown the power of the City participating in the emerging market economy as both a creative element and an active player. A strategic approach to water, transport and waste management pricing driven by a demand-management approach has shown itself to have been effective --- much more so than the supply-management approaches that characterized the ‘centralistic’ planning of the communist period. The move from a top-down prescriptive planning to a transactive or negotiated planning forced on the City Government by national legislation, increasing local jurisdiction but lower funding allocations have combined to promote innovation in democratizing decision-making. Opening up government through the District Council system and creating systematic and ongoing opportunities for citizen and community participation has provided a potential mechanism for re-orienting conflicts among stakeholder and objections of local residents to overcome barriers to development in transportation and waste management investments by treating private versus public interest conflicts in the wider context of costs and benefits for city development.

Despite the successes achieved to date, City Government is still constrained by institutional, economic and political factors in exercising a more active role in strategic planning, the use of economic instruments and in promoting democratic decision-making. The instruments in each of the three areas currently at the disposal of City Government remain limited. Institutional constraints include limits on the revenue generating capacity of local government coupled with decreasing grants and other funds available from national government.

Economic constraints relate to the fact that key sectors of the municipal economy, such as the energy, remain beyond the influence of City Government. Energy prices are set nationally and so local government has little opportunity to influence energy consumption patterns which remain an influential part of the local economy. An important constraint for democratizing decision-making continues to be the legacy of a top-down prescriptive planning and management of the past that did not prepare planners, politicians and citizens to interact and ‘negotiate’ priorities and action planning. The emerging non-governmental sector has proven too often be more interested in protest than constructive dialogue, whereas city planners have too often seen dealing with the public as a barrier or constraint as opposed to an opportunity to improve planning and implementation. The emerging business sector has focused too often on promoting private-self interest, too often taking advantage of the weakness of regulations and lack of information, at the expense of the public interest.
How to overcome the lack of experience, economic incentive and institutional arrangements for cross-sector partnership approaches that must constitute the basis for effective and equitable encouragement of local initiatives for sustainable consumption patterns remains a key challenge for the future. The prospects of further strengthening of local government and proposed introduction of a new tier of regional governance in Poland offers the opportunity of meeting some of these challenges. The promised reforms would have to be undertaken in such a way that the various options are assessed, at least in part, in terms of effectiveness of promoting sustainable consumer patterns at the municipal level. Indeed, the Kraków experience documented in annual State of the City reports offers a basis for evaluating and monitoring the changing role and potential of local government in encouraging more environmentally sustainable consumer patterns of behaviour.