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**The role of renewable energy in the Spatial
Plan of the Republic of Serbia (2010):
implementation aspects**

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The key motif

To get better insight into the key open issues of strategic thinking, research and governance in Serbia, now in collapse for more than two decades:

- Generally, why all strategic development schemes in Serbia failed in crucial aspects?**
- Specifically, has there been any lesson to draw from that with regard to the most recent strategic commitments on the utilization of renewable energy?**

Two attempts to redirect and control spatial development of Serbia by means of national spatial plans (1996 and 2010)

- **The Plan from 1996: to act as “more than a plan”, that is, to introduce necessary changes in the legislative framework of planning and other governance instruments, in order to depart from the system of socialist ideological and political monopoly towards post-socialist market-oriented system (although not always explicated in this way)**

The issue of **renewable energy generation and consumption treated in an indirect and less explicit way**

- **The Plan from 2010: to integrate various sector approaches into a common strategic framework, in accord with the current discourse on sustainable spatial development and new European „spatial planning” (also not always explicated in this way), also comprising macro and regional spatial aspects**

The issue of **renewable energy generation and consumption treated directly, by defining strategic spatial framework for its implementation and realization**

Sustainable energy and related issues in the Plan of 1996: very ambitious goals

Further exploitation of lignite (open mining), a rise in the production of petroleum and natural gas (better utilization of existing deposits and activating new deposits), primarily through concessions to foreign investors, a further research for the extraction of oil shale.

Considerably more intensive utilization of new and renewable energy sources (esp. after 2000), primarily for the satisfaction of low temperature heating needs, with the view to save nonrenewable sources – priorities:

- **Development of small centralized heating supply systems (geothermal energy, biomass, and agricultural cellulose waste)**
- **Production of biogas/bio-fuel on livestock farms**
- **Utilization of solar energy and wind energy**
- **Utilization energy from municipal and industrial waste**
- **Other ecologically friendly utilization**
- **Rational use and save of energy**

Development of modern district heating (combined production of heat and electricity in cogeneration plants, via the utilization of waste heat from industry and conventional energy generation), in the first place in large cities

The utilization of natural gas in conjunction with the district heating systems

Systematic repairing of negative environmental impacts of energy generation and consumption (replanting/biological revitalization, removing ecological damage, etc.)

Programmed and organized relocation of population in the open cast lignite utilization areas

Predicted further rise of power consumption, to reach 42,067 GWh, at an annual average growth rate of more than 2.5% in the period till 2010

Planned construction of new fossil-fuelled plants: 700 MW till 2010

Planned construction of new hydroelectric power plants till 2010: 250 MW

Appropriate upgrading and construction of transmission and transport networks

Implementation of the Plan from 1996

- **Poor implementation and realization of the 1996 Plan, as a result of **exogenous factors** (viz., international isolation, sanctions, NATO bombardment, etc.) and **endogenous factors** (lack of resources, lack of institutional and organizational arrangements for development, collapse of strategic thinking, research and governance, absence of political will to implement the adopted strategic decisions, etc.)**
- **No major energy plant constructed in the meantime**
- **Among the European countries with lowest share of renewable energy in the energy production and consumption structure (2008)**
- **Among the European countries with the poorest sustainability rate and energy efficiency (2008)**
- **A constant gap between energy consumption and energy generation**

Current positive and negative moments

Positive moments:

- Introducing European legislature and practices regarding rational energy utilization, energy efficiency and the utilization of renewable sources
- Integrating Serbia in pan-European and South-east European energy development documents, schemes and networks
- Predictably high domestic and international demand for energy from renewable sources

Negative moments:

- Basic dependence on the utilization of lignite coal for generating energy and consequent environmental pollution and depletion of agricultural lands of high quality (Kolubara Lignite Basin, Kostolac Lignite Basin, etc.)
- Lack of appropriate institutional and organizational adjustments for new development cycle: obsession with agencies and similar regulatory institutions, to the neglect of other institutional and organizational forms (development corporations, cooperatives, territorial associations, etc.)
- The utmost imperative of new employment – almost „at any ecological cost” – vis-à-vis the strategic general principles and criteria of sustainability, esp. regarding the utilization of renewable energy sources, being a typical **innovation-and-redistribution issue**

The Plan from 2010: general development vision, optimism and enthusiasm

“In the future Serbia should be territorially defined and regionally well balanced, competitive, socially coherent and stable with sustainable economic growth, proper infrastructure and good transport accessibility, preservation and protection of natural and cultural heritage, enhanced environment and functionally integrated with neighboring countries and regions”.

Very ambitious implementation Program (2011), and a lack of effective policies for the realization of multi-billion € development package, pending to be worked out in necessary details

Sustainable energy and related issues in the Plan of 2010 and open question of their implementation

Sustainable spatial development, and sector development within the defined spatial strategic framework, to better protect and preserve natural and cultural heritage, among other key commitments, decomposed into two strategic aims:

- **Sustainably used natural resources and protected and improved environment**
- **Protected and sustainably used natural and cultural heritage and landscape**

Power production and power engineering infrastructure: a number of ambitious goals regarding electric power generation, transmission and distribution (power plants, hydroelectric plants, oil industry sector, gas industry sector, etc.)

Energy efficiency in building construction, industry, transportation and public utility services (a number of strategic priorities)

Mid-term strategic priorities – based on the basis goal to increase the use of renewable energy sources, along with reducing negative influences on the environment:

- **Introducing appropriate new regulations and mechanisms, in accord with the EU standards, directives and practices**
- **Promotion and developing of public awareness and engagement in the broader utilization of renewable energy sources**
- **Encouraging private sector to invest in renewable energy utilization**
- **Defining strategic frameworks and programs enabling private and other investors to generate and use renewable energy sources**
- **Reducing dependence on imported energy sources, by stimulating their substitution with domestic resources**
- **Improving research (studies) on wind energy and small hydroelectric power plants**

The current development situation in Serbia: predictable negative impact of key constraints

Serbia belongs to:

- **The most undeveloped countries of Europe, with concomitant economic crisis and a development impasse**
- **Countries with the biggest unemployment rate (estimates of total unemployment rate from 25 to over 30%; more than 50% of young people in Serbia are unemployed, according to USAID Serbia, 2012)**
- **Countries with poorest sustainability rates**
- **Countries with poorest HDI**
- **Countries with lowest energy efficiency**
- **Countries with heaviest brain-drain (out of ca. 3.5 million Serbs living abroad, some 300,000-500,000 are high-educated, i.e., ca. 9-14%; the analogous percentage in the country is ca. 6.0%, and stagnating)**
- **Fastest-aging populations of Europe (with the exception of K&M, and its very young and vital population)**
- **Countries with largest regional differences (regional imbalance) at various sub-national governance levels: "Serbian spatial banana": Belgrade-Novı Sad metropolitan area (the most developed area in Serbia, well above the average for the majority of key development indicators), with ca. 10% of total surface area, 40% of total population and generating 60% GDP**
- **Countries with enormous domestic and foreign debt**
- **A country with the largest number of refugees in Europe**

New challenges for Serbian elites: the issue of effective will to implement adopted strategic development decisions

- **Serbia is predictably facing “Europeanization outside the EU and with its limited assistance and support, under the conditions of prolonged crisis”, with the economy and public finances on the verge of collapse, and narrowed maneuvering space for public authorities to intervene in developmental and related matters, especially regarding redistribution and innovation policies, for the lack of general shortage of financial, human, institutional, organizational and other resources.**
- **Serbia is a country characterized by “developmental schizophrenia”: after the years during which the neoliberal political and economic agenda dominated the public scene, followed by prevalent anti-planning and anti-development stance among the elites, and in the legislative and economic practice, recently many hundreds of development strategies and similar documents have been adopted (including the national spatial plan in 2010), yet now Serbia does not have effective and implementable “exit strategy” to cope with the predictably prolonged crisis and bleak development prospects in the foreseeable future.**
- **The problem of implementation in the political and planning culture of Serbia in which decision-taking dominates over other aspects, esp. to the neglect of implementation of the decisions taken.**

The key thesis and a recommendation

- Further developings in the energy sector will more depend on the **sector exogenous factors** than on the **sector endogenous factors**, key factor being the mode of the political management of the crisis.
- The key problem on the horizon for the elites: at same time, managing the cleavage between the long term imperative to renew the strategic thinking, research and governance, now in collapse, on the one hand, and the urge to resolve the key burning and pressing development problems, on the other.
- A first step needed (among many): to get a systematic insight into the workability of existing strategic development schemes/strategies (1), have them scanned (2), and have them evaluated ex post *vis-à-vis* (3): first, workable solutions and priorities for the period of prolonged crisis; and second, available implementation resources and devices.