

UN Economic Commission for Europe

Summary of Policy Developments to Promote  
Energy Efficiency and Renewable Energy Investments  
in **Serbia**

Seminar on Policy Reforms to Promote  
Energy Efficiency and Renewable Energy Investments

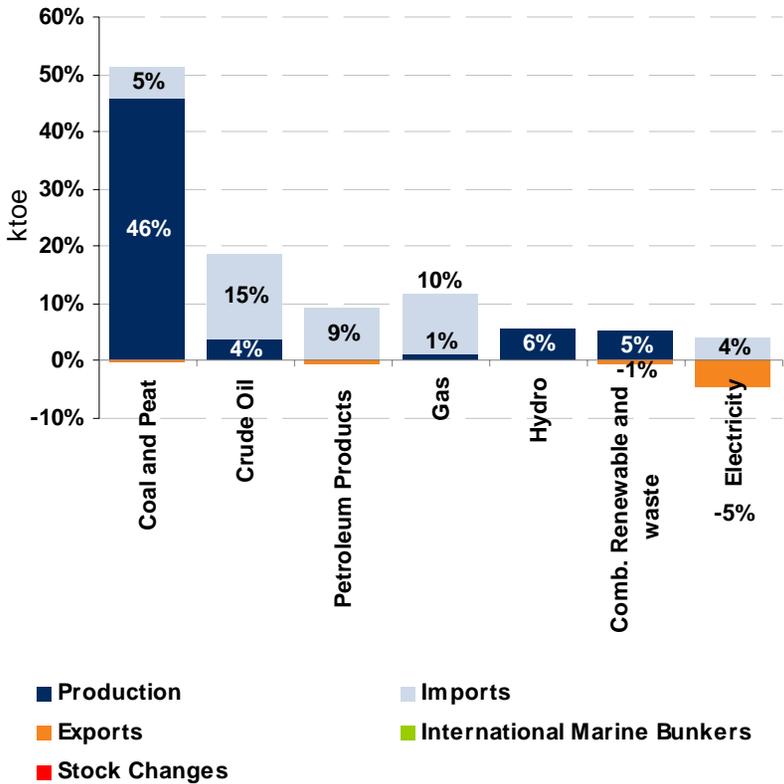
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Geneva, October 7.-8., 2009

# Energy Situation in Serbia

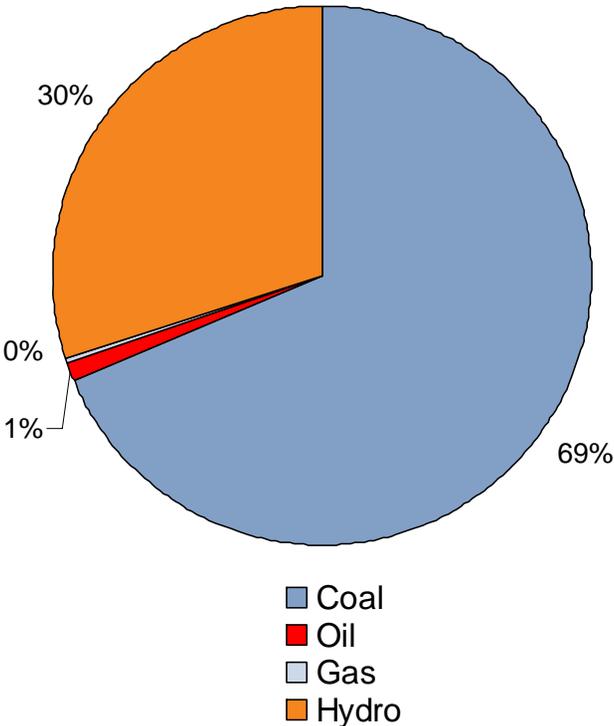
Serbia disposes of significant coal reserves, which are the main fuel for power generation in the country

Energy Balance



Source: IEA 2006

Primary Energy Sources

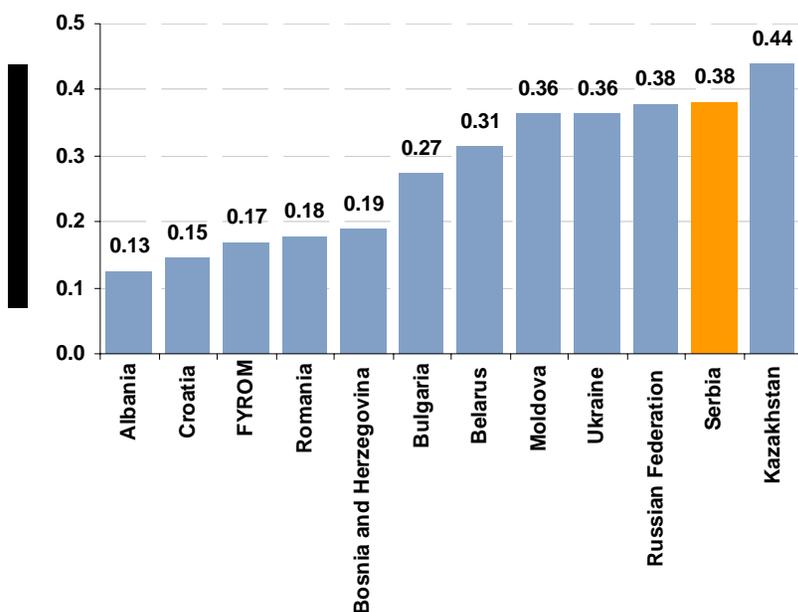


Source: IEA 2006

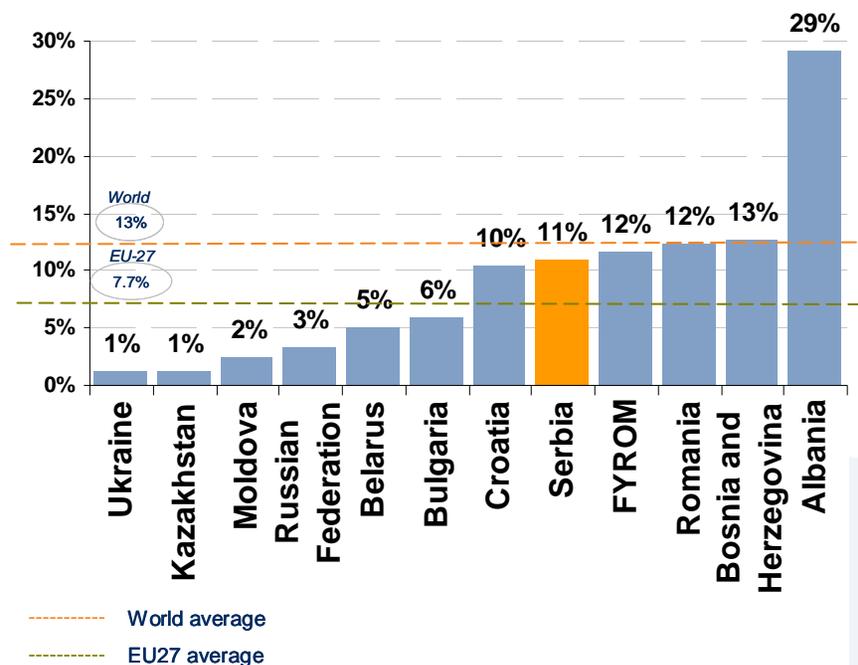
# Energy Efficiency and Renewable Energy Sources in Serbia

Serbia has one of the highest energy intensities within the project region, but at the same time one of the highest shares of renewable energy

Energy Intensity



Renewable Energy Sources



Source: Enerdata 2007 and World Resources Institute

Source: IEA 2006

# Barriers for Investments in EE and RES in Serbia

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**The main barriers for investments in energy efficiency and renewable energy projects in Serbia is the absence of public funds and low tariffs**

**Legal,  
institutional  
and  
administrative  
barriers**

- **Lack of secondary legislation and implementation procedures on energy efficiency**
- **Lack of legal framework for ESCO activities**
- **Complicated and cumbersome authorization procedures for renewable energy**

**Economic and  
financial  
barriers**

- **Lack of financial incentives for energy efficiency**
- **Absence of public funds dedicated to energy efficiency and renewable energy projects**
- **Low (not cost-covering) electricity and heat tariffs**

**Lack of  
awareness,  
human  
capacities and  
professional  
skills**

- **Lack of qualified human resources throughout the entire public administration**
- **Lack of experience in the preparation of bankable projects on the part of the private sector**

## Policy Developments in Serbia

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**Serbia is planning several policies, such as the establishment of an energy efficiency fund, to overcome these barriers**

**Modernization of power plants**

- Since 2000 significant resources have been spent into the modernization and revitalization of production assets, especially into flue gas purification and the reduction of the environmental impact of the thermal power plants

**Simplified authorization procedure**

- Serbia is planning to initiate a simplified authorization procedure for renewable power plants with an installed capacity below 1 MW

**Feed-in-tariff for electricity from renewables**

- Serbia has recently introduced a feed-in-tariff, which has been developed in compliance with the obligations from the Energy Community Treaty

**Energy Efficiency Fund**

- Serbia is planning to create a governmental Energy Efficiency Fund by the end of 2009. The Fund would be operational for 10 years and should each year receive about EUR 20 mln from taxes on energy consumption, state budget, international institutions and interest rates.

# Recommendations to overcome barriers for investments in EE and RES in Serbia

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**Investment in district heating systems and higher financial incentives for energy efficiency are recommended for Serbia**

**Legal, institutional and administrative barriers**

- Continuation of national framework implementation
- Least-cost investment plan for district heating
- Metering and consumption-based billing for district heating
- Transparent authorization for RES projects

**Economic and financial barriers**

- Financial incentives for energy efficiency and renewables in the residential sector
- Tariff reform for heat and electricity
- Adaptation and implementation of feed-in tariff for electricity from renewable energy sources and cogeneration

**Lack of awareness, human capacities and professional skills**

- National education, training and public awareness program
- Capacity building for policy makers
- Capacity building for local financing institutions

# Recommendations to overcome barriers for investments in EE and RES in Serbia

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## Legal, institutional and administrative barriers (1/2)

### Continuation of national framework implementation

- **Energy efficiency and renewable energy are priorities in the National Energy Strategy of Serbia. However, there are few signs of progress in policy implementation (e.g. energy efficiency law is currently under development) and there is insufficient co-ordination among government bodies. Thus, implementation of national framework on energy efficiency and renewable energy stills needs to be improved, under the direction of an agency that is accountable for carrying out this role.**

### Least-cost investment plan for district heating

- **Serbia's district heating system suffers from relatively low efficiency, even by technical standards of the time at which most of it was built, i.e. 1980.**
- **A least-cost investment plan for district heating should be developed regularly and become the basis for development and refurbishment of the heating sector in Serbia. The least-cost investment plan should evaluate costs and benefits of different energy efficiency measures such as optimization of heat supply systems, heat load redistribution, loss reduction, balancing centralized and de-centralized heating, cogeneration and metering.**
- **The outcome of this investment plan should be a ranking of least-cost investment including a budget estimation, a time schedule for implementation as well as an evaluation of suitable financing instruments**

# Recommendations to overcome barriers for investments in EE and RES in Serbia

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## Legal, institutional and administrative barriers (2/2)

### Metering and consumption based billing for district heating

- **To increase the viability of district heating in Serbia, it will be necessary to implement effective metering of heat consumption and an effective billing system to increase revenue collection.**
- **In a first step, the obligatory provision of individual meters in new buildings or buildings undergoing major renovations is recommended. In a second step, an action plan for a nationwide rollout of individual metering systems should be elaborated, evaluating different options which are technically possible, financially reasonable, and proportionate in relation to the potential energy savings and indicating indicative overall and intermediate targets.**

### Transparent authorization for renewable energy projects

- **In Serbia, authorization procedures for renewable energy projects are complex in general, and lack of simplification for small scale projects disadvantage independent project developers due to high transaction costs.**
- **Additional to a transparent authorization, a simplification of procedures for small scale projects is highly recommended.**

# Recommendations to overcome barriers for investments in EE and RES in Serbia

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## Economic and financial barriers (1/3)

### Tariff reform for electricity and heat

- **Current district heating subsidies from the public budget hamper energy efficiency in the district heating sector both on the supply and demand side.**
- **Removal of district heating subsidies from public budgets in combination with an introduction of different tariff structures and charges will encourage improvements in operating and maintaining efficiency as well as capital investments.**
- **Furthermore, Serbia does not take into consideration environmental costs (e.g. CO<sub>2</sub>, SO<sub>x</sub>, or NO<sub>x</sub> emissions released) associated with mainly coal-based energy production and consumption. By not accounting the environmental costs, Serbia artificially lowers the energy costs. The introduction of market-based instruments (e.g. taxes, charges, emission trading) shall give incentives to limit external effects. In the case of Serbia it could be tax rates in proportion to the carbon content of the fuels used for electricity and district heating generation.**

# Recommendations to overcome barriers for investments in EE and RES in Serbia

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## Economic and financial barriers (2/3)

### Financial incentives for energy efficiency and renewables in the residential sector

- **Currently, the residential sector - Serbia's second largest energy consumer – lacks public funding for energy efficiency and renewable energy projects. The introduction of a financial incentive could support Serbian families in their effort to increase the energy efficiency of their households, which include investments in the modernization of wall insulations, replacement of windows, biomass efficient heating systems, solar water heaters, efficient gas boilers and others.**
- **Comparable funding schemes were implemented successfully by the European Bank for Reconstruction and Development (EBRD) in Bulgaria and Slovakia:**
  - **EUR 50 mln EBRD Credit Line Framework with Bulgarian banks for on-lending to individuals for EE investments in residential sector granting so far 23'700 sub-loans with a total amount of EUR 35.4 mln.**
  - **EUR 60 mln EBRD Credit Line Framework with Slovak banks. Eligible projects include residential energy efficiency (incl. housing associations), energy investments in industry and renewable energy projects. A portfolio of 208 residential energy efficiency projects (~11'000 standard flats refurbished and 33'000 people benefiting from lower energy bills and better thermal comfort) and 17 industrial energy efficiency/renewable energy projects were financed with EUR 34 mln. A pipeline of EUR 20 mln is under preparation.**

# Recommendations to overcome barriers for investments in EE and RES in Serbia

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## Economic and financial barriers (3/3)

### Adaptation and implementation of feed-in-tariff for electricity from RES and cogeneration

- The Energy Law provides for subsidies for electricity generation from renewable energy sources, waste and cogeneration. A corresponding law is currently under development.
- The implementation of an “advanced” feed-in tariff scheme providing also for an economic incentive for heat production from cogeneration is highly recommended:
  - The tariff must be set sufficiently high to allow for an attractive return on investment. This should also involve linking the tariff to the price of fuel to avoid, as far as possible, fuel-price risk.
  - The feed-in contract should be of sufficient length to provide investor confidence. The typical term of these arrangements is 10 to 20 years.
  - The remuneration should as far as possible reflect the environmental, social and network benefits that cogeneration provides.

# Recommendations to overcome barriers for investments in EE and RES in Serbia

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## Lack of awareness, human capacities and professional skills (1/2)

### National education, training and public awareness program

- **Lack of awareness among different project stakeholders has been identified to be one of the main bottlenecks for the development of a domestic market for energy efficiency and renewable energy projects in Serbia.**
- **To overcome this barrier and to create a positive image for investments in sustainable energy, the Serbian government with participation of local and regional authorities, shall develop suitable information, awareness-raising, guidance or training programs in order to inform project stakeholders of the benefits and practicalities of developing and using energy from renewable sources and energy efficiency measures.**
- **Information dissemination needs to be tailored to the end-user in order to be effective. Activities could comprise advertising campaigns, information dissemination on energy labels and standards, advice on behavioral practices and financing opportunities, information dissemination through energy auditors, and capacity building for project developers, architects, installers etc.**
- **Given the lack of information and awareness in private companies, the implementation of a training program for energy auditors in accordance with the Slovenian Energy Auditing Program (EAP) is highly recommended.**

# Recommendations to overcome barriers for investments in EE and RES in Serbia

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## Lack of awareness, human capacities and professional skills (2/2)

### Capacity building for policy makers

- **In order to ensure a successful continuation of national framework implementation recommended to overcome legal, institutional and administrative barriers, it is necessary to provide adequate funding and training for the staff of ministries, regulators and other governmental or municipal agencies with responsibilities in the energy sector.**

### Capacity building for local financing institutions

- **In March 2005, the European Bank for Reconstruction and Development (EBRD) and Banca Intesa Beograd signed the agreement on using the first credit line of EBRD in Serbia within the program named “Western Balkans Sustainable Energy Credit Line Facility”.**
- **To increase the number of participating banks, awareness raising about the availability of the facility in combination with assistance and training in refining, standardizing and evaluating loan applications and appraisal procedures is highly recommended.**
- **This capacity building and awareness raising initiative should be a joint initiative of EBRD, Banca Intesa Beograd and the Serbian government.**

## Conclusions

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**Serbia has one of the highest energy intensities within the project region and at the same time lacks energy efficiency incentives**

- **Serbia disposes of significant coal reserves, which are the main fuel input for power generation**
- **Serbia imports significant quantities of crude oil, petroleum products and gas**
- **Despite having one of the highest energy intensity levels within the project region, Serbia does not provide any energy efficiency incentives**
- **Serbia is planning to introduce an Energy Efficiency Fund by the end of 2009**
- **In order to increase the share of renewable energy, which stands currently at 11% of the total primary energy supply, Serbia is planning to introduce simplified authorization procedures for small renewable power plants (< 1MW)**
- **One of the major barriers in Serbia for the development of renewable energy and energy efficiency projects are the low (and not cost-covering) electricity tariffs**
- **Investment in district heating systems and higher financial incentives for energy efficiency are recommended for Serbia**

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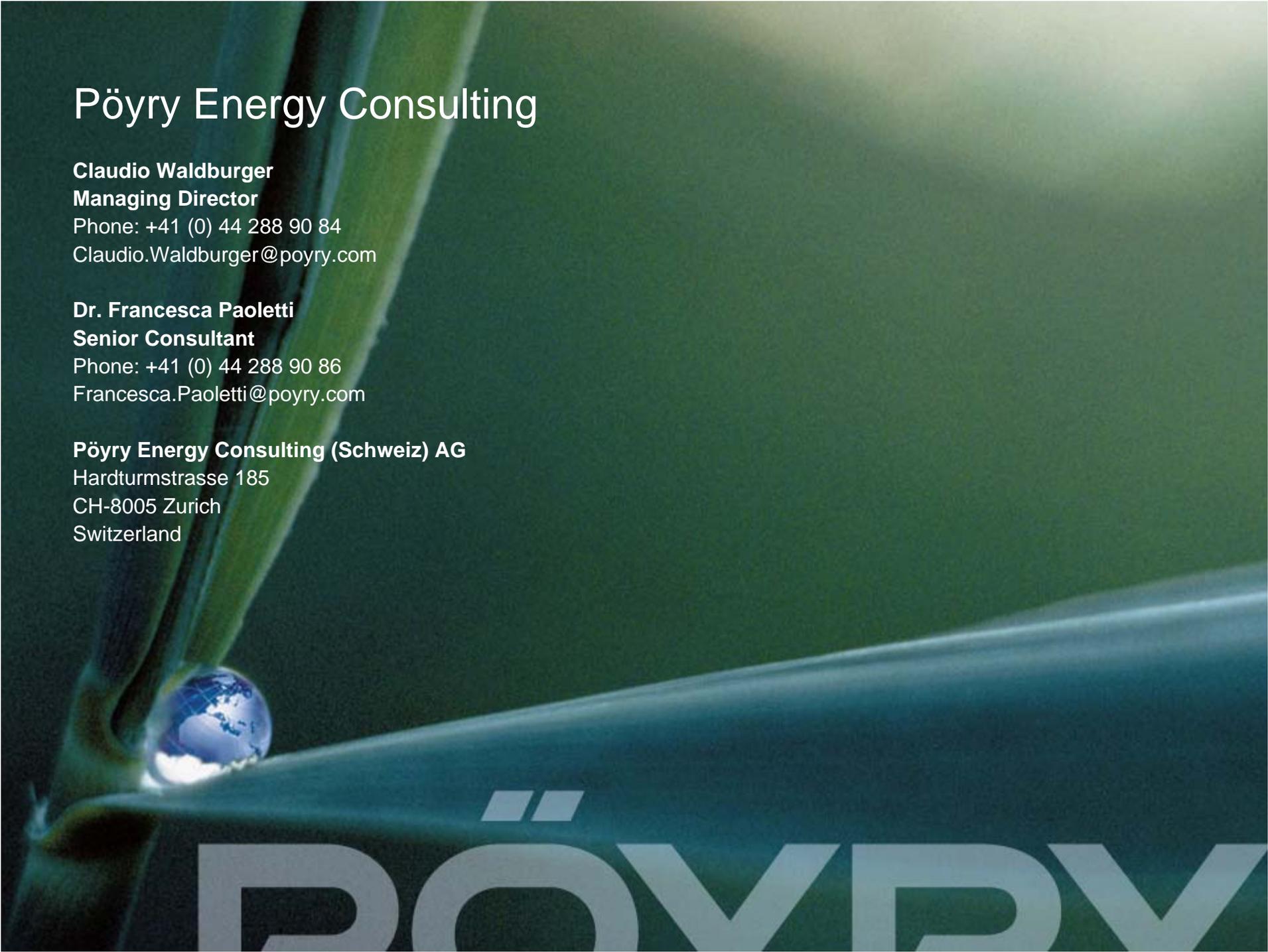
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The background of the slide features a close-up, artistic photograph of a sailboat's rigging. A small, glowing globe of the Earth is positioned where a rope or wire crosses over a metal pulley or block. The lighting is dramatic, with strong highlights and deep shadows, creating a sense of depth and texture. The overall color palette is dominated by dark blues, greys, and greens. At the bottom of the slide, the word "PÖYRY" is written in a large, bold, sans-serif font. The letters are light grey or white, with a slight transparency, allowing the background image to be visible through them. The "Ö" has a distinctive double-dot mark above it.