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Support to promotion of reciprocal understanding  
between the European  
Union and the Western Balkans

National report

# ENERGY SECTOR

under

The Specific Grant Agreement RELEX I-2 190202 REG 4-14

ANA MARIA BOROMISA (Ph.D., Croatian Energy Regulatory Council, Zagreb)

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1. The author participates in the project as an independent researcher. The views expressed herein are those of the author and do not necessarily coincide with the official views of the CERC.

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## Abbreviations

Art.	Article
CAS	Country Assistance Strategy
CEER	Council of European Energy Regulators
CEM	Country Economic Memorandum
CEN/CENELEC	Comité Européen de Normalisation/ Comité Européen de Normalisation Electrotechnique (European Committee for Standardisation/ European Committee for Electrotechnical Standardisation)
CERC	Croatian Energy Regulatory Council
CIF	cost, insurance and freight
CROISMO	Croatian Independent System and Market Operator
d.d.	dioničko društvo (joint-stock company)
d.o.o.	društvo s ograničenom odgovornošću (limited liability company)
DSO	Distribution System Operator
EC	European Commission
EIHP	Energy Institute "Hrvoje Požar"
ERRA	Energy Regulators Regional Association
EU	European Union
HEP	Hrvatska elektroprivreda (national electricity utility)
HRK	Croatian Kuna
INA	national gas company
p.	page
Par.	Paragraph
RES	Renewable energy sources
SECI	South East Europe Cooperative Initiative
SEEREM	South East Europe Regional Energy Market
TENS	Trans-European Networks
TSO	Transmission System Operator
UCTE	Union for Coordination of Transmission of Electricity
USAID	United States Agency for International Development

# 1. Summary

This report reviews the primary legislation in Croatia and its alignment with the requirements of the energy sector-specific requirements of the EU - primarily the Directive 2003/54/EC (for electricity) and 2003/55/EC (gas), the Athens memoranda, energy efficiency measures, and EU's Renewables Directive (2001/77/EC). It also defines some technical aspects regarding Croatian readiness to be integrated in the TENS.

Croatian energy sector is characterised by majority state ownership, with the exception of natural gas distribution.<sup>2</sup> The reform of the energy sector in Croatia that provides for gradual privatisation and introduction of market principles was launched in 2001, when a "package" of five energy laws was adopted.<sup>3</sup> A year later, the Parliament adopted Energy strategy for a 10-year period. After a quite intensive start, the implementation of the reform has slowed down. Generally, reform implementation in the oil and gas sector has been

satisfactory, while the progress in the power sector has been slower and warrants close attention by the Government. This is the result of less "market exposure" of the electricity sector, legal gaps, weaknesses of institutions that should implement reforms, and the strength of the energy sector lobby.

By signing the Athens Memorandum, Croatia took a decisive step and joined the South East European Power Market, with the ultimate goal of incorporating Croatia into the European Internal Energy Market. The negotiations build on the 'Athens Memoranda', signed in 2002 and 2003, which provided political backing for the idea to open the region's electricity and gas markets between 2005 and 2007. Coupled with negotiations with the EU, scheduled for 2005, this should speed up the process of gradual alignment of domestic legislation with EU energy directives and environmental standards.

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2. The analysis is limited to electricity and gas sectors. Energy Law and regulation Law in Croatia, as opposed to the energy related acquis, deal also with oil and oil derivatives market, but not with solid fuels sector, since 1997 there has not been any solid fuels production in Croatia.
  3. Energy Law, Law on Electricity Market, Law on Regulation of Energy Activities, Law on Oil and Oil Derivatives Market and Gas Market Law

## 2. Country Energy Strategy (goals and achievements)

A series of energy laws (Energy Law, Law on Electricity Market, Law on Regulation of Energy Activities, Law on Oil and Oil Derivatives Market, and Gas Market Law) were passed in July 2001 (Official Gazette 68/01) to launch the reform of the energy sector. The Parliament adopted Energy Strategy in 2002 (Official Gazette 38/02).

Energy Law stipulates the content of energy planning documents, the bodies passing them, the procedure for their passing, and the terms of their validity. It also regulates measures to ensure a secure and reliable energy supply, efficient power generation and its use; and the enforcement of acts that will stipulate, and on the basis of which, energy policy and energy strategy will be designed. Energy Law also regulates the carrying out of energy activities based on market principles or pursuant to public service obligations.

Energy Law defines that the Energy Strategy is a basic act that outlines the energy policy and planning of the development of the energy sector. Energy Strategy is passed by the Parliament upon proposal of the Government for a 10-year period in March 2002. The principal goals of the energy policy, as stated in Energy Strategy, are:

- improvement of energy efficiency,
- safe energy provision and supply,
- diversification of sources,
- support to the development of renewable sources,

- increased security of supply,
- development of a better pricing policy, and
- ensuring environmental protection.

Energy Strategy also provides for energy sector reform.

Based on Energy Strategy, the Government shall pass the Strategy Implementation Programme. This programme should be prepared for a minimum period of three years and define the measures to be implemented, entities responsible for the implementation of planned activities, and the time schedule for the realisation of the energy policy and the implementation of National Energy Programmes; cooperation with local and regional administration and institutions in the area of development planning in the energy sector; and cooperation with energy companies and international organizations. The energy law package has only defined the deadlines for the implementation of the first stage of the energy sector reform, but these deadlines have not been met. The Strategy Implementation Programme has not been passed<sup>4</sup>. Some of the implementing measures are identified by the National Plan for EU Integration, as well as in the Stabilisation and Association Agreement Implementation Plan. However, these measures are integration-related, focused on accepted international obligations, and lack the "local" dimension, i.e. measures

necessary on regional and local levels. The missing "local" measures and timetable for their implementation are needed to establish a coherent framework for the implementation of energy strategy and energy reform. Delays, coupled with the wording of some legal provisions and strong lobbies opposing the reform are the main reasons for partial implementation. Still, in spite of difficulties and delays, the reform is gradually proceeding, pursuant to the "package" of energy laws. The main achievements of these are:

- creation of new legal framework, enabling gradual establishment of market mechanisms in the energy sector and private / foreign investments,
- establishment of new institutions (such as Croatian Energy Regulatory Council, Energy Efficiency Fund, System and

- Market Operator) necessary for the creation of market,
- gradual alignment with EU rules,
- increase of general understanding of necessary reforms, and
- participation in regional initiatives.

Croatia is gradually aligning with EU requirements and preparing for participation in regional and EU energy markets. Croatia has signed the European Energy Charter Treaty, and Athens Memoranda, which provide the basis for long-term international cooperation in energy sector.

Measures that are to be implemented include revision and completion of legal framework (corrections of existing laws in line with EU requirements), preparation and adoption of secondary legislation, definition of scope and timing of support reforms (privatisation, market opening, pricing reform) and their effective implementation.

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4. There is a programme called "National Energy Programme" that is being implemented by Energy institute "Hrvoje Požar", financed by the Ministry of Science and the Ministry of Economy. The "National Energy Programme" is a basic research project of this Institute. This means that it is proposed by the research institution and accepted by the appropriate (scientific) board. As such, it cannot be considered as National Energy Programme as defined by Energy Law.

## 3. Competitive market structures and rules

### 3.1. General framework

The "package" of five energy laws (Energy Law, Law on Electricity Market, Law on Regulation of Energy Activities, Law on Oil and Oil Derivatives Market, and Gas Market Law) adopted and published in July 2001 defined which energy-related activities are considered as market-based. In market-based activities, competition is to be gradually introduced. "Public services" are the second type of activities and are subject to specific rules aimed at minimising the risk of abuse of monopolistic market position.

The implementation of such legal framework was scheduled to start on January 1st, 2002, and all secondary legislation was supposed to be adopted within six months. Pursuant to the Law on Regulation of Energy Activities, Croatian Energy Regulatory Council (CERC) was established in March 2002<sup>5</sup> as an **independent regulator**<sup>6</sup>.

CERC is designed as a regulatory body in electricity, gas and oil sector. It issues licences for carrying out energy activities, monitors tariff systems and market.<sup>7</sup>

Energy Law defines basic **unbundling rules, tendering and authorisation procedures, transparency of accounts, third party access to the networks, and market opening**. It also defines procedures for the adoption of some of the **technical rules**. It also sets framework rules for **tariff design, allows the protection of vulnerable consumers, reduction of non-technical losses, improvement of energy efficiency and security of supply**. However, the provisions regulating these issues are vague and specific procedures for their implementation are lacking. The Energy Law and sector-specific laws (Law on Electricity Market, Gas Market Law) do not explicitly recognize the function of transmission system operator and distribution system operator.<sup>8</sup> Next,

5. The date of establishment is the date of registration in the court register. The Law provided the basis for its establishment in July 2001.

6. The Law on Regulation of Energy Activities explicitly states that CERC is an independent legal entity. It consists of five Commissioners, appointed by the Parliament upon the proposal of the Croatian Government. Still, it is the Government that appoints a non-profit legal entity that assists CERC in preparation of proposals of acts to be passed by the CERC and carries out other expert assignments, and the CERC is obliged to use its financial means for financing this appointed non-profit legal entity (Article 9 (2)). The Government appointed Energy Institute Hrvoje Požar (EIHP) as the non-profit legal entity. This institute is owned by the Government and, according to its statute, it is designed and works for CERC (which is obliged to finance it), the Government, and energy enterprises. Hence EIHP is designed to perform activities that are considered to be conflict of interest for the Commissioners.

although the package of five energy laws foresees a number of technical rules and secondary legislation that should be brought by different institutions, technical rules are defined by service providers. Such "standards" are therefore subject to unilateral changes, since they have the status of internal acts of energy services providers. They are not always published and there is no third party ("neutral") control of their implementation, and they also do not allow consumer protection.

The State Office for Standardisation and Metrology is the institution in charge of the adoption of European stan-

dards. In spite of the fact that a number of European standards are already adopted, these relate mainly to specific equipment, while general conditions and rules important for investors and consumers are still missing.<sup>9</sup>

As for the **privatisation processes**, two laws important for the energy sector reform were adopted in March 2002: the Law on Privatisation of INA d.d. (national gas company) and the Law on Privatisation of HEP (national electricity company). The international donors programs are also of significance for investments in energy sector.

## 3.2 Competitive market structures and rules in the electricity sector

### 3.2.1. Existing deficits and obstacles in the implementation processes of EU requirements

#### Regulator

According to the Directive 2003/54/EC concerning common rules for the internal market in electricity ("the Directive"), the primary role of the Regulator is defined by Article 23 (Frame 1).

7. CERC is established mostly as advisory body, without implementing powers. This is dealt with in more detail in chapters dealing separately with electricity and gas.

8. This issue is dealt with in more detail in electricity and gas sections.

9. For more see Government (2003), p. 48. Framework laws allowing the adoption of European standards in Croatia, in line with the "new approach", were adopted at the end of 2002. For more about this, see: Ott (2004).

## Frame 1

### Article 23

#### Regulatory authorities

1. Member States shall designate one or more competent bodies with the function of regulatory authorities. These authorities shall be wholly independent form the interests of electricity industry. They shall, through the application of this Article, at least be responsible for ensuring non-discrimination, effective competition and the efficient functioning of the market, monitoring in particular :
  - a) the rules on the management and allocation of interconnection capacity, in conjunction with the regulatory authority or authorities of those Member States with which interconnection exists;
  - b) any mechanisms to deal with congested capacity within the national electricity system;
  - c) the time taken by transmission and distribution enterprises to make connections and repairs;
  - d) the publication of appropriate information by transmission and distribution system operators concerning interconnectors, grid usage and capacity allocation to interested parties, taking into account the need to treat non-aggregated information as commercially confidential;
  - e) the effective unbundling of accounts, as referred to in Article 19, to ensure that there are no cross-subsidies between generation, transmission, distribution and supply activities
  - f) the terms, conditions and tariffs for connecting new producers of electricity to guarantee that these are objective, transparent and non-discriminatory, in particular taking full account of the costs and benefits of the various renewable energy sources technologies, distributed generation and combined heat and power ;
  - g) the extent to which transmission and distribution system operators fulfil their tasks in accordance with Articles 9 and 14 ;
  - h) The level of transparency and competition. The authorities established pursuant to this Article shall publish an annual report on the outcome of their monitoring activities referred to in points a) to h).
2. The regulatory authorities shall be responsible for fixing or approving, prior to their entry into force, at least the methodologies used to calculate or establish the terms and conditions for:
  - a) Connection and access to national networks, including transmission and distribution tariffs. These tariffs, or methodologies, shall allow the necessary investments in the networks to be carried out in a manner allowing these investments to ensure viability of the networks ;
  - b) The provision of balancing services.
3. Notwithstanding paragraph 2, Member States may provide that the regulatory authorities shall submit, for formal decision, to the relevant body in the Member State the tariffs or at least the methodologies referred to in that paragraph as well as the modifications in paragraph 4. The relevant body shall, in such a case, have the power to either approve or reject a draft decision submitted by the regulatory authority. These tariffs or the methodologies or modifications thereto shall be published together with the decision on formal adoption. Any formal rejection of a draft decision shall also be published, including its justification. Regulatory authorities shall have the authority to require transmission and distribution system operators , if necessary, to modify the terms and conditions, tariffs, rules, mechanisms and methodologies referred to in paragraphs 1, 2 and 3, to ensure that they are proportionate and applied in a non-discriminatory manner.
4. Any party having a complaint against a transmission or distribution system operator with respect to the issues mentioned in paragraphs 1, 2 and 4 may refer the complaint to the regulatory authority which, acting as dispute settlement authority, shall issue a decision within two months after receipt of the complaint. This period may be extended by two months where additional information is sought by the regulatory authority. This period may be further extended with the agreement of the complainant. Such a decision shall have binding effect unless and until over ruled on appeal. Where a complaint concerns connection tariffs for major new generation facilities, the two-month period may be extended by the regulatory authority.
5. Any party who is affected and has a right to complain concerning a decision on methodologies taken pursuant to paragraphs 2, 3 or 4 or, where the regulatory authority has a duty to consult, concerning the proposed methodologies, may, at the latest within two months, or a shorter time period as provided by Member States, following publication of the decision or proposal for a decision, submit a complaint for review. Such a complaint shall not have suspensive effect.
6. Member States shall take measures to ensure that
- 7.

- regulatory authorities are able to carry out their duties referred to in paragraphs 1 to 5 in an efficient and expeditious manner.
8. Member States shall create appropriate and efficient mechanisms for regulation, control and transparency so as to avoid any abuse of a dominant position, in particular to the detriment of consumers, and any predatory behaviour. These mechanisms shall take account of the provisions of the Treaty, and in particular Article 82 thereof. Until 2010, the relevant authorities of the Member States shall provide, by 31 July of each year, in conformity with competition law, the Commission with a report on market dominance, predatory and anti-competitive behaviour. This report shall, in addition, review the changing ownership patterns and any practical measures taken at national level to ensure a sufficient variety of market factors or practical measures taken to enhance interconnection and competition. From 2010 onwards, the relevant authorities shall provide such a report every two years.
  9. Member States shall ensure that the appropriate measures are taken, including administrative action or criminal proceedings in conformity with their national law, against the natural or legal persons responsible where confidentiality rules imposed by this Directive have not been respected.
  10. In the event of cross-border disputes, the deciding regulatory authority shall be the regulatory authority which has jurisdiction in respect of the system operator which refuses use of, or access to, the system.
  11. Complaints referred to in paragraphs 5 and 6 shall be without prejudice to the exercise of rights of appeal under Community and national law.
  12. National regulatory authorities shall contribute to the development of the internal market and of a level playing field by cooperating with each other and with the Commission in a transparent manner.

Basically, the Directive requires the designation of one or more competent bodies with the function of regulatory authority. The Regulator shall be wholly independent from the interests of the electricity industry, and the member state shall allow the Regulator to carry out its duties efficiently and expeditiously.

In Croatia, CERC is the regulatory authority. However, it cannot be considered as *competent* and *independent* from the interests of electricity industry. Specifically, CERC does not have its own staff sufficient to perform core activities. Expert staff is assigned to the CERC by Government decree (the staff of the Energy Institute Hrvoje Požar- EIHP) which is not independent from interests of electricity industry. The statute of the EIHP defines that it should work for the Government, energy industry and CERC. EIHP hence prepares documents for electricity utility, and CERC is obliged to finance the Energy Institute. Such mandatory link between CERC and EIHP was identified as an impediment to effective independence in the EC opinion on Croatian

application EU membership.

Next, Article 23 of the Directive lists specific functions that the Regulator should carry out. Of these, CERC has no authority for at least fixing or approving the methodologies used to calculate or establish the terms and conditions for connection and access to national networks prior to their coming into power, and the provisions of balancing service and dispute settlement are also lacking.<sup>10</sup> So, in addition to clarifying provisions of the law so as to make it explicit that CERC has the power to carry out its functions, the main obstacle for effective performance of the Regulator is the lack of power to implement its decisions; i.e., CERC does not have any authority to implement sanctions if the regulated entities do not comply with its requests. It should also be noted that CERC has the authority to collect data as needed to perform its functions. Therefore, CERC can argue that it should collect monitoring data as defined by Article 23 paragraph 1 points a) to h) of the Directive. However, should a dispute arise as to CERC monitoring rights,

it would be a court that would decide to which extent such data should be collected.

### Designation and unbundling TSO

Article 2 of the Directive defines TSO as private or legal entity responsible for operating, ensuring the maintenance of,

and developing the transmission system in a given area and its interconnections with other systems, and for ensuring long-term ability of the system to meet reasonable demands for the transmission of electricity. The main tasks of TSO are defined by Article 9. (Frame 2)

## Frame 2

### Article 9

#### Tasks of Transmission System Operators

Each transmission system operator shall be responsible for

- a) ensuring the long-term ability of the system to meet reasonable demands for the transmission of electricity;
- b) contributing to security of supply through adequate transmission capacity and system reliability;
- c) managing energy flows on the system, taking into account exchanges with other interconnected systems. To that end, the transmission system operator shall be responsible for ensuring a secure, reliable and efficient electricity system and, in that

- d) providing to the operator of any other system with which its system is interconnected sufficient information to ensure the secure and efficient operation, coordinated development and interoperability of the interconnected system;
- e) ensuring non-discrimination as between system users or classes of system users, particularly in favour of its related enterprises.
- f) providing system users with the information they need for efficient access to the system.

In Croatia, tasks of the TSO are divided between transmission company and the system operator. Transmission company is responsible for the construction and maintenance of the transmission network, and the generation of a portion of reaction power. System operator shall prepare plans for the development and construction of transmission network and should, in cooperation with transmission and distribution company, draft the Grid Code. The Grid Code shall specifically regulate technical and other criteria for interconnection and operation of networks, for access to the network, and safe operation that can ensure reliable supply of the market with quality electricity.

Hence, system operator and transmission company should co-operate in performing the tasks of TSO. The challenge is, however, to ensure the unbundling of the TSO. The unbundling requirements are in

the scope of Article 10 of the Directive.

The Directive requires that TSO should be independent, at least in terms of its legal form, organization and decision-making, from other activities not related to transmission. According to Electricity Act, the system operator was supposed to be independent by January 2003. The transmission company was supposed to be organized as one of the related, legally independent companies within HEP Group. The system operator is still within HEP Group. Thus, minimal criteria defined by Article 10 paragraph 2 of the Directive are not met, since:

- persons responsible for the system management are not independent from other activities not related to transmission (basically production, trade and supply),
- management of the transmission

10. Although there are some dispute settlement provisions, they are narrower than required by the Directive.

company directly influences day-to-day operation of generation, distribution and supply within the HEP Group, and

- system operator has neither the decision-making rights nor an independent budget. The parent company gives instructions regarding day-to-day operations.

Next, the requirements regarding the unbundling and transparency of accounts established by the Energy Law differ from the requirements regarding the unbundling of accounts as stated in Chapter VI of the Directive. Firstly, Croatian law is more restrictive as regards the legal form of electricity enterprises. The Directive defines TSO as private or legal entities, while Energy Law does not allow private entities to appear at the energy markets. Next, the Directive states that annual accounts should be drawn up, submitted to audit, and published according to the regulations of the national law. Croatian Energy Law obliges energy enterprises to keep separate accounts and prepare financial reports for each of its activities, independently and separately. However, it does not provide the differentiation in their internal accounting from general accounting rules, nor the distinction between consolidated and non-consolidated accounts, and the differences resulting from different size and organization of the companies and related audit and publication requirements according to national law. The formal obligation for unbundling and transparency of accounts is not implemented because there are no implementation guidelines nor effective monitoring and sanctions.

### **Designation and Unbundling DSO**

In Croatia, the tasks of DSO are distributed between distribution company and system operator. The distribution

company is responsible for the construction and maintenance of the distribution network.

The main obstacles for efficient alignment with EU directive are vague provisions of Electricity Act. First, as opposed to the provisions of Article 14 of the Directive, Croatian law does not define the area of the distribution company. Distribution is defined as a public service obligation. Since neither the scope of public service obligation nor the geographic area in which a distribution company should provide public service are defined, the planning of the development of the distribution network is not sufficiently transparent.

The second shortcoming relates to the unbundling of the DSO, which faces the same challenges as TSO. It should be noted, however, that system operator does not perform as combined operator in terms of Article 17 of the Directive. Namely, it does not have the technical capacity to dispatch at the distribution network level. It should also be noted that, according to the provisions Electricity Law, the system operator could not perform the duties defined by Article 14, paragraph 5 of the Directive. Namely, the system operator may not be engaged in electricity trading activities, which prevents the purchase of the energy to cover the losses.

The most striking issue in the design of the DSO is the transparency of its functions and unbundling from vertically integrated utility, the same as for TSO.

The Directive requires that DSO should be independent, at least in terms of its legal form, organization and decision-making from other activities not related to distribution. Formally, the same applies to the DSO as to the TSO. Namely, according to Electricity Act, the system operator was supposed to be independent

by January 2003 and perform as combined operator according to the Article 17 of the Directive. In reality, DSO tasks are performed on the level of distribution company. The distribution company is one of companies within HEP Group, which is by definition not independent from the parent company. The management of the distribution company participate in company structures of the integrated utility responsible for daily operation of the generation, transmission and supply. In addition, the supply company, which was supposed to be set up according to the Electricity Act, does not operate. Its tasks are performed by distribution company. Hence, although the legal solutions for TSO and DSO are comparable within the scope of the Directive and Electricity Act, the obstacles for implementing EU rules in distribution are greater than in transmission. This is basically the result of certain technical solutions in place, but also of the lack of unbundling between distribution and supply, and its position within HEP Group.

### Technical rules

According to the Electricity Act, the System Operator should draft the Grid Code in co-operation with transmission and distribution companies. The Grid Code shall specifically regulate technical and other criteria for interconnection and operation of networks, for access to the network, and for the safe operation that can ensure reliable supply of the market with quality power. The Grid Code was drafted and sent to the procedure in 2003. The procedure requires that the Grid Code be passed by the Minister, subject to prior opinion of the Regulator. The Regulator adopted an opinion in October 2003 in which it underlined the discrepancies in wording and content with the Energy Law,

the Electricity Act and the Regulation Law. The Regulator also noted that it is not acceptable that utility should unilaterally adopt and change technical rules, or apply internal technical norms that are not published. There is no indication that the System Operator adopted or rejected any of these remarks and drafted a new proposal.

Since there are at the moment no technical rules establishing the minimal technical design and operational requirements, the alignment with the Article 5 of the Directive is a challenge.

### Tendering and authorization procedure for building new capacities

Article 9 of the Electricity Act provides ground for authorisation and tendering procedures for new generation capacities. Comparable with the Article 6 of the Directive, the authorisation procedure is applied for eligible customers. This means that an energy enterprise may make the decision on the construction of plants for power generation for eligible customers at its own discretion, provided it has a licence for carrying out power generation activity. This basically implies that licence equals authorisation procedure. The licence conditions, however, do not correspond with the criteria for authorisation illustrated by Article 6 of the Directive. Licence conditions are related to legal form, financial, technical and staffing requirements. However, technical rules do not exist, nor do precise requirements regarding any of these issues. Next, the existing generation licences are not geographically limited, nor is there a difference in generation licence for eligible and tariff customers. Since the conditions are not defined, the authorisation procedure is neither objective, transparent nor non-discriminatory. Also, it is not clear

11. This issue basically relates to allowing the Regulator to have its own staff. On the other hand, since the electricity utility is State-owned, this requires certain independence from the Government, too.

whether the producer has to sell all the electricity produced to the eligible customers, or can partially (or occasionally) sell it to the "public" network (i.e. to captive customers). Namely, the System Operator shall ensure the supply of electricity to tariff customers from eligible producers, generators that have contracts for supply pursuant to public service obligation and electricity market. This implies that a generator can sell to tariff customers, and that it can contract for supply pursuant to public service obligation. However, since these criteria are not developed and market operator is not independent from the interests of HEP, such provisions do not provide solid ground for opening the market. Therefore it is unclear whether any other generator (other than HEP Generation) can build generation plant for captive consumers, and what a public tender means if the final provisions of the Electricity Act grant this exclusive right to public service generator. The Ministry, on the other hand, can limit exports of electricity through energy balance. Therefore, it is not clear when to apply the tender, and when the authorisation procedure.

The tender procedure is foreseen for tariff customers, and the terms of reference for the tenders should contain the criteria comparable with those in the authorisation procedure defined by Article 6 of the Directive. The Electricity Act also states that the Regulator shall issue the approval for the construction of power generation plant, and that the Regulator will be responsible for the organisation, monitoring and control of the tender procedure. This is comparable with the requirements in Article 7 of the Directive. However, as mentioned earlier, the Regulator has no staff, and the mandatory link with the Energy Institute makes it dependant on the interests of HEP, i.e. the domestic monopolist producer. Also, the final provisions of the

Electricity Act (Article 29) define that HEP will carry out the generation of electricity for tariff customers. HEP is also the only one with access to locations foreseen for the construction of generation capacities. Therefore, it is very unclear what remains for the tender procedure, since HEP is the only enterprise that can produce electricity for tariff customers, and there is no timetable for reducing the threshold between tariff and eligible customer.

### **Transparency of accounts**

As mentioned earlier, the Energy Law requires that energy company that performs two or more energy activities, or performs some other activity in addition to an energy activity, shall keep separate accounts and prepare financial reports for each activity independently and separately, in accordance with accounting regulations for entrepreneurs. However, the law does not designate a competent authority that shall have the right to access the accounts. The Regulator argues that it should have access to the data, since it is financed from the income of energy companies, and there is provision in the Regulation Law enabling access to the data necessary to carry out its functions. Also, there is no obligation in line with Article 19 paragraph 4. of the Directive, that defines certain specific audit criteria.

### **Third party access to the networks**

There is legal ground for third party access to network. Namely, the Electricity Act states that the system operator and/or distribution company shall be obliged to allow access to the network to power generators and eligible customers on a non-discriminatory basis, based on the principle of regulated third-party access (Article 13, paragraph 1 of the Electricity Act).

### Market opening

According to Article 23, an eligible customer in Croatia is a customer with annual consumption exceeding 40GWh. There is no schedule for changing this threshold, but it is defined that the Government may prescribe a lower consumption level for gaining the status of eligible customers. There are 15 such customers, but none has so far exercised the

right to choose a supplier.

However, it should be noted that Croatia joined the Athens Memorandum in June 2001 and by doing so politically accepted the REM timetable for market opening. This implies that customers should have the option to choose suppliers by 2005, and that the network rules, as well as UCTE standards, were to be adopted by 2003.

## 3.2.2. Comparison of main issues delivered in the Background and the results from the current analyses. Priorities

As the analysis shows, the general legal framework is generally in line with EU requirements. However, the laws allow the implementation of EU principles only theoretically (for more, see Boromisa, 2002). The main obstacle for effective implementation of existing legislation is the lack of clarity, vaguely defined jurisdictions of different authorities, and their procedures. This, coupled with strong lobbies and ineffective judiciary, led to slowing down of reform.

The following is necessary in order to pursue market opening:

- Managerial and functional unbundling of TSO/DSO
- Defining technical criteria for third party access for transmission and distribution networks, both
- Improving competence and independence of the Regulator from industry.<sup>11</sup>

These measures can be implemented within the present legal frame-

work. However, for effective alignment with EU rules, law revisions are needed. These revisions should be sufficiently prepared, so that mistakes and difficulties emerging from different wording and definitions are not repeated. Namely, the legislation in force does not define some of the basic terms (e.g. the scope of public service obligation), and some of the definitions are not in line with EU acquis. Also, the Regulator is established as an independent legal body, but the Government defines its priorities through the process of giving consent to the Regulator's budget. The Government also influences the Regulator's decisions. So, the status of the Regulator should be clarified: either it should act as an independent legal entity or as part of state administration. If the Regulator is an independent legal entity, its procedures and competences should be precisely defined.

Basically, the main obstacles for efficient implementation are organisational and, to certain extent, due to a strong lobby opposing the introduction of market principles.

### 3.2.3. Good practices

The basic preconditions for alignment with EU rules are set. The legal framework allowing the gradual introduction of market principles is in place, and basic institutions are created. Co-operation with similar institutions in Central and Eastern Europe, as well as in "old EU-member states" (EU-15) is established, as well as with EU institutions (European Commission, CEER). Croatia is member of UCTE, Zone II. Technically, it is capable to

operate in different synchronous zones, which gives it an important role in re-connection.

Also, various regional initiatives have helped increase the "general understanding" of market issues, which should help in building institutional capacity. Institutional weaknesses are connected with general weaknesses of public administration in Croatia, and should not be regarded as sector-specific.

## 3.3. Gas sector

### 3.3.1. Existing deficits and obstacles in the implementation processes of EU requirements

#### Regulator

According to the Directive 2003/55/EC concerning common rules for the internal market in natural gas ("the Directive") the primary role of the Regulator is defined by Article 25.<sup>12</sup>

This requires the designation of one or more competent bodies with the function of regulatory authority. These shall be wholly independent from the interests of gas industry.

In Croatia, CERC is the regulatory authority. As mentioned in the electricity section, the Regulator lacks the capacity (staff) and authority to perform as foreseen by the directive. Next, Article 25 of the Directive lists specific functions that the Regulator should carry out. As is the case

for electricity, the monitoring function as defined by Article 25, paragraph 1, points a) to h) of the Directive is not explicitly defined as part of CERC tasks. Therefore, although CERC can try to perform these tasks within the present legal framework, this function might be challenged before the court. Furthermore, CERC does not have the authority to approve methodologies used to calculate or establish the terms and conditions for connection and access to national networks, nor to require the modification of these terms.

#### Designation and unbundling TSO

Article 2 of the Directive defines TSO as private or legal entity responsible for operating, ensuring the maintenance of and developing the transmission system in

12. The tasks of the Regulator are comparable with those in electricity sector, with some sector-specific changes. Therefore the full text of this article is not cited here.

a given area, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the transportation of gas. The main tasks of TSO are defined by Article 8. The Gas Market Law does not recognize the function of transmission system operator as a separate function from transmission. Transmission is defined as transportation of gas from intake point to the off-take measurement-reduction station, and transmission company is the legal entity carrying out the transport and transit of gas. Functions of transmission company include, inter alia, functions of TSO in the sense of the Directive.

The transmission company (Plinacro) was established in January 2001 as a separate company within vertically integrated INA Group. In March 2002, INA transferred all its shares to the State, so that, since then, Plinacro is 100% owned by the State, and complies with independence and unbundling criteria of directive.

### **Designation and Unbundling DSO**

Similarly as for TSO, the law in Croatia does not recognize the functions of DSO as separate from other distribution activities. The main challenge in meeting EU criteria emerges from the relatively big number of distribution companies (39 in Croatia) which are very different (by size/turnover, ownership structure etc.). Namely, distribution networks are built and financed very differently (by municipalities, system users/citizens themselves, or private investors) so the main challenge is the definition of objective, transparent and non-discriminatory rules for charging system

users and developing the terms and conditions, including rules and tariffs for provisions of balancing services in line with Article 12 (5) and Article 25 (2) of the Directive.

In addition, some distribution companies are owned by INA, and are therefore not sufficiently unbundled according to the requirements of Article 13(2) of the Directive.<sup>13</sup>

### **Technical rules**

According to the Gas Market Law (Article 8), transmission company is obliged to publicly announce the basic terms and conditions of access to the transportation system and make them available to all interested parties by publishing them in the press and the Energy Regulatory Council Newsletter. The basic terms and conditions were published in the Official Gazette and also in the CERC Newsletter. So the basic criteria prescribed by Article 6 of the Directive are met (without notification to the Commission, which should probably be done in the more advanced stage of EU-integration process).

### **Tendering and authorization procedure for building new capacities**

#### **Authorisation procedure**

Article 4 of the Directive defines the principles of the authorisation procedure. In Croatia, a licence issued by CERC is necessary for each of the activities performed in the gas market (transmission, distribution, trade<sup>14</sup>). Construction of transmission and distribution facilities demands a permission in compliance with the Law on

13. This probably does not represent a major non-compliance with the Directive, since distribution companies are rather small, so those owned by INA are probably within the scope of allowed exception, i.e. serving less than 100 000 connected customers. However, precise data on this are not available.

14. I do not mention supply, since there is confusion in wording. Supply in gas business, according to Croatian law, means production or import of gas, and the term "provision of gas" is used in the sense of "supply" as used in the Directive. This confusion is not only a translation issue; there is confusion in Croatian as well, and the terms are not aligned in Electricity Act and the Gas Market Law.

Construction. Concession is necessary for gas distribution. This is result of the fact that, in the period 2001-2004, gas distribution was regarded as an energy activity, i.e. one to which Energy Law, Gas Market Law, Regulation Law and related secondary legislation applied, as well as Law on Concessions and Law on Communal/Municipal Activities. Pursuant to the recent changes of Law on Communal Activities (Official Gazette 82/04) gas distribution is no longer regarded as communal activity, but only an energy activity. This was done in an attempt to avoid multiplying procedures and to simplify them. There was also a risk of an emerging situation in which one company can get a concession (issued by municipality, local or regional administration) but not a licence (issued by the Regulator). Since both permits are necessary to work as a distributor, such procedure should be clarified. Therefore, changes in Gas Market Law as regards concessions are necessary, and present rules cannot be regarded as efficient and aligned with the requirements of the Directive.

For transmission, the government approves development plans (for the construction of new lines), after which a licence is needed. Since the licence has no geographical scope, the extension of pipelines does not require amendments in the licence issued by CERC.

### **Transparency of accounts**

As mentioned earlier, the Energy Law requires that an energy company that carries out two or more energy activities, or carries out some other activity in addition to an energy activity, keeps separate accounts and prepares financial reports for each activity independently and separately, in accordance with accounting regulations for entrepreneurs. However, the law does not designate a competent authority that shall have the right to access the accounts. The Regulator is not explicitly authorized to

monitor the unbundling, as foreseen by Article 25(1) of the Directive. Still, the Regulator argues that it should have access to the data in order to ensure non-discrimination, effective competition and efficient functioning of the market.

In distribution companies that are part of municipal companies (dealing also with graveyards, water, waste etc.) unbundling from these activities was not effective. Unbundling and transparency was achieved in transmission and partially in distribution. Also, there is discussion as to where distribution "ends" and how accounts should be separated if distribution company also performs, for instance, installation works in households.

Storage is not yet unbundled from other activities.

### **Third party access to the networks and storage**

As opposed to the electricity sector, the system enabling third-party access to transport network is in place. The transport tariff system applicable to eligible customers and distribution companies is in place, and this is the base for third-party access which should be negotiated. The Network Rules defining terms and conditions for access to the gas transport system are passed by the Minister, after approval by CERC (Official Gazette 126/03). The transmission company also published the basic terms and conditions of access to the transportation system, which are the basis for negotiations the results of which are the provisions of a contract (Official Gazette 49/04). Negotiations define specific provisions of the contract as regards the duration of contract, capacities, metering conditions, quality of gas, capacity and pressure, provision of balancing services, payment methods and insurance, etc.

The system allowing third-party access to the distribution system has not yet

been put in place. This is connected with the fact that there is no tariff system for distribution in place. According to the Energy Law, a tariff system should be proposed by the distributor; the Ministry and CERC should give their prior opinion; and finally it should be approved by the Government. This procedure is quite lengthy and expensive. Also, a significant number of very different distributors makes it difficult to design a smaller number of similar tariff systems that can be individualised in terms of specific elements. A significant number of small distributors that have no capacity to propose a viable tariff system, coupled with various ownership structure (private, municipal, system-built and paid by users), size and organizational issues (concessions for private companies, municipalities as distributors, or private companies that own networks) make drafting of the tariff systems quite a complicated and lengthy task.

### **Market opening**

According to Article 12 of Gas Market Law, eligible customers in Croatia are customers that use gas for gas-powered power generators, customers that use gas for the production electricity and heat in a combined cycle. This is irrespective of their annual consumption. Also, eligible are consumers with annual consumption exceeding 100.000.000 cubic meters of gas. Hence, roughly 50% of the gas market is open (CERC annual report, p. 42).

The Gas Market Law states that the Government may prescribe additional or different criteria for gaining the status of eligible customers. In July 2004, the Government adopted a Regulation (Official Gazette 101/04) defining that producers of iron, steel, and alloys of iron whose annual production of iron exceeds 50.000 tons are also eligible.

## **3.3.2. Comparison of main issues delivered in the Background and the results from the current analyses. Priorities**

As the analysis shows, the general legal framework in the gas sector is simplified in comparison with the EU directive. It allows functional operation basically in line with EU rules, but without recognizing some of the functions in the system. The main issues to be tackled are definition of TSO/DSO, revised definition of supply, and alignment with EU rules at distribution level (downstream from transmission pipeline).

Also, the role of the Regulator should be brought in line with directive.

From the implementation point of view, the main obstacle is the "legal gap" defining distribution activities. According to the law, prices should be based on a tariff system adopted by the Government. However, the system in place relies on decisions of municipalities. This discrepancy

causes significant obstacles for distributors and challenges the work of the Regulator. The following is needed in order to align with EU legislation:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>a) Clarification of legal framework at distribution and downstream levels: clarification of authorization procedure and its alignment with the Directive,</li> <li>b) Alignment of the Regulator's tasks</li> </ul> | <ul style="list-style-type: none"> <li>c) Defining technical criteria for third-party access to distribution networks, and</li> <li>d) Defining storage tariffs and TPA provisions for storage.</li> </ul> |
|--|--|

with the Directive, which should be accompanied by the strengthening of the Regulator's institutional capacity (by allowing it to have its own staff),

Defining technical criteria for third-party access to distribution networks, and

Defining storage tariffs and TPA provisions for storage.

### 3.3.3. Good practices

At the transmission level, without explicit legal obligation, effective unbundling was put in place. All the necessary elements that allow market opening (market rules, network rules, tariff system) are in place.

Although the present solution has deficiencies (especially tariff system), it is implemented, and it represents a starting point for further measures, i.e. the development of transparent and non-discriminatory system.

## 4. Support reforms

### 4.1. Existing gaps, deficits and obstacles in the implementation processes of EU requirements

#### 4.1.1. Tariff reforms necessary to achieve cost-reflective prices

The Energy Law defines basic rules for tariff reform. In electricity and gas both, the tariff system shall be non-discriminatory and transparent, and provide incentives for the promotion of energy efficiency and management of the demand side, including promotion of the use of renewable energy sources. The prices shall be based on justified costs of operation, maintenance, replacement, construction or reconstruction of facilities and environmental protection costs, taking into account a reasonable rate of return on investment in power plants, facilities and network or system.

Elements for the calculation of the price of energy shall be specified in the tariff system. According to the Energy Law (Article 28), tariff systems shall be passed by the Croatian Government upon the proposal by energy enterprises to whose services the tariffs will be applied, based upon the opinion obtained from the Ministry and Croatian Energy Regulatory Council. These procedures should be brought in line with the electricity and gas directives, i.e. the Regulator should have the authority to define, at a minimum, the methodologies for calculation.

In the electricity sector, prices for generation of electricity (apart from electricity generation for eligible customers), transmission of electricity, distribution of

electricity, retail supply of electricity, operation and control of the electricity system, and organisation of the electricity market prices shall be set by the application of tariff systems.

For captive customers belonging to the same category, the price of electricity shall be equal throughout the entire territory of Croatia. The price shall also contain elements of compensation for services provided by energy enterprises under public sector obligations, compensation for carrying out the regulation of energy activities, and compensation for stranded costs.

Electricity transmission fees and distribution fees shall be set by the Energy Regulatory Council upon the proposal of the energy enterprise carrying out the transmission or distribution of electricity, respectively (Law on the Electricity Market, Article 12, paragraph 3). The electricity transmission fee and distribution fee will be set on the basis of network development and construction plans for a 3-year period. These plans are subject to prior approval of the Energy Regulatory Council.

However, at the moment, there is only one, all-inclusive price. Transmission and distribution fees are set by the Regulator, but development and construction plans have not been approved. In order

to define prices for each of the activities, they should be effectively unbundled first. At the moment, different companies within HEP Group have been created, but they have no assets. Therefore, it is a complicated task to define transparent criteria and methodology for the definition of justified costs of replacement, construction, reconstruction and maintenance.

In the gas sector, the tariff system for supply (defined as import and production of gas) and transport are in place. The basic elements of the calculation of gas prices are average oil-product prices published in Platt's European Marketscan on the CIF Mediterranean parity (for imported gas), the price of domestic gas (defined by the Ministry), and average selling exchange rate for US\$. As mentioned above, tariffs for distribution should be defined.

Furthermore, an efficient price-setting mechanism should be put in place to allow for the implementation of polluter pay principle, to allow statistical monitoring, and to ensure confidentiality of individual data.

Next, there are significant investment requirements, identified by the Government and main energy companies, to upgrade facilities to conform to EU stan-

dards, extend energy networks, and meet requirements regarding keeping 90-days stock. Given those investment needs, it is essential that the energy reform create incentives for investments, which requires the establishment of credible pricing and regulatory regime.

### **Protection of vulnerable consumers**

According to Article 24 of Electricity Law, the Government may, within the scope of a special economic or social program, set discounted electricity prices in the area of generation for specific categories of tariff customers. Since categories of tariff customers are specified in the tariff system, it implies that the generator should propose special category of such consumers, so that the Government may exercise its rights.

After approval of the present tariff system (Official Gazette 101/02), the Government adopted changes of the system (Official Gazette 121/02 and 129/02) that lowered the price for specific categories of consumers. However, this was neither done within a special social program, nor in line with the foreseen procedure. This was one of the examples when the Government (acting also as owner of the electricity company) (ab)used its power. This shows that the responsibility of players at all levels should be increased.

## **4.1.3. Reduction of non-technical losses**

The electricity distribution company launched an initiative aimed at reducing non-technical losses, which should enter into practice in October 2004. The initiative includes defining rules and responsibilities for employees of distribution company and

consumers both. Employees will face stronger sanctions if they participate in actions leading to increase of non-technical losses, while, on the other hand, there are awards foreseen for those who help identifying and reducing non-technical losses.

## 4.1.4. Environmental issues and increase in energy efficiency

According to the Energy Law, efficient energy use is of interest to the Republic of Croatia (Article 12). Energy efficiency programmes shall be passed by the Croatian Government in compliance with the Energy Strategy and the Programme on the national level, and on the local level by local or regional administration or self-government bodies.

Pursuant to a special law (Official Gazette 107/03), an Environmental Protection and Energy Efficiency Fund was established.<sup>15</sup>

The Fund finances projects, programmes and actions aimed at sustainable use and protection of environment. It also co-finances national energy programmes focused on energy efficiency and use of renewables.

In addition to special national programmes, energy efficiency and use of renewables should be promoted by the application of tariff systems. The tariff system, according to the Energy Law, should provide incentives for the promotion of energy efficiency and management of the demand side, including the promotion of the use of renewable energy sources. However, since tariff systems are applied for public service activities, special rules (or duties) should apply for market-based activities.

Pursuant to Article 8 of the Electricity Act, energy co-generators that produce electricity and heat in a single plant and that use waste or renewable energy resources in an economically viable

way and in compliance with environmental protection measures can gain the status of eligible (preferential) producer. The Minister prescribes conditions for the status of eligible producer. Market operator shall ensure the purchase of total produced electricity volumes from eligible producers under conditions at least equal to those currently effective at the organized market. Also, the market operator will give preference to eligible producers within the procedure of selecting the most successful tenders for meeting the demand for electricity.

Energy companies themselves are involved in energy efficiency programmes. HEP has established HEP ESCO Ltd., an energy service company which prepares, finances and implements energy efficiency projects on a commercial basis. The company was established with the aim of becoming a key creator of the market for energy efficiency projects in HEP Group and Croatia.

HEP ESCO's objectives are to involve domestic small and medium sized enterprises in the implementation of energy efficiency projects, to employ domestic equipment manufacturers, to allow construction of plants of higher energy efficiency, as well as to allow procurement and installation of energy-efficient equipment, all in order to reduce consumption, costs and imports of energy and pollution of environment.

Its projects include the modernization, reconstruction and renewal of existing plants and facilities in order to improve

15. The Energy Law (Official Gazette 68/01.), Article 11, also defines the need to establish a special fund, as does the Environment Act (Official Gazette No 82/94 and 128/99), Article 60(5).

technological solutions and use energy in an efficient manner. The funds invested are paid back from energy savings. The projects are selected on the basis of market criteria, where the key indicator is the payback period.

HEP ESCO finances the entire project, which means project development, preparation and implementation. HEP ESCO's clients (electricity and heat consumers) repay the investment out of energy and maintenance savings achieved as a result of the use of the project, or as a result of the installation of new, more efficient, equipment. The clients thereby obtain new equipment of higher energy efficiency without additional costs or investments. HEP ESCO uses World Bank loans and Global Environmental Facility grants for the realisation of energy efficiency projects and development of market. The estimated market potential in Croatia is 400 000 000 US\$.

Similarly, INA also supports energy-efficiency projects, and publishes annual reports on the protection of environment. The scientific project "National Energy Programmes" is conducted by Energy Institute "Hrvoje Požar". The goals of this project are better use of existing technologies, use of renewable energy sources, and increased energy efficiency. It consists of several sub-projects, including:

- PLINCRO (Croatian gas pipeline

- installation programme)
- ENWIND (use of wind energy)
- GEOEN (use of geo-thermal energy)
- KUEN (building) (energy efficiency in buildings)
- KUEN (cts) (energy efficiency in central heating stations)
- COGEN (co-generation of electricity and heat)
- MIEE (network of energy efficiency in industry)
- MAHE (small hydro-power plants)
- SUNEN (solar energy)
- BIOEN (biomass energy and waste utilisation)
- CROKOK (energy efficiency of islands)
- TRANCRO (energy efficiency in transport)

In the years 2002 and 2003, these programmes were supported by the Ministry of Economy with 2.8 million HKR p/a.

However, these measures do not comply with the aims of EU's Renewables Directive (Directive 2001/77/EC) to increase the share of electricity produced from renewable energy sources (RES) in the EU to 22.1 percent by 2010, thus helping the Union reach the RES target of overall energy consumption of 12 percent by 2010. As already identified, national programmes and strategy have comparable goals, by lack concrete implementation measures, including timetables and relevant analyses.

#### 4.1.5. Security of supply

According to Article 29 of the Energy Law, the Government shall prescribe General Conditions of energy supply for end-users following the proposal by the Minister and after obtaining opinions from the Regulator and the Ministry. These shall

define the obligations of granting connection to the network and supply of energy, conditions of connection and supply, conditions of energy delivery, constrains and interruptions, and issues relating to conditions under which the connection will be effected.

Electricity or heat generators and energy enterprises that produce or import oil and oil derivatives have to keep strategic stock, according to a special law (Official Gazette 87/2002). In addition to strategic stock, the Minister prescribes the necessary operational energy stock, which specifies the manner in which storage capacity has to be ensured, the manner and conditions for the use and renewal of such stock, and operators' rights and liabilities concerning operational stock.

The Government prescribed the conditions of keeping stock of oil and oil derivatives (Official Gazette 27/2003) and defined that private and legal entities that have, in the preceding year, imported 25 tons of oil and derivatives, have to keep stock equalling 25% of their net import in the preceding year.

In the electricity sector, it is the system operator that guarantees regular and reliable supply of electricity. In the gas sector, the Ministry is responsible for long-term planning and development of the gas transmission system in order to ensure the permanent and secure supply of natural gas, while the producer and importer are responsible for the availability of sufficient volumes of gas.

These measures, combined with adequate generation (related to tendering and authorisation procedures), demand side-management through promotion of energy efficiency, monitoring and planning are in line with EU requirements.

Furthermore, the Energy Law prescribes specific rules applicable in exceptional circumstances. First, the Regulator can pass a resolution ordering the energy enterprise to transfer its plants, facilities, appliances, network of system to another energy enterprise to operate them when this is absolutely necessary to ensure regular and secure supply of energy, in order to prevent or remove serious damage in the operation of legal entities and in the life and health of citizens.

Second, in case of a significant disturbance in the domestic market due to unexpected or continual shortage of energy, in case of immediate threat to sovereignty and integrity of the country, and in case of serious natural disasters or emergency situations, the Government can impose constraints on trading with specific energy sources, prescribe special trading conditions, limit or prescribe special conditions for exports and imports of energy, prescribe obligatory energy generation, or impose obligations to deliver energy only to selected customers.

As concerns the alignment with the "new acquis", such as Directive 2004/67/EC concerning measures to safeguard security of natural gas supply, some measures are already in place (e.g. current practice is in line with Article 4), but some additional measures will be needed (e.g. to meet the requirements of Article 5 d).

## 4.2. Comparison of main issues delivered in the Background and the results from the current analyses. Priorities

To ensure that Croatian energy sector is sufficiently aligned with EU regulation, basic legal acts should be amended. It seems, however, that the legal framework already in place does not significantly deviate from EU rules. The challenge ahead is its successful implementation and accompanying measures, mainly relating to institution-building (as concerns sector-specific institutions, but also "general" institutions) and standardisation.

Steps to be taken can be separated into two wide categories. The first one is the creation of a market-based sector, with policies and legal framework compatible with the EU (institutional and legal reform), while the second relates to technical capacities (infrastructure).

Institutional and legal reforms include amendments of laws and alignment with EU directives. Missing secondary legislation should be adopted that would allow the removal of existing barriers to enter the market. For example, in electricity, this means the definition of grid code, transparent and applicable rules for using interconnection capacities, definition of rules allowing third-party access to distribution and transmission network both. The enforcement of many of those is pending for the power sector restructuring and energy regulation. Therefore, measures should be prioritised and sequenced.

Also, operational standards should be developed (such as quality of supply standards, metering code, CE sign, CEN/CENELEC standards) and rules for mutual recognition (with the EU and within the region) should be implemented.

Amendments to laws should also include provisions that are not directly EU-integration related, but clarify the responsibilities of each of the subjects, especially the Government, the Regulator, the standardisation office and utilities.

Accompanying measures, such as reform of the tariff system, including definition of measures supporting energy efficiency and use of renewables, should be developed in co-operation with relevant bodies, such as the Agency for the Protection of Market Competition (which is also the relevant body for state aid), The Environmental Agency and The Energy Efficiency Fund.

For the success of energy sector reforms, some "general" reforms, such as cadastre and judicial system, are also needed. This is necessary to increase the security of investments, and allow the enforcement of contracts, so that investors can have confidence that they will recover the costs associated with their investment over the life of the asset.

Technical measures relate to investments in the necessary post-war reconstruction of parts of the electricity, natural gas and oil networks, and upgrading facilities to conform with EU standards, maximizing the utilization of resources, diversifying sources of supply and enhancing security of supply, and extending energy networks both nationally and with neighbouring countries, to develop trans-European networks and regional energy markets. This is inter-related with institutional changes. Namely, given Croatia's investment needs, it is crucial that the

country provide incentives for private investment in energy networks. This will require the creation of an incentive framework with the following key features:

- transparency and predictability of the industry and market structures and regulatory framework, minimizing the risks perceived by potential investors. This requires completing the ongoing
- restructuring of energy companies; credibility of the regulatory system, through clear division of responsibilities between the Government, the Parliament and the Regulator;
- efficient, cost-reflective tariffs that provide adequate signals to investors and customers; and
- improving energy efficiency, net work maintenance and charges system.

### 4.3. Good practices

Basic EU requirements, as concerns transparency and market opening, are implemented in domestic laws. Implementation measures follow the experience of more developed countries. International co-operation has been estab-

lished, and regional co-operation as well.

As mentioned above, a reform was launched that allows gradual alignment with the EU. However, the challenge is to speed up the process.

## 5. Investments in the energy sector

### 5.1. Privatisation processes

#### Gas sector

Rules for privatisation of INA are defined by a separate Law on INA Privatisation (Official Gazette 32/2002). According to this law, the privatisation of INA d.d. shall be carried out as follows:

1. by transfer of 7% of shares, without compensation, to Croatian Homeland War veterans and members of their families;
2. by sale of maximum 7% of INA d.d. shares to present and former employees of the companies within the INA Group, with special benefits to be determined by the Government of the Republic of Croatia;
3. by sale of maximum 25% plus one share to INA's strategic investor;
4. by sale of minimum 15% of shares by way of public offer, in compliance with separate regulations governing the issuance and trading in securities to:
  - Croatian citizens, with such pre-emptive right and such preferences and under such conditions as may be determined by the Government of the Republic of Croatia, on listing of INA d.d. shares on the stock exchange,
  - Croatian legal entities and foreign investors, without any preferential treatment by way of public offer,
5. by sale or swap of the remaining shares to a strategic investor in accordance with market conditions

or on the capital market, as per the decision of the Government of the Republic of Croatia and subject to prior consent of the Croatian Parliament;

6. a necessary number of shares shall be taken from the remaining shares as compensation for former owners.

At least 25%+1 share of INA d.d. will be kept in direct State ownership, and this shall be privatised in accordance with a separate law upon accession of Croatia to the EU.

In April 2002, the Government decided on the sequencing and timetable for privatisation.

In the first stage, 25%+ 1 share was sold to strategic investor. This stage of privatisation was launched in 2002, and finalised in July 2003, as the Government decided to sell 25% +1 share (a total of 2,500,001 shares, nominal value 900 HRK per share) to strategic partner MOL (Hungarian Oil and Gas plc.).

Next, it was decided that shares reserved for the Homeland War veterans will be transferred to the special Homeland War veterans' fund, within 7 days from the establishment of the fund. The fund was established pursuant to the special law (Official Gazette 163/03, 82/04).

According to the same Government decision, shares to the employees and former employees will be

sold to them within 30 days from the first public offer of shares. Public offer of 15% shares was scheduled to start within 6 months after the initial sale of 25%+1 share.

## Electricity

Hrvatska elektroprivreda d.d (HEP) is a State-owned vertically integrated electricity utility. Separate Law on HEP Privatisation (Official Gazette 32/2002) defines the privatisation plan. According to this law, HEP has to hold ownership in its companies that carry out transmission of electricity, distribution of electricity, supply of electricity to tariff customers, or own transmission or distribution network, until Croatia enters the EU. More precise, the State will keep 51% of HEP shares until Croatia becomes EU-member.

Pursuant to the Hrvatska elektroprivreda d.d. Privatisation Act, draughter companies (HEP Generation, HEP Transmission, HEP Distribution, HEP Supply,

and CROISMO) shall not be privatised individually. They will be part of HEP d.d. (mother company). Also, HEP d.d. shall retain exclusive ownership of its Transmission and Distribution subsidiaries. The privatisation of HEP d.d. shall be carried out as follows:

- 7% of shares shall be transferred free of charge to Croatian Homeland War veterans and their family members;
- up to 7% of shares will be offered to employees and former employees, under privileged conditions;
- at least 15% of shares will be sold to Croatian citizens, with preference, and to domestic legal entities or foreign investors, upon public offer;
- the residual shares shall be sold under market conditions on capital markets<sup>16</sup>.

It was announced that HEP privatisation will start in 2005.

## 5.2. Private investments

In the electricity sector, private investments are limited. The vague legal framework and monopolistic position of HEP discourage private investors. Several companies registered their offices, planning to build and exploit wind power, mostly on

the seaside. However, since secondary legislation is missing, the projects are not operational yet.

In the gas sector, there are several private companies operating as distribution companies.

## 5.3. New capacities and revitalisation programmes

HEP management board is planning to launch the investment necessary to ensure 1220 MW in the system. During the 2004-2008 period, it is planned to install

350 MW of new gas-powered plants: cogeneration unit in Zagreb - TE-TO Zagreb (100 MW) and thermal power plant in Sisak - TE Sisak (250 MW). War damages are still

16. Law on HEP Privatisation, Official Gazette 32/2002

being repaired, and in November 2003 the Ernestinovo transformer station 400/110kV was repaired. The project value was 60 million euro.

A gas pipeline is being constructed partially through the loan of the European Investment Bank. The EIB loan covers 90

million euro, out of the total of 187 million. For the period 2006-2010, it is estimated that investments of 21,577 million HRK (fixed prices in 2002) are necessary. Of this, 15 million should go to electricity supply system, 2,980 to the gas system, 2,095 to oil and oil products, 38 to heat, and 1,411 in renewables (Government, 2003, p. 20).

## 5.4. International donor programs

USAID, World Bank, EC as well as international financial institutions have been supporting some projects in energy sector.

World Bank has supported Croatia's efforts to ensure an efficient energy supply.

World Bank has been providing investment and grant support to the energy sector in Croatia through: (a) Energy Efficiency Project - promoting greater efficiency in energy use (i.e. modernization) and facilitating the creation of an energy efficiency market (i.e. market development/attracting private investments); (b) Renewable Energy Resources Project - help in developing a rational policy framework for renewable energy (i.e. regulatory framework development) and promoting the development of the market for renewable energy resources. Further support is also provided through (c) analytical and advisory services, as supported by the Country Economic Memorandum (which, among others, analyses the situation in the energy sector in Croatia and recommends future strategy): CEM identifies energy and infrastructure as key building blocks of development in Croatia.

It was announced that the 2004-2007 Country Assistance Strategy (CAS) for Croatia will offer opportunities to discuss possibilities for further cooperation in the energy sector in Croatia. Possibilities

include the Bank supporting: (a) implementation of Croatia's commitments under SEEREM; (b) development of district heating companies and the rehabilitation of heating systems in Zagreb and Osijek. The Ministry of Economy proposed GEF/World Bank project of Renewable Energy Sources, the objective of which is the development of sustainable market of renewable energy sources, (c) including a chapter on efficient provision of energy into 2004-2007 CAS. World Bank has financed two energy efficiency projects, the beneficiary of which is HEP, and includes 2 components: service of management consultant to enhance the development and performance of HEP ESCO, in the total amount of 555,000 US\$, and market assessment and monitoring framework, amounting to 41,000 US\$.

USAID has from the outset supported institution building and creation of the new legal framework under the regional project Energy Sector Restructuring. In response to requests from the Ministry of Economy, USAID assisted in drafting a package of four major energy sector laws, passed in July 2001, which created a statutory regulatory framework for energy sector regulation and establishing an independent regulatory authority, Croatian Energy Regulatory Council (CERC). USAID has been focused on the electricity sector, assisted CERC in assuming its responsibilities

ties, joining a regional regulators association (ERRA), and signing a partnership agreement with the New York State public utilities regulator. Through technical assistance, USAID assists the restructuring of HEP into affiliated daughter companies with full separation of accounts. Major areas of support include assistance with grid codes, various tariffs, economic and technical aspects of the regional power market, Independent System and Market Operator (CROISMO), fees and various issues related to HEP restructuring.

USAID also supports Croatia's involvement in regional electricity market planning activities. Through the South East Europe Cooperative Initiative (SECI), Croatia participates in two USAID-funded projects: (a) Development of Modern Teleinformation System among National Dispatch Centres; and (b) Regional Transmission Planning. This program works with municipal officials on energy planning and energy

efficiency improvement (with emphasis on schools, hospitals and district heating). The city of Rijeka is the first pilot city to endorse a comprehensive energy planning methodology, developed with USAID assistance, which will also be implemented in other Croatian cities.

The European Union has also provided help for the energy sector in Croatia. In 2001, 3.8 million euro was allocated under CARDS programme for energy infrastructure rehabilitation. The Ministry of Economy, with a partner institution, is preparing or implementing a number of bilateral and multilateral programmes, such as those relating to energy efficiency: National CARDS 2003 includes the project Estimation of Wind and Solar Energy Sources in Croatian Pilot Region, and also project proposals related to development of institutional and legal framework for energy effectiveness.

## 6. Final recommendations

Steps to be taken can be separated into two wide categories. The first one is the creation of a market-based sector, with policies and legal framework compatible with the EU (institutional and legal reform), while the second relates to technical capacities (infrastructure).

Institutional and legal reforms include adjustments in laws. This is necessary for alignment with the *acquis*, but should also include provisions that are not directly EU-integration related, but clarify responsibilities of each of the subjects, especially the Government, the Regulator, Standardisation Office, and utilities. Missing secondary legislation should be adopted, which would allow the removal of existing barriers to enter the market. Existing legal gaps should be resolved, which requires wide preparation and is closely related with power sector restructuring and energy regulation. Therefore, measures should be prioritised and sequenced.

Such reforms should also encourage investments, since transparent and predictable framework is a necessity for attracting potential investors. This requires completing the ongoing restructuring of energy companies, and increased credibility of the regulatory system through clear division of responsibilities between the Government, the Parliament and the Regulator.

Accompanying measures, such as the reform of the tariff system, including the definition of measures supporting energy efficiency and use of renewables, should be developed in co-operation with relevant bodies, such as the Agency for the Protection of Market Competition (which is also the relevant body for state aid), the Environmental Agency and the Energy Efficiency Fund. Implementation of such measures is a necessity for investors and consumers both.

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