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HEP Group



Energy company Hrvatska elektroprivreda (HEP Group) is one of the largest business groups in Croatia. It is the leading producer and supplier of electricity and heat in the country and the second largest natural gas supplier. National operators of transmission and distribution systems are part of HEP Group.

# 1 HEP group

**HEP d.d.** (Hrvatska elektroprivreda d.d., with the seat in Zagreb) is a fully state-owned parent company of HEP Group, wholly owned by the state, the founder and a sole (100%) owner of subsidiary companies; it consolidates the management of HEP Group subsidiaries and is the owner of assets which are contractually transferred to subsidiaries or daughter companies for management.

HEP Group on December 31, 2015.

## Subsidiary companies wholly owned by HEP d.d.

HEP-Proizvodnja d.o.o.

HEP-Operator distribucijskog sustava d.o.o.

HEP-Opskrba d.o.o.

HEP-Trgovina d.o.o.

HEP-Toplinarstvo d.o.o.

HEP-Plin d.o.o.

HEP-Opskrba plinom d.o.o.

HEP ESCO d.o.o.

TE Plomin d.o.o.

HEP-Upravljanje imovinom d.o.o.

Plomin Holding d.o.o.

Program Sava d.o.o.

Ustanova Hrvatski centar za čistiju proizvodnju

CS Buško blato d.o.o. BiH

Ustanova HEP Nastavno-obrazovni centar

HEP-TRADE d.o.o., Beograd

HEP-Trgovina d.o.o., Ljubljana

HEP-Trade d.o.o., Mostar

HEP-Magyarország Energia kft

HEP-KS sh.p.k., Priština

## Companies in mixed ownership

**HEP-Telekomunikacije d.o.o.**  
Co-owned by HEP d.d., HEP ODS and HOPS

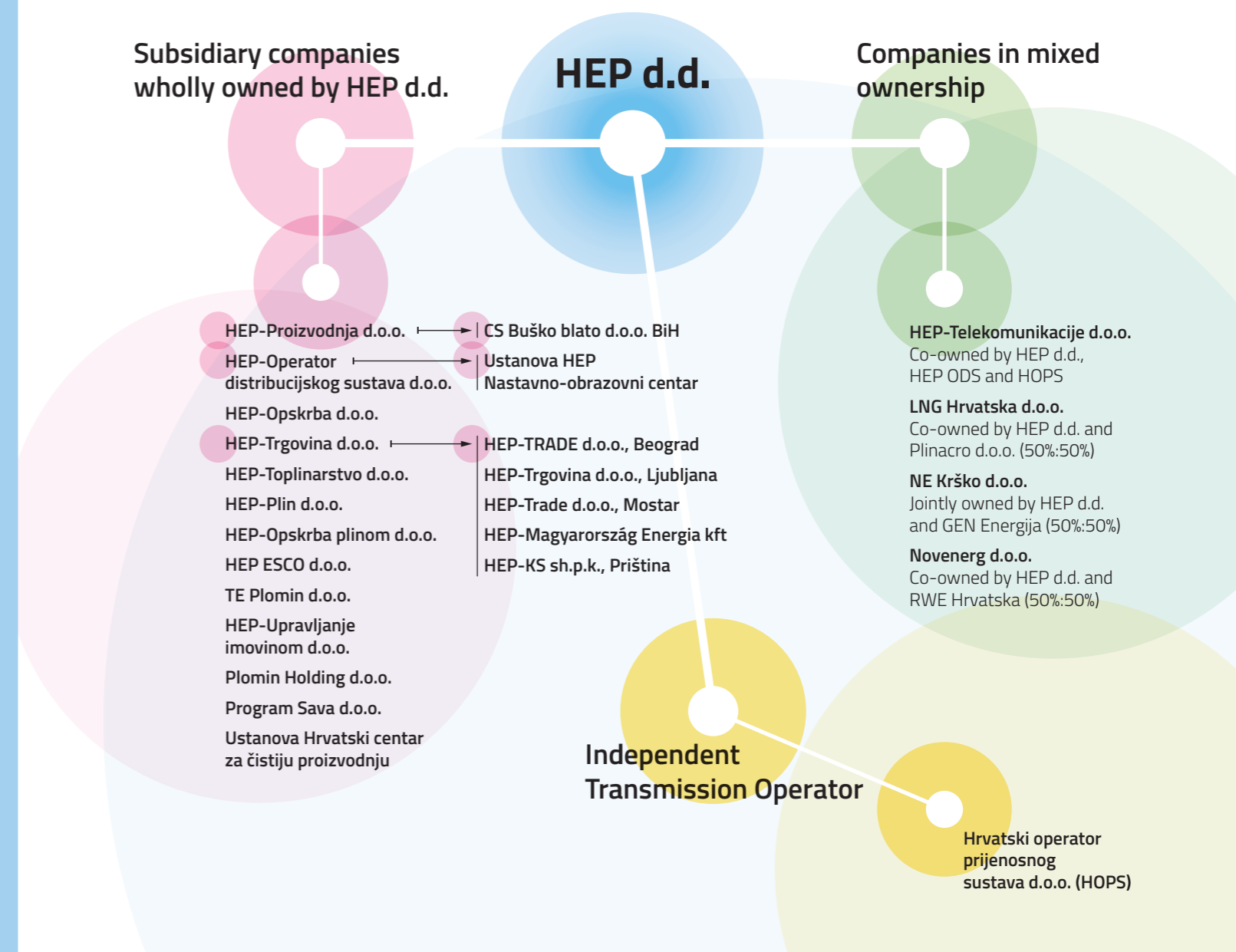
**LNG Hrvatska d.o.o.**  
Co-owned by HEP d.d. and Plinacro d.o.o. (50%:50%)

**NE Krško d.o.o.**  
Jointly owned by HEP d.d. and GEN Energija (50%:50%)

**Novenerg d.o.o.**  
Co-owned by HEP d.d. and RWE Hrvatska (50%:50%)

## Independent Transmission Operator

Hrvatski operator prijenosnog sustava d.o.o. (HOPS)



### SUBSIDIARY COMPANIES WHOLLY OWNED BY HEP d.d.

**HEP-Proizvodnja d.o.o.** (HEP Generation) carries out the activity of electricity generation and heat production for district heating systems in the cities of Zagreb, Osijek and Sisak. C.S. Buško Blato d.o.o., a daughter company of HEP Proizvodnja, a part of the hydropower plant system Orlovac, is located in Bosnia and Herzegovina.

**TE Plomin d.o.o.** operates the second block of 210 MW Plomin Thermal Power. Until May 28, 2015, the company was co-owned by HEP d.d. and RWE Hrvatska.

**HEP-Operator distribucijskog sustava d.o.o.** (HEP ODS; HEP Distribution System Operator) performs two energy business activities: distribution of electricity and supply of electricity to customers within public services. The company is responsible for construction, maintenance and management of the distribution network and plants, as well as reliable customer supply. In mid 2015, HEP ODS acquired ownership of HEP Nastavno-obrazovni centar (HEP Training and Education Center), previously established by HEP d.d., an educational institution which provides live work training, conducts secondary school programs for adults and organizes professional consultancy, seminars and courses.

**HEP-Opskrba d.o.o.** (HEP Supply) supplies electricity to customers, according to market conditions.

**HEP-Trgovina d.o.o.** (HEP Trade) carries out the following activities on behalf and for the account of HEP d.d.: purchase and sale of electricity, lease of cross-border transmission capacities, purchase and sale of gas, lease of transportation system capacities, optimization of HEP's power plant operations and ensuring the required electricity volume for HEP customers, emission trading, green certificate trading, power purchase agreements with producers other than HEP Group. HEP-Trgovina daughter companies - HEP Energija d.o.o. Ljubljana (Slovenia), HEP Magyarország Energia KFT (Hungary), HEP Trade d.o.o. Beograd (Serbia), HEP KS.sh.p.k. Priština (Kosovo) i HEP Trade d.o.o. Mostar (Bosnia and Herzegovina) perform electricity trading activities. Through its daughter companies and in cooperation with HEP-Opskrba, HEP-Trgovina develops electricity supply for customers in other countries.

**HEP-Toplinarstvo d.o.o.** (HEP District Heating) is active in heat production, distribution and supply in the cities of Zagreb, Osijek, Sisak, Velika Gorica, Zaprešić and Samobor.

**HEP-Plin d.o.o.**, (HEP Gas), headquartered in Osijek, distributes and supplies natural gas to customers.

**HEP-Opskrba plinom d.o.o.** (HEP Gas Supply) carries out business activities of trade mediation on both domestic and foreign markets, fuel (gas) procurement contracting procedures and the sale for the needs of public service users, companies within HEP Group, as well as other end customers, gas trade, gas supply and the provision of trading services.

**HEP ESCO d.o.o.**, a company for the provision of energy services, develops, implements and finances market-based energy efficiency projects.

**HEP-Upravljanje imovinom d.o.o.** (HEP Asset Management) – until May 2015 active under the name HEP-Leisure and Recreation) manages non-operating assets of HEP Group and provides tourism services.

**Plomin Holding d.o.o.** develops local infrastructure and entrepreneurial projects in the vicinity of the Plomin thermal power plant.

**Program Sava d.o.o.** is responsible for the development and management of the multipurpose program for the protection, regulation and utilization of the Sava river and its river banks from the border with the Republic of Slovenia to the city of Sisak.

**Ustanova Hrvatski centar za čistiju proizvodnju** (Croatian Cleaner Production Center). Having merged with APO d.o.o., HEP d.d. inherited founder's rights to the institution in charge with the promotion of cleaner industrial practices.

**Hrvatski operator prijenosnog sustava d.o.o.** - HOPS (Croatian Transmission System Operator) has been unbundled from HEP Group pursuant to the Electricity Market Act and according to the ITO (Independent Transmission Operator) model.

### COMPANIES IN MIXED OWNERSHIP

**HEP-Telekomunikacije d.o.o.** (HEP Telecommunications), co-owned by HEP d.d., HEP ODS and HOPS, provide telecommunications support to HEP Group business operations.

**NE Krško d.o.o.** (Nuclear power plant Krško), Republic of Slovenia, co-owned by HEP d.d. and GEN Energija (50%:50%).

**LNG Hrvatska d.o.o.**, co-owned by HEP d.d. and Plinacro d.o.o. (50%:50%), was established for the construction and management of infrastructure necessary for the receipt, storage and re-gasification of liquefied natural gas.

**Novenerg d.o.o.** (established in October 2015.), is jointly owned by HEP d.d. and RWE Hrvatska d.o.o. (50%:50%), engages in the strategic assessment and the analysis of investment potentials focusing on electricity production from renewable sources of energy and the provision of technical consulting services.

### Key data

#### Generation facilities

26 hydropower plants – installed capacity 2,094 MW\*

8 thermal power plants and 50% of nuclear power plant Krško – total installed capacity 2,253 MW

#### Distribution network\*\*

25,614 MV and LV substations (35-20-10 kV)

136,732 km MV and LV line lengths (overhead and cable)

\*without HE Dubrovnik B plant, which operates for B-H

\*\*comprises power lines constructed as 110 kV, but are presently used at medium voltage (total length of 104 km), does not include substations and high voltage lines belonging to HOPS system

## Distribution network length on December 31, 2015

Voltage level	[km]
Lines 35(30) kV	4,592
Lines 20 kV	8,591
Lines 10 kV	27,712
Network 0.4 kV	62,524
Residential connections	33,313
<b>Total</b>	<b>136,732</b>

## Financial result

Consolidated statement (short) mil. HRK	2014	2015	15-14	%15/14
Operating income	13,599.2	<b>14,569.5</b>	+970.3	+7.1%
Operating expenses	10,398.7	<b>11,573.7</b>	+1,175.0	+11.3%
Operating profit	3,200.4	<b>2,995.8</b>	-204.7	-6.4%
Net profit of the Group	2,465.4	<b>1,940.1</b>	-525.4	-21.3%
Net profit attributable to equity holders of the parent	2,462.3	<b>1,939.1</b>	-523.2	-21.2%

Note: consolidated data include HOPS.

Basic indicators	unit	2013	2014	2015	% 2015 / 2014
Electricity sale (domestic and foreign market)	TWh	14.5	15.2	<b>14.9</b>	-2.0%
Electricity generation	TWh	14.6	14.3	<b>11.5</b>	-19.3%
Heat sale	TWh	2.2	1.9	<b>1.9</b>	+3.7%
Gas retail	TWh	1.2	1.1	<b>1.2</b>	+8.4%
Gas wholesale*	TWh	---	3.0	<b>5.9</b>	+94.6%
Operating income	mil. HRK	14,694.9	13,599.2	<b>14,569.5</b>	+7.1%
EBITDA	mil. HRK	4,174.2	5,378.9	<b>4,507.8</b>	-16.2%
Net profit of HEP Group	mil. HRK	1,298.2	2,465.4	<b>1,940.1</b>	-21.3%
Total assets	mil. HRK	34,571.4	35,856.7	<b>38,211.4</b>	+6.6%
Investments	mil. HRK	2,166.9	2,063.7	<b>2,528.1</b>	+22.5%
Employees	number	11,877	12,061	<b>11,935</b>	-1.0%

Note: the consolidated data include HOPS.  
\* gas wholesale was initiated in April 2014

# 22.5%<sup>↑</sup>

growth of investment of HEP  
Group in 2015, compared to  
2014.



Introduction  
by the President  
of the Management Board

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Reaching successful business results and fulfilling the goals of responsibility towards the owner, realizing high quality standards is accompanied by the development of standards by which we reduce our impact on the environment; innovation development and new technological solutions as well as the promise that we will always be a reliable and worthy partner to the organizations and individuals we cooperate with.

## 2 Introduction by the President of the Management Board

Dear readers,



**Perica Jukić**  
President of the  
Management Board

It is my great pleasure to present you Sustainability Report of HEP Group for the year 2015, which was a very special year for us, the HEP people. We proudly celebrated the 120<sup>th</sup> anniversary of the first electric energy system in the Republic of Croatia, one of the first AC systems in the world as well as the 25<sup>th</sup> anniversary of the establishment of Hrvatska elektroprivreda. These two celebrations symbolize our Group today – rich with centennial tradition, experiences, stable and sustainable in the long run, but also strong, ambitious to grow and always looking towards the future. In very challenging times, a dynamic market environment that constantly changes, facing fast development of technologies, we formulate our goals within the sustainable development framework. All our activities are performed in the partnership with our numerous stakeholders. The purpose of this report is to present the impact of HEP Group on the economy, society and environment, by providing data transparently and in compliance with the reporting standards, but also by presenting our projects which reflect our dedication and commitment to the sustainable development and social responsibility.

The size of our Group, like our industry, brings about specific range and types of responsibility, because the impact of HEP Group is significant and is reflected in numerous segments of life. Electricity, heat and gas are the benefits of civilization forming the fundamentals of living standard of our citizens, but also establishing the base for industrial and economic development. Our products and services enter almost every home and business, we touch lives of almost all Croatian citizens. Therefore, our corporate slogan „More than electricity“, depicts HEP so well. This slogan reminds our customers and citizens that HEP is much more than just an electricity company. There is a whole large and complex system which is invisibly behind the socket, ready to react on the turn of the light – to respond to everybody's need for light, heat, power and information. We are aware of our responsibility and the special role HEP Group plays in the strategic development of the Republic of Croatia. Meeting objectives to lead a successful business and show responsibility towards the owner, as well as fulfilling high quality standards, is accompanied by the development of standards by which we reduce our impact on the environment and continue working on innovations and new technological solutions. By doing this we fulfill the promise that we will always remain a reliable and worthy partner to all organizations and individuals with whom we cooperate.



In the reporting period HEP Group conducted business in a dynamic framework and under challenging circumstances. We continued the organizational transformation of HEP Group initiated in 2014, based on identified and defined objectives and measures. In 2015 we conducted reorganization of the majority of companies in the group. Additionally, the transformation of business segments was launched where room for improvement was identified. In the segment of regulated activities, HEP Operator distribucijskog sustava initiated preparatory actions to unbundle supply from network activities, simultaneously with the preparations for all-encompassing business restructuring. Hrvatski operator prijenosnog sustava (HOPS) continued with the process to obtain the certificate as the independent transmission operator (ITO model) and the draft certificate was submitted to the European Commission in October 2015.

„More than electricity“ has another meaning. Companies in the HEP Group are not only in electrical energy business, they also deal with distribution and supply of heat and gas, implementation of energy efficiency projects and other business segments. Each company faces dynamic regulatory changes of the energy sector, as well as new challenges and requirements in customer relations.

We are especially proud that our companies managed to prove the capacity to adapt to the changes dictated by the liberalized market. HEP-Opkrba expanded its broad experience in competitive segment of commercial customers to residential business. By introducing favorable prices and constantly developing new products and services, they assured recognition and successful business in a very demanding year. The majority of our customers continued to use the public supply service provided by HEP ODS and therefore we have been focused on service development in this segment, especially by establishing a more efficient customer service and higher quality of customer relations management.

Stability and security of supply remain substantially important values in our business, because they create foundation for trust in HEP as a strategically vital company. In the reporting period, significant resources were invested in revitalization of hydropower plants. HEP remained Croatia's the largest investor in green economy, with the total investment of 3 billion kuna in hydropower plants. Investment projects, to a great deal, employ predominantly domestic companies and thus HEP contributes to the growth of the national economy. In the segment of conventional thermal energy sources, we were focused on construction and preparation of new gas-powered plants – highly efficient co-generation facilities on the existing locations.

HEP is fully committed to develop own renewable energy portfolio, besides the already existing large capacities in hydropower. Besides installing own photovoltaic facilities, we initiated the construction of two co-generation plants using biomass. Potential acquisitions of several renewable energy projects is also being considered, especially in wind power. Dedicated to the development of electrical mobility, we have increased the number of public charging stations all over the country.

Besides renewable sources of energy, the second large segment of energy-climate policy is the implementation of energy efficiency measures. In 2015 HEP Group initiated the development of own energy management system, which would result in measurable energy, environmental and financial benefits.

Financial stability and security is fundamental to the systemic sustainability of large business operations. In the reporting period HEP Group achieved exceptional business results. Our solid financial position was additionally strengthened by a successful bond issuance. The trust received by international institutional investors is a proof that HEP enjoys a respectable reputation of a long-term sustainable company with a large development potential.

A strong and stable corporation is always created by its people – their knowledge, professionalism, innovativeness, enthusiasm, hard work and commitment. Our field teams repeatedly proved great skill and dedication during extreme weather and natural disasters, helping highly sensitive populations when it was most needed. Aware that company success relies on the quality of its employees, we develop HEP to create a learning organization, competence center and role model of competitiveness of research, scientific, production and construction potential in the energy sector in Croatia.

In the reporting period HEP continued tradition of community investment and participation in various projects and actions with the purpose of increasing social capital or creating humanitarian value. Besides investing in specific projects, HEP people have been good partners in local communities by investing their time, knowledge and enthusiasm in community projects. During 2015, HEP partnered with many educational and scientific institutions, local communities and civil society organizations, with the goal to increase living standard, improve humanitarian situation or create social development.

In planning and implementing activities of raising its business sustainability and social responsibility HEP group strives to timely recognize risks related to economic, social and environmental aspects and to handle them by active management. We are aware of the necessity for raising sustainability goals, designing and implementing a long-term CSR strategy and the development of dialogue platforms and stakeholder engagement. Our understanding of improvement opportunities in certain categories is described in the individual chapters of this report.

This sustainability report contains all the mentioned topics. We tried to tell an all-encompassing and, I believe, interesting story of HEP and our impacts on the communities in which we work and live. Therefore, I invite you to read our report and to share with us your comments and advice.

The report was composed in compliance with the G4 Global Reporting Initiative guidelines. I express gratitude to all members of the Reporting Team who participated in developing material issues, gathering relevant data, composing interpretations and presenting the content.

# 3 billion

HRK is HEP Group investment in hydropower plants, which makes it the largest investor in green economy in Croatia.

Material issues  
and stakeholder relations

3



Material issues were not generated just as a subjective reflection of the team or various parts of HEP Group. They were collected and analyzed based on dynamic interactions with stakeholders in various forms or by collecting stakeholder feedback, in attempt to list all material issues relevant to our stakeholders, and on which HEP Group can have important impact.

## 3 Material issues and stakeholder relations

### Stakeholder relations, engagement and dialogue

HEP Group is one of the largest business organizations in Croatia. Due to its complexity, scope of business activities and significant economic and social influence, HEP Group builds and maintains relations with a significant number of stakeholders. We define stakeholders as organizations, groups and individuals on whom the operations of HEP Group have impact or who have certain interest or influence on the business of our company. It is very challenging to organize and maintain a dynamic stakeholder dialogue, which is always connected to material issues. Companies within HEP Group systematically identify their stakeholders and engage them in business activities in various ways: planned or ad-hoc; by using more or less formal methods. Stakeholder dialogue and engagement is most frequently conducted in proactive and planned manner and is a part of the regular business of our companies. It is also conducted on the initiative of stakeholders, most frequently connected to current topics. HEP Group considers as legitimate stakeholders all organizations or groups that are crucial to its operations or whose sustainability or business is impacted by the Group, regardless of the type of impact – economic, social or environmental. During interactive workshops, the Reporting Team discussed the stakeholder list and the quality of communication and interaction with stakeholders, their expectations and inclusion in various types of dialogue on material issues. The Reporting Team concluded that the stakeholder list of HEP Group did not change since the previous reporting period.

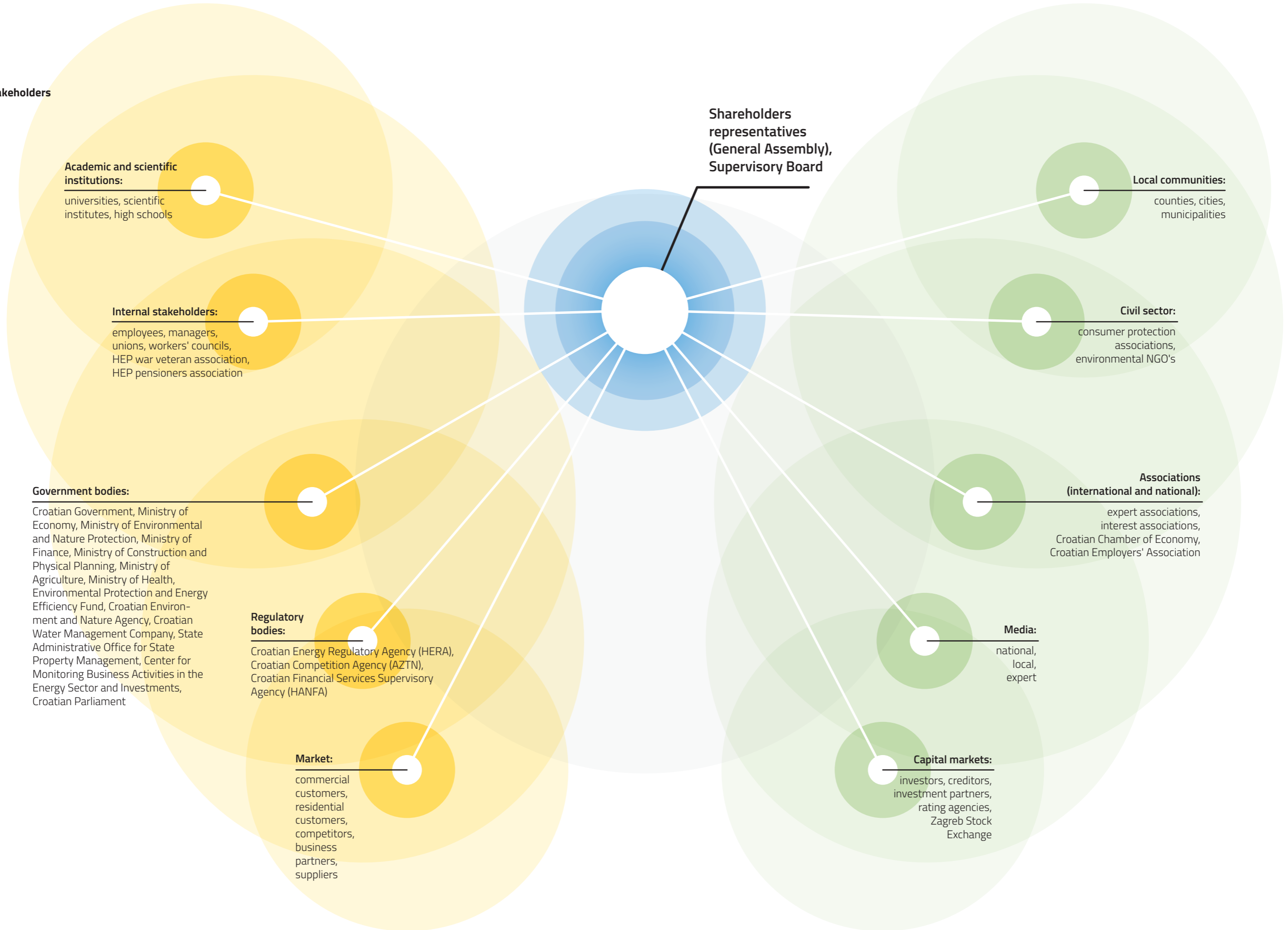
Stakeholders are divided according to their participation within each aspect and defined according to the material issues.

Organization of information dissemination, education, dialogue or their inclusion in organizational processes was conducted in various ways during the reporting period.

The inclusion of shareholders' representatives, state bodies, regulatory bodies and significant international organizations, bodies or institutions is a part of the corporate governance process. Beyond the regulated engagement methods, all topics vital to the business operations of the Group or which could have had significant impact on other stakeholders, were discussed in special meetings, formal and working. Stakeholders were invited to various consultation meetings or were engaged in the processes of planning, execution or communication of projects and programs of HEP Group. Stakeholders on the capital markets were included in similar ways in the continuous or occasional communication, at the request of individual institutions.

HEP Group cherishes the tradition of intensive and dynamic internal communications. The internal information platform, an intranet portal, is the central information sharing point. In this way, a more efficient internal communication among subsidiaries, sectors, teams and projects is assured. The platform – Infohep – allows interactive and two-way communication. Employee en-

Stakeholders



agement in the reporting period was conducted by direct communication in formal or working meetings. Dialogue with union representatives is continuous. The unions are timely and wholly informed on all events, projects, plans and goals important to the Group. This was especially important in 2015, during the implementation of restructuring processes.

A connecting point of internal and external communication is HEP Vjesnik, a corporate magazine, which was issued six times in 2015. Presenting informative and educational content, HEP Vjesnik is a very valuable source of information on the business operations of HEP Group, but also on the current trends in energy sector.

Stakeholder dialogue in the segment of environmental protection is very important for HEP, because a great deal of Group business pertains to projects which have an impact on the environment. HEP has quite a dynamic cooperation and dialogue with the expert communities of various profiles and sciences, but also with the representatives of the administration and civil society organizations which deal with environmental protection. HEP invests efforts to assure early engagement of the interested public in the processes of planning and implementation of the environmental impact assessment. Depending on the current topics, HEP conducts public awareness or educational campaigns.

The year 2015 brought complexity and intensity to the communication with the stakeholders on the market. It related to various topics in distribution and supply of electricity and the installation of heat cost allocators in residential objects. Stakeholder dialogue was organized in various ways, ranging from public awareness campaign, participation in public forums discussing market issues, communicating with customers in various events to communication within customer service.

Details on stakeholder engagement in various projects are in the chapters Market and Society.

HEP Group supports and participates in the organization of scientific and expert conferences, seminars and public debates. Media communication is most frequently organized by usual methods. Large media interest for all aspects of HEP business operations reflects in the dynamic relationship, while information exchange and dialogue are equally organized in formal and informal ways.

Stakeholder communication becomes increasingly more complex, due to the increasing number of topics and issues, as well as the technological development which enables more intensive and faster exchange of information and a more open interaction. There are always opportunities for improvement, so we invested great effort in developing a new web page, whose launch was planned for 2016.

### Material issues

As in the previous reporting period, material issues were the starting point in the development of this report. In two interactive workshops, the Reporting Team, composed of more than 30 representatives of HEP subsidiaries and most departments of HEP d.d., evaluated issues of importance to HEP Group sustainability and those in which the organization has significant impact on stakeholders, market, society and environment. The team first considered the material issues from the previous sustainability report and tested their current relevance. The second phase included the development, analysis and adding more material issues. The intention was to select, list and describe material issues to encompass all business activities of the Group. Finally, material issues were matched in the context of the sustainable development goals, adopted by the UN in September 2015.

Material issues, grouped in aspects, were individually evaluated by all members of the Reporting Team, marking their importance according to four criteria: financial, investment and development impact, regulatory and political impact, society trends and expectations of stakeholders and finally the impact of technologies, innovation and professional development. In order to create a modern sustainability report, the members of the Reporting Team listed those projects and happenings which specifically reflect practices of sustainability and social responsibility in HEP Group. These projects and happenings are described as selected stories within particular chapters of this report. Material issues, however, were not generated just as a subjective reflection of the team or various parts of HEP Group. They were collected and analyzed also based on dynamic interactions with stakeholders throughout the year. In various forms of meetings, discussions or by collecting stakeholder feedback, HEP attempted to list all material issues that are relevant to the stakeholders, and on which parts of HEP Group can have important impact.

A very complex map of even 73 material issues is not a usual practice in sustainability reporting. The intention in listing detailed issues was overall determination of HEP Group towards all aspects of its business which can significantly influence company sustainability, but simultaneously have large impact on the environment, society and economy in which the company operates. The intention to present the material issues as topics connected in the map, is not only to show their list, but also to present their mutual relations.

In the domain of the market, the evaluation of material issues especially underlined the security of energy supply, impact on the stability of electrical energy system, market liberalization, competitiveness, but also the regulatory measures which impact Group sustainability.

Economic and financial segment was focused on the themes of strategic influence and economic power of HEP Group as one of the largest and strategically most prominent business subjects in Croatia, long-term investment planning, capital projects management, technology development and innovation.

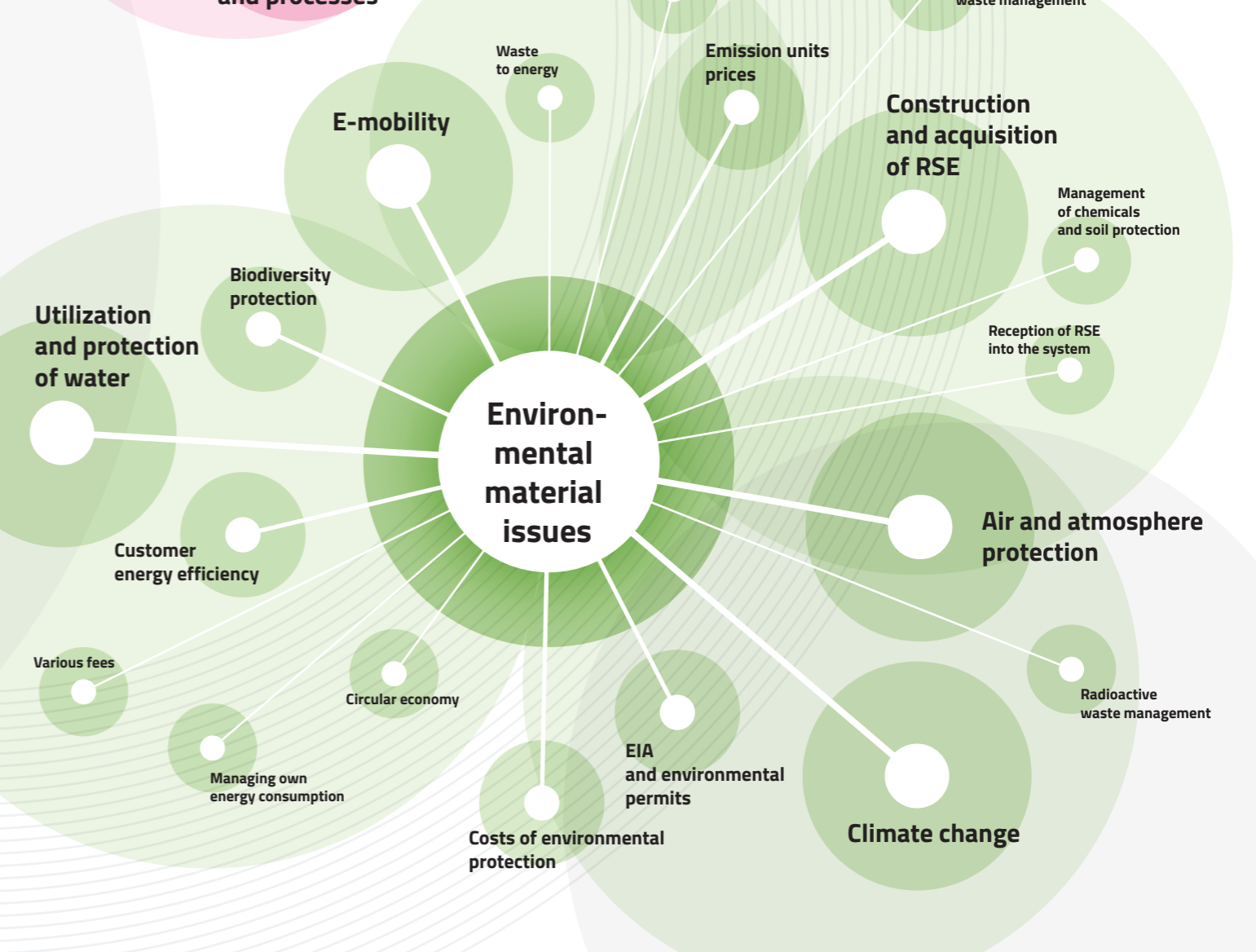
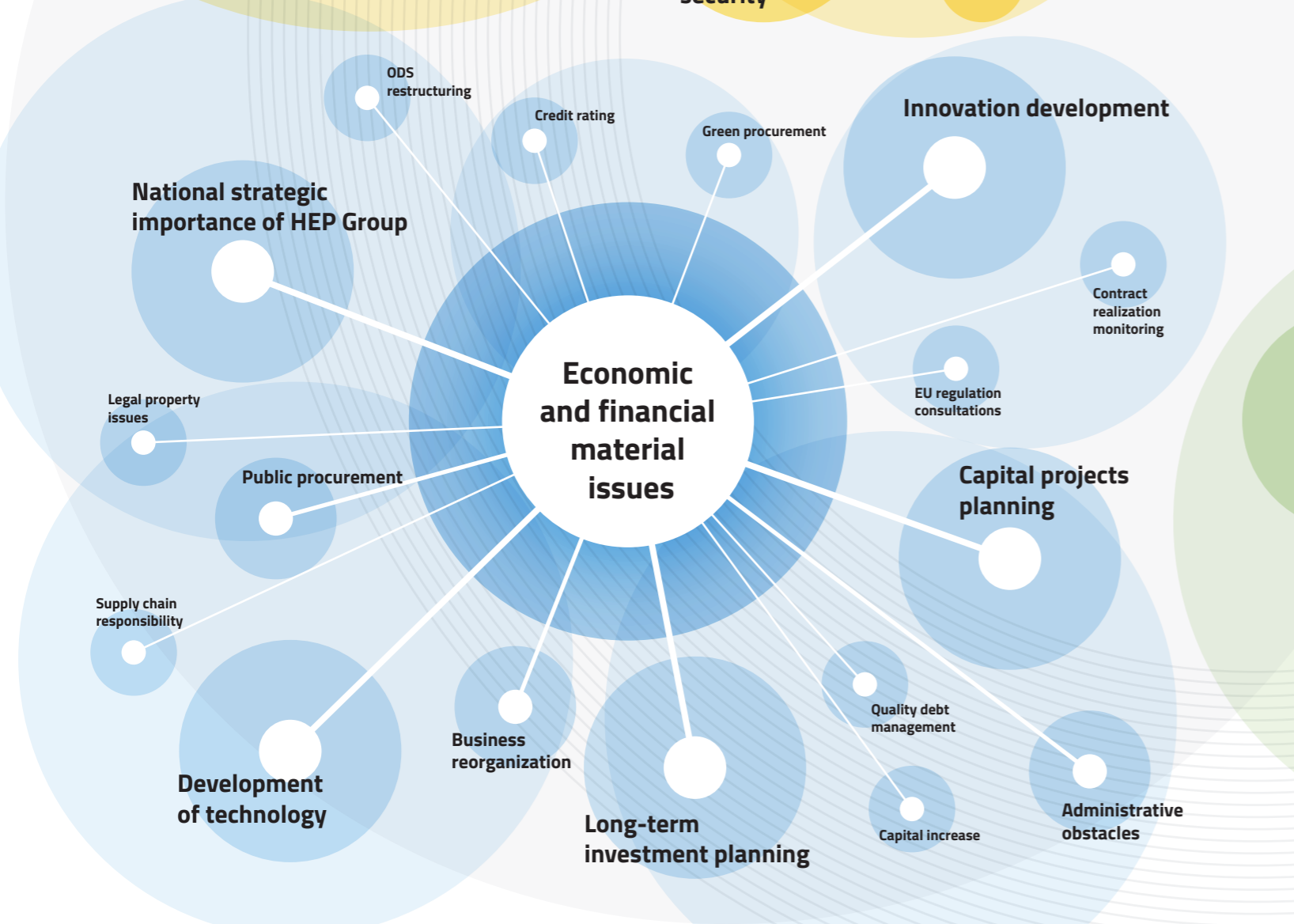
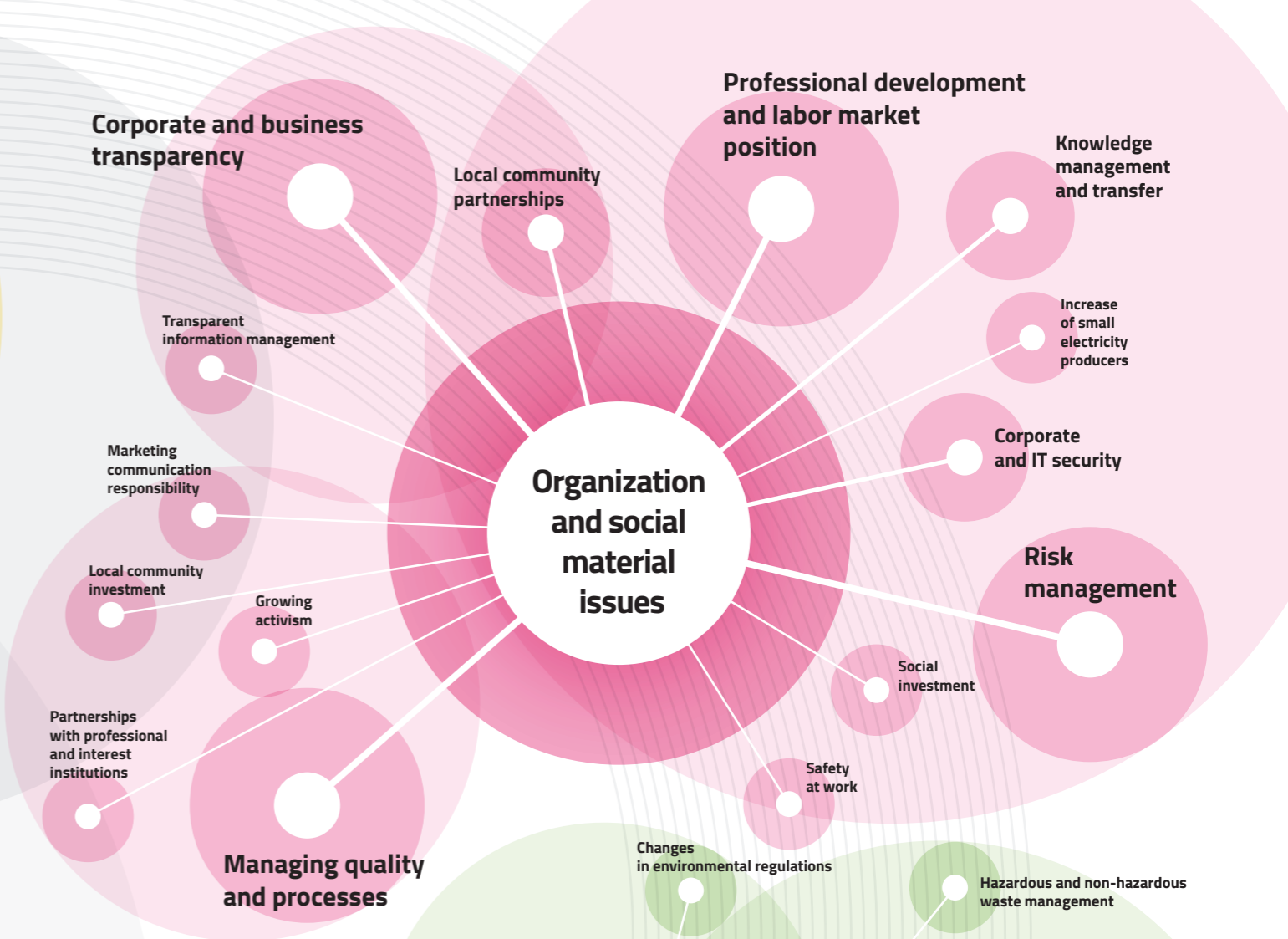
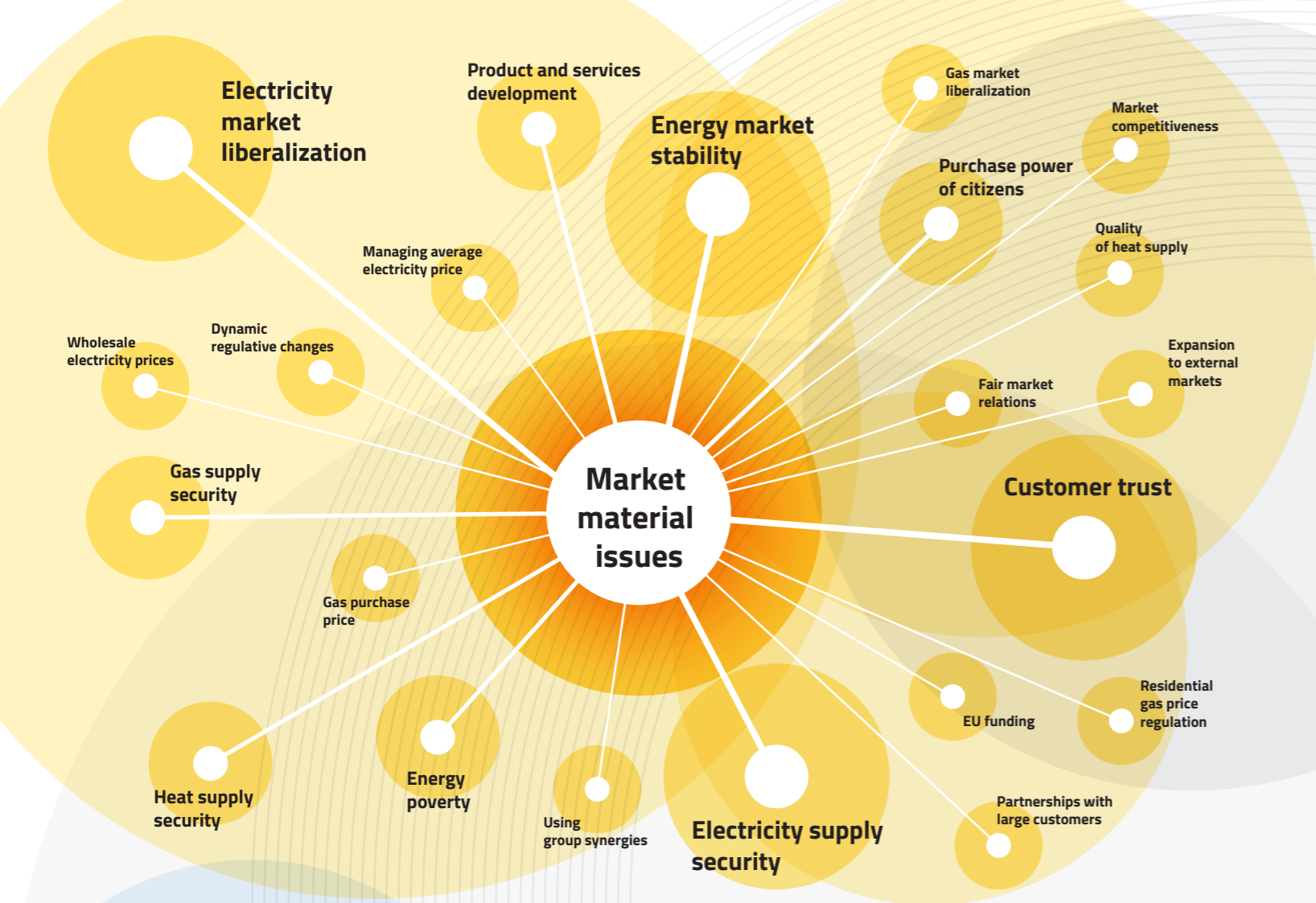
In the organizational and societal segment, the most significant material issues were corporate and operational transparency, quality and process management, risk management, the creation of strategic partnerships and especially the development of professionals and the position on the labor market.

The impact of HEP Group in the environmental segment was marked with over the average values. Special attention was paid to the construction and acquisition of own renewable sources of energy, the utilization and protection of waters, protection of air and the atmosphere, waste management and the development of electric mobility. The material issues evaluation process showed that HEP Group is able to adapt to new development requirements very fast. Also, the evaluation of material issues confirmed that focus is shifted to topics like innovation and technology development, renewable energy sources and decrease of own impact on nature and the environment.

Stories published in this report comprise HEP activities in various areas and reflect listed material issues as relevant, mutually interconnected, strategically important for the sustainable development of the Group, as well as its dedication to constant improvement of its impacts on the economy, society and the environment.



Material  
issues



Ethics  
and management



## MISSION

Secure and quality supply of energy to customers, with a high level of social responsibility.

## VISION

HEP Group as a strong regional, modern and socially responsible company, recognized as an example of efficient energy generation and supply to customers.

# 4

## Ethics and management

### Corporate Governance

HEP Group conducts its business in compliance with the law and ethical norms, based on the principles of sustainable development and social responsibility. In 2002, the company adopted the Code of Ethics – The Principles of Responsible Behavior in HEP. The Code was amended in 2010, ensuring its compliance with the requirements by the Anti-corruption program for state-owned companies. All HEP companies are signatories of the statement by which they accept the Code of Ethics which provides ethical guidelines of business subjects in the Croatian economy, passed by the Croatian Chamber of Economy in 2005.

As the corporate bond issuer, the company also applies provisions of Corporate Governance Code by Zagreb Stock Exchange and Croatian Financial Services Supervisory Agency.

### Management structure of HEP Group in 2015

#### Management Board

Perica Jukić	President of the Board
Saša Dujmić	Member
Zvonko Ercegovic	Member
Tomislav Rosandić	Member

#### Supervisory Board

Nikola Bruketa	Chairman
Jadranko Berlenji	Member – employee representative (until June 1, 2015.)
Dubravka Kolundžić	Member – employee representative (since June 1, 2015)
Juraj Bukša	Member
Igor Džajić	Member
Žarko Primorac	Member
Ivo Uglešić	Member
Mirko Žužić	Member

#### Assembly

Ivan Vrdoljak, Minister of Economy



## FUNDAMENTAL VALUES

### Competence and innovation

Our employees are the most valuable resource and support in achieving the company's mission and vision and in creating values. With openness to new ideas and creativity, we develop skills and competencies.

### Quality and business excellence

Following requirements and expectations of all stakeholders, we improve the quality of our products and services. Our goal is the company's business excellence.

### Integrity

We act professionally and conscientiously in our relations towards customers, business partners, employees and assets. We affirm zero-tolerance for corruption. Our Code of Ethics defines the principles of business behavior.

### Environmental responsibility

We produce, transmit and distribute energy in an environmentally-friendly manner. We promote efficient use of energy among our customers as well as the development and use of renewable energy sources.

## Ethical conduct and business

HEP Group Code of Ethics defines the principles of business conduct, accentuates the importance of consistent monitoring and respect of the laws and regulation. The code prescribes the application of professional and business standards, norms and ethical principles as well as accentuates professional attitude, expertise, conscientiousness, objectivity, independence, transparency, impartiality and responsibility at work. The code defines conflict of interest in the business relations, invokes the protection of human rights, development of transparent relations with all stakeholders and condemns any kind of discrimination.

All subsidiaries have their representatives in the HEP Group Ethical Committee. Ethical commissioners receive complaints about unethical and possibly corruptive conduct by employees, examine the correctness of the complaints, hold the records on the received complaints, monitor the implementation of the Code of Ethics in their company, promote ethical behaviour among employees and in the relations with customers and advise employees on ethical conduct.

In the process of complaint validation, ethics commissioners obtain evidence and written statements and undertake other activities necessary to determine the facts. Commissioners file a written report to the President of the Management Board or subsidiary director on the conducted process of complaint validation. Ethic commissioners and Ethical Committee always require the accused party to provide their statement accompanied by relevant documentation. If possible, they talk with the both parties in order to obtain a deeper insight into the subject and form a more informed opinion. Cooperation with all organizational units and employees is evaluated as exceptional. Feedback is collected from participants in ethical complaint procedures on their opinion on the procedure, once the item is closed.

#### Structure of ethical complaints in 2015

	total	founded	discarded
Number of complaints received	289	160	129
Number of complaints solved	289	160	129
number of anonymous complaints	7	2	5
number of non-anonymous complaints	282	158	124
Number of non-anonymous complaints filed by HEP employees	7	3	4
Number of non-anonymous complaints filed by other interested legal and private subjects	275	155	120
Number of complaints by type			
employment	11	3	8
corruption and bribe	3	2	1
public procurement	0	0	0
customer relations	40	29	11
calculation and bills	131	63	68
connection to LV network	35	23	12
unauthorized consumption	11	6	5
other	58	35	23

Depending on the type of complaint, some cases are registered by the ethical commissioners and forwarded to further proceeding to the authorized services in company units, such as Compliance Officer, Sector for Internal Audit, Legal Service, Customer Service and others. Ethical commissioners are in constant contact with managers in order to promote the importance of ethical conduct and management.

## Right of Access to Information

Information Officer receives and proceeds about fifty enquiries per year (with a rising trend), pertaining to citizens' business deals with HEP, company's development projects and procurement processes. Each enquiry, depending on the topic, is forwarded to particular sectors and persons who can provide adequate replies. All replies are delivered within 15 days. Questions are most frequently filed by companies, citizens, civil sector associations and media. In 2015, there were no legal proceedings stemming from potential breach of the Law on the Right of Access to Information.

25 requests pursuant to the procedure of the right of access to information were filed with the Information Officer in 2015. Out of them 24 were proceeded in legal term, while one was forwarded to another public body. In compliance with the Law on the Right of Access to Information, a report on the law application was prepared in 2015 and submitted to the Information Commissioner of the Republic of Croatia.

## HEP Group Memberships in Organizations

HEP d.d. and HEP Group members are collective members, while numerous experts are individual members of many international organizations, institutions and associations:

**EURELECTRIC** (Union of the Electricity Industry),  
**IEEE** (The Institute of Electrical and Electronic Engineers),  
**CIGRE** (International Council on Large Electric Systems),  
**ICOLD** (International Commission of Large Dams),  
**IHA** (International Hydropower Association),  
**CIREN** (Congres International des Réseaux Electriques de Distribution),  
**LWA** (Live Working Association),  
**EFET** (European Federation of Energy Traders),  
**IAEA** (International Atomic Energy Agency),  
**ENS** (European Nuclear Society)  
**UNICHAL** (International Union of Heat Distributors),  
**EUROHEAT & POWER** (International organization focused on co-generations, long-distance heating and cooling),  
**EWEA** (The European Wind Energy Association),  
**IIA GLOBAL** (Institute of Internal Auditors, Florida, SAD), via HIIR – Institute of Internal Auditors of Croatia,  
**ISACA** (Information Systems Audit and Control Association); via Croatian subsidiary ISACA Chapter Croatia,

**ISSA** (International Social Security Association),  
**ECLA** (European Company Lawyers Association),  
**CEEP** (Central European Energy Partners)  
**CBCSD** (Croatian Business Council for Sustainable Development)



### New memberships - CEEP and CBCSD

Central Europe Energy Partners (CEEP) is an international non-profit organization with the seat in Bruxelles, established to represent the interests of the energy and energy-intensive companies from Central Europe in order to strengthen the region's energy security within the framework of a common EU energy and energy security policy. HEP joined CEEP as of February 2015. The membership enables us open communication access to other corporate members, European Union agencies and bodies, energy associations as well as international energy interest groups with the seat in Bruxelles and other significant subjects on the European energy market in order to realize strategic objectives on the domestic and EU markets, as the other non-EU markets, especially in the neighboring countries.

Closely cooperating with CEEP, our standpoints are represented in the decision-making centers - European Commission, European Parliament and the EU Council through the national channels of CEEP members. The organization hosted a number of gatherings, round tables or meetings with European Commission leaders discussing various energy-related topics (e.g. LNG, CO2) or economic forums in which member companies are presented as market players. HEP representatives attended some of these events.

HEP became the member of the Croatian Business Council for Sustainable Development (CBCSD), based on the decisions by HEP d.d. management Board and CBCSD Assembly. CBCSD is a non-profit business sector institution established by Croatian business people in order to promote sustainable development in the economy. The organization leans on the frameworks and models promoted by the World Business Council for Sustainable Development (WBCSD) and other responsible examples of other international and national business associations.

HEP d.d. represents the entire Group with the CBCSD, which excludes individual membership for subsidiaries. One of the co-founders of CBCSD in 1997 was APO, HEP Group member, while Program Sava was a member from 2013 until 2015.

In the accession to CBCSD, member companies state their commitment to sustainable development, conceiving business strategies and implementation of business models which ensure economic success combined with the responsibility to the environment and the society, the application of economic and environmental responsibility and they commit to report on environmental issues, sustainable development and corporate responsibility. CBCSD supports such commitment, serves as a platform for useful experience exchange and promotes the achievements of their members. With this purpose, the institution organizes expert events and participation in various initiatives. In the processes conducted by the respective state bodies, CBCSD represents businesses in the development of documents and regulations and creates opportunities to exchange relevant experience.

5  
Market: competitiveness  
based on investment  
and innovation

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HEP Group realized a significant success on the electricity markets in the neighboring countries in 2015. Having reached 5% of market share in Slovenia, we realized our objective for 2015. Adding the contract with the Slovenian distributor (SODO), HEP took 6.5% of market share in the total Slovenian electricity consumption at the end of 2015.

## 5

# Market: competitiveness based on investment and innovation

## Strategic goals of HEP Group

### Business optimization

Encompasses the alignment of key factors, such as business strategy, business model, organizations, business processes, human resources, information technologies, governance methods and overall business system efficiency. It consists of four basic elements: business optimization of HEP Group as a whole, increased business processes efficiency, introduction of new controlling elements and new working methods in key segments and compliance with EU regulations.

### Development and investment cycle

Passing decisions on long-term investment in constructing new and reconstructing existing facilities is crucial for investing in HEP generation capacities. HEP has a number of potential projects, in diverse development phases on present or new locations and using various technologies. Implementing objective decision-making processes and structuring investment feasibility, projects are ranked according to flexibility, profitability and priority of interests of HEP.

### Creating new products and services

New products in all segments, using previous experiences and customer data base indicators, introducing new services on smart grid principles, will be fundamental to keeping the dominant market share.

### Regional approach

Loss of the part of the domestic market imposes the necessity to intensify the foreign markets presence, especially in the region.

## Generation capacities

HYDROPOWER PLANTS	AVAILABLE CAPACITY (MW) / (-MW pumping regime)	HYDROPOWER PLANTS	AVAILABLE CAPACITY (MW)
Storage HPP		Run-of-river HPP	
HE Zakučac	535*	HE Varaždin	92.5
RHE Velebit	276 (-240)	HE Dubrava	79.8
HE Orlovac	237	HE Čakovec	77.4
HE Senj	216	HE Gojak	55.5
HE Dubrovnik	126+126**	HE Lešće	41.2
HE Vinodol	90	HE Rijeka	36.8
HE Peruća	60.0	HE Miljacka	24
HE Kraljevac	46.4	HE Jaruga	7.2
HE Đale	40.8	HE Golubić	6.5
HE Sklope	22.5	HE Ozalj	5.5
CS Buško blato	7.5/4.2/(-10.2/-4.8)	HE Krčić	0.3
CHE Fužine	4.6/(-5.7)	HE Lešće ABM	1.1
HE Zavrelje	2		
RHE Lepenica	0.8 (-1.2)		
HE Zeleni vir	1.7		

CS: pumping storage, CHE: pumped storage, RHE: reversible pumped turbine, ABM: biological minimum storage

\*If the blocks A and B operate in pair, maximum capacity is 2x131MW, as for the block C and D 138MW+135MW.

\*\* During the revitalization of HE Dubrovnik, shared 50%-50% generation was agreed with Elektroprivreda Republike Srpske

THERMAL POWER PLANTS	NET AVAILABLE CAPACITY (MW, MWt, t/h)	FUEL
TE-TO Sisak	631 / 0 / 161	oil / natural gas
TE-TO Zagreb	422 / 743 / 360	oil / natural gas / fuel oil
TE Rijeka	303	oil / fuel oil
TE Plomin	105 + 192	Hard coal
EL-TO Zagreb	88,8 / 347 / 377	oil / natural gas
TE-TO Osijek	89 / 120 / 80	oil / natural gas / fuel oil
KTE Jertovec	74	natural gas / fuel oil

NUCLEAR POWER PLANT	NET AVAILABLE CAPACITY (MW, MWt, t/h)	FUEL	PHOTOVOLTAIC PLANTS	NET AVAILABLE CAPACITY (MW)	FUEL
NE Krško*	348	nuclear		0.2	solar energy

\*HEP owns 50% of the total capacity of NE Krško

## Business result by segments

RESULT	million HRK								
	electricity			heat			gas		
Period	2014	2015	15/14	2014	2015	15/14	2014	2015	15/14
Operating income	11,778.6	12,125.8	+2.9%	730.3	737.8	+1.0%	1,090.2	1,705.9	+56.5%
Profit (loss) from operations	3,476.8	3,149.0	-9.4%	-346.5	-290.7	-16.1%	70.2	137.4	+95.8%

The largest part of income (83.2 %) and operating profit were realized in the segment of electricity. Compared to 2014, operating profit was decreased due to the increased costs of generation and electricity purchase. Heat generation made 5.1 percent of business income and realized operating loss amounting to 290.7 million kuna. The loss was decreased compared to the previous year due to increased sale and reduced costs of heat generation caused by lower fuel prices. Gas wholesale and retail comprise 11.7 percent in total income and realized operating profit amounting to 137.4 million kuna.



## Centennial tradition of electrical energy in Croatia

HEP celebrated important jubilees in 2015: 120 years since the first electrical energy facility was launched in Croatia and one of the first AC systems in the world. On August 28, 1895, electricity was transported via 11 km long line, from hydropower plant Krka on the Krka river to the city of Šibenik LV network. This was a remarkable endeavor, having in mind that just a year earlier one of the world's most famous historic hydropower plants was installed on the Niagara falls in the USA.

HEP also marked its 25<sup>th</sup> anniversary of the establishment of the public company Hrvatska elektroprivreda, a legal successor of the Community of electric energy organizations of Croatia (ZEOH), by the Croatian Parliament decree issued in 1990. Having been established on the centennial tradition, HEP has developed with a vision to remain a leader in energy sector of Croatia and one of the leading energy companies in the region.



### Expansion on the regional markets

HEP Group realized a significant success on the electricity markets in the neighboring countries in 2015. A tender for the supply of the city of Ljubljana with 270 GWh of electricity was won, with a totally estimated value of 12 million euro for the period of three years. Electricity supply contract for the city of Ljubljana is especially important for HEP Group, because it was a proof of competitiveness on international markets. It is also valuable, because Ljubljana was elected Green Capital of Europe for 2016, and HEP supply is guaranteed 100 percent green energy, i.e. energy from the renewable sources.

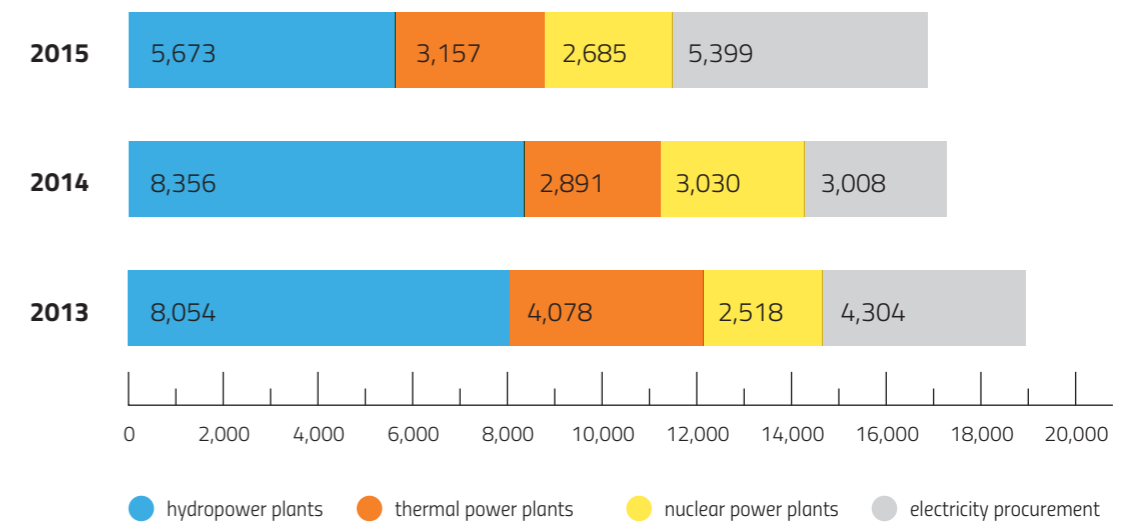
Having reached 5 percent of market share in Slovenia, supplying Ljubljana and other customers, we realized our objective for 2015. Adding the contract with the Slovenian distributor (SODO) for covering losses and guaranteed service in 2016 and 2017, amounting to 1,109 GWh, HEP Group took 6.5 percent of market share in the total Slovenian electricity consumption. A contract was signed with Cimos group, which comprised the markets of Slovenia, Bosnia and Herzegovina and Serbia. In 2015, the first event for customers of HEP Energija was organized in Ljubljana, hosting more than 50 customers and business partners. Developing good community relations and providing beneficial community investment is equally important for us in all our operating markets. Therefore, HEP Energija aided young persons in foster families in the areas of Domžale and Lukovica in Slovenia by donating the project of „Happy House“.

During 2015 activities were initiated on two additional electricity markets - in Serbia and Bosnia nad Herzegovina. Based on the detailed analyses of the Serbian electricity market, Serbian energy strategy, state of economy and potential customers, the first deals were concluded. In July 2015, a contract on the electricity supply for two years was concluded with two customers within Cimos group in Serbia and three in Bosnia and Herzegovina, starting with 2016. HEP-Opkrba plans to expand activities on the neighboring markets and will closely cooperate with HEP-Trgovina in joint sale efforts.

**42%**

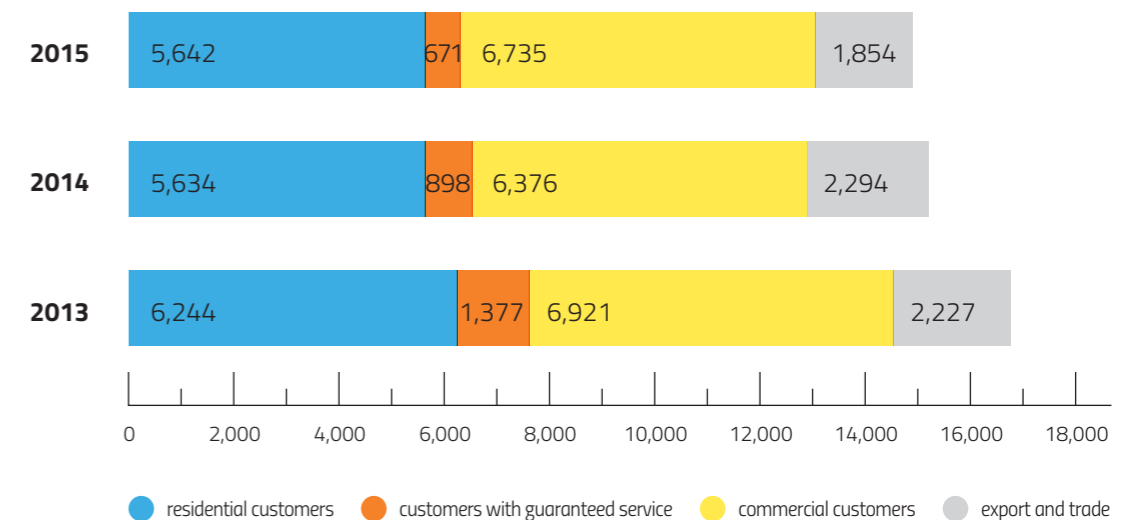
of electricity sold to HEP Group customers was generated from renewable sources of energy – water, sun and wind.

Electricity generation and procurement (GWh)



Power plants, wholly or partially owned by the Group, generated 11.5 TWh of electricity, i.e. 77 percent of the total electricity demand in 2015. Due to average hydrology conditions in 2015, 5,673 GWh of electricity was generated, which is 2,683 GWh less compared to 2014 generation. Electricity generation in thermal power plants was increased, raising the stake in total electricity production to 18.3 percent. In total, 5,226 GWh of energy was procured from outside the system (amounting to 30.6% of total electricity), which makes 2,326 GWh (80.2%) more than 2014.

Electricity sale (GWh)





## Leading supplier of electricity in Croatia

Croatia Energy Alliance conducted an independent nation-wide public survey on suppliers of electricity in the residential category. The objective was to research customers' opinion on the electricity suppliers, especially in the segment of service quality. A total of 67.44 percent of customers declared that HEP-Opkrba provided the best ratio of price and quality of service, while 13.9 percent declared so for HEP ODS. A decline of HEP's electricity market share was turned in 2015. Simultaneously, the year was marked by an increase of electricity consumption due to the economic revitalization and the weather conditions. Market share in domestic customers supply was stabilized to 84 percent, mostly by numerous activities aimed at the advancement of customer relations, continuous adapting to market demand conditions and launched marketing campaigns.

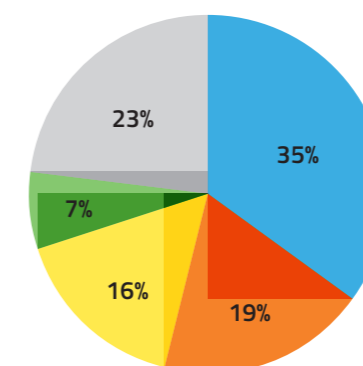
Domestic electricity sale amounted to 13.1 TWh. The share of the residential category in the structure of sold electricity was 5.6 TWh (38%), commercial customers 6.7 TWh (45%) and the customers with the guaranteed service account 0.7 TWh (5%). Domestic electricity sale comprised 84.5 percent of the total electricity sale in Croatia in 2015. Sale abroad amounted to 1.9 TWh, i.e. 19.2 percent less than in 2014. The decrease is caused by the export of electricity surplus generated in HEP power plants, which was exceptionally high in 2014, due to the record generation in hydropower plants. Insignificant drop in income realized from electricity – 0.4 percent compared to the previous year, was caused by the decreased export and reduction of price for residential customers within the guaranteed service, as of July 1, 2015. as well as the reduction of the average price for HEP-Opkrba customers caused by adaptation to the market conditions.

### Market competition

In the reporting period there were no legal proceedings contrary to the principles of market competitiveness, antitrust or antimonopoly practices. Furthermore, there were no monetary sanctions for failures to respect legal provisions and regulations in this area. There were no legal proceedings related to the impact on society.

### Generation and procurement of electricity (GWh)

Hydropower plants	5,673
Thermal plants	3,157
Nuclear power plant Krško	2,685
Wind and photovoltaic power plants	1,117
Import	3,857
Total	16,489



- Hydropower plants
- Thermal plants
- Nuclear power plant Krško
- Wind and photovoltaic power plants
- Import

### Generation and sale of heat energy

Combined generation of electricity and heat plants in Zagreb, Osijek and Sisak generated the total of 2.1 TWh of heat for the use in district heat systems and the industrial customers of HEP-Toplinarstvo in 2015. Compared to the previous year, with 2,058,100 MWh, heat generation was increased by 2.8 percent. Generation of process steam amounted to 734,568 tons, an increase compared to 2014. generation of 729,217 t. Heat energy generation amounted to 1,541,177 MWh, which was also more than the previous year (1,450,662 MWh).

Jointly with the generation in boiler rooms owned by HEP-Toplinarstvo, totally generated heat and process steam in 2015 amounted to 2.3 TWh. The increase in generation of 4.6 percent compared to 2014 was caused by the increased heat demand due to somewhat colder weather in the winter months. Heat sale realization scored 1.9 TWh or 3.7 percent more than the previous year. Annual consumption of residential customers increased by 3.2 percent and commercial customers by 4.4 percent. In the total annual consumption of heat energy, the city of Zagreb (including Samobor, Velika Gorica and Zaprešić) comprised 84.4 percent, Osijek 12.2 percent and Sisak 3.4 percent.

### Gas distribution and supply

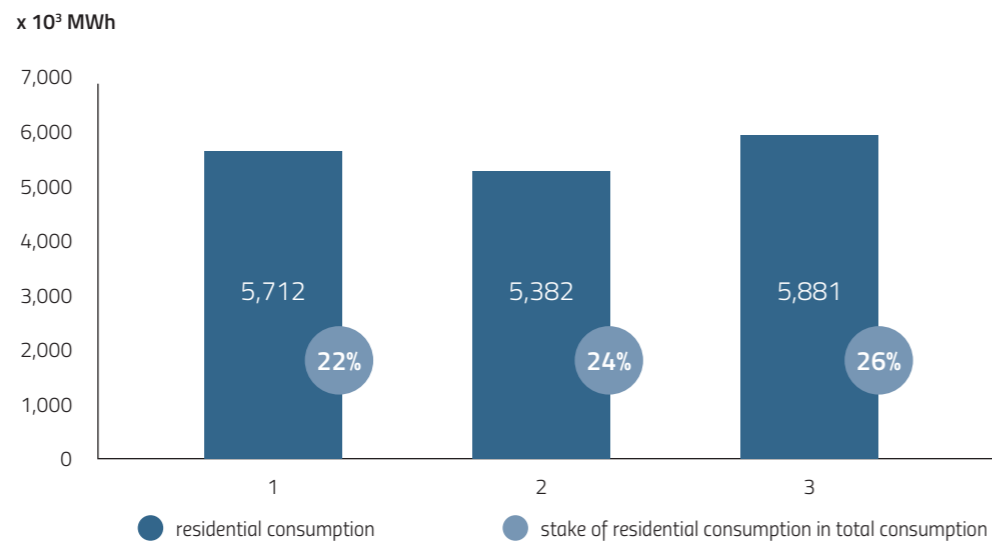
HEP Group has performed the activities of gas distribution and supply on the retail market for many years, while since April, 1, 2014, it expanded business to the supply on the wholesale market. These activities realized the operational profit of 137.4 million kuna, while in 2014 the realized profit was 70.2 million kuna. Data on the total natural gas trade for 2015 (procurement and sale) indicate that HEP Group (HEP-Proizvodnja, HEP-Toplinarstvo, HEP-Plin, HEP-Opkrba plinom) procures and markets gas to cover about 50 percent of the total natural gas energy demand.

Gas sale structure (in thousands m<sup>3</sup>), gas retail (HEP-Plin)

Customer category	2014	2015	% 15/14
Residential TM1-TM4	61,844	65,407	5.8
Commercial TM1-TM8 (up to 1 mil. m <sup>3</sup> )	39,957	40,175	0.5
Commercial TM9-TM12 (over 1 mil. m <sup>3</sup> )	13,144	18,954	44.2
<b>Total</b>	<b>114,945</b>	<b>124,536</b>	<b>8.3</b>

Gas supply and distribution on the retail market are performed in Osijek – Baranja County, Virovitica – Podravina County and Požega – Slavonija County. With the liberalization of gas market, HEP initiated supply in other distribution areas (Zagreb, Varaždin, Bjelovar, Križevci, Kutina, Ivanić Grad, Sisak, Slavonski Brod, Samobor, Koprivnica, Pitomača, Virovitica, Rijeka, Vinkovci and others.) Income of gas distribution and supply on the retail market reached 386.4 million kuna, which is 4 percent more than 2014, mainly because the consumption rose by 8.4 percent compared to the last year due to lower temperatures in winter months. Residential gas sale increased by 5.7 percent, while commercial sale increased by 11.5 percent, because of the larger sale in HEP-Plin distribution area (3.7 %) and sale to new customers in other distribution areas (127.1 %).

Gas consumption in the Republic of Croatia 2013 – 2015 (source: Plinacro)



Gas wholesale realized the income of 1,298.4 million kuna. Prices at which HEP buys gas from INA and sells it to the suppliers subject to public service of gas supply for residential customers are determined by the Croatian Government. New lower prices for the period of April 1, 2015 until March 31, 2016 were passed in March 2015.

## Customer relations

### HEP ODS

Within the public service of electricity supply (universal and guaranteed supply), at the end of 2015, HEP ODS provided electricity to customers at 2.1 million metering points. HEP ODS distribution network was organized within 21 distribution centers, 65 facilities and 37 branch offices. The distribution network in Croatia comprises 2,387,662 customers in 21 counties, 128 cities and 428 municipalities.

**2,387,662**



is the total number of HEP ODS customers in Croatia.



## HEP ODS - Universal service - number of metering points on December 31, 2015

Description	Elektro-slavonija Osijek	Elektra Požeška	Elektra Sl. Brod	Elektra Vinkovci	Elektrolika Gospić	Elektroistra Pula	Elektro-primorje Rijeka	Elektrojug Dubrovnik	Elektro-dalmacija Split	Elektra Šibenik	Elektra Zadar	Elektra Karlovac	Elektra Sisak	Elektra Bjelovar	Elektra Čakovec	Elektra Koprivnica	Elektra Križ	Elektra Varaždin	Elektra Virovitica	Elektra Zabok	Elektra Zagreb	TOTAL CROATIA	
VN-110 kV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SN- 35 kV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SN- 10 kV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total SN</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL HIGH AND MEDIUM VOLTAGE</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NN commercial (blue)	-	-	-	-	-	17	-	-	5	-	-	5	-	-	-	-	-	8	-	-	5	40	
NN commercial (white)	-	1	-	18	-	6	-	-	2	-	-	14	27	-	-	-	23	2	-	-	4	97	
NN commercial (red)	-	3	-	17	-	4	-	-	-	-	-	27	1	-	-	-	21	1	-	-	-	74	
NN commercial (orange)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total NN commercial</b>	-	4	-	35	-	27	-	-	7	-	-	46	28	-	-	-	44	11	-	-	9	211	
<b>NN public lighting</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NN residential (blue)	33,885	10,667	23,083	18,774	23,014	28,764	42,353	16,519	65,954	33,131	43,329	31,968	21,047	27,142	17,302	26,662	38,217	34,411	10,499	36,767	108,541	692,029	
NN residential (white)	83,629	11,416	29,390	45,992	19,255	94,913	137,704	29,591	183,698	41,880	66,138	42,159	26,802	14,761	20,035	16,452	24,279	24,793	12,119	21,974	356,109	1,303,089	
NN residential (black)	-	-	-	-	-	2,988	1	6	1	-	-	-	-	-	-	-	-	-	-	-	-	2,996	
NN residential (orange)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	3	
<b>Total NN residential</b>	<b>117,516</b>	<b>22,083</b>	<b>52,473</b>	<b>64,766</b>	<b>42,269</b>	<b>126,665</b>	<b>180,058</b>	<b>46,116</b>	<b>249,653</b>	<b>75,011</b>	<b>109,467</b>	<b>74,127</b>	<b>47,849</b>	<b>41,903</b>	<b>37,337</b>	<b>43,115</b>	<b>62,496</b>	<b>59,204</b>	<b>22,618</b>	<b>58,741</b>	<b>464,650</b>	<b>1,998,117</b>	
<b>TOTAL LOW VOLTAGE</b>	<b>117,516</b>	<b>22,087</b>	<b>52,473</b>	<b>64,801</b>	<b>42,269</b>	<b>126,692</b>	<b>180,058</b>	<b>46,116</b>	<b>249,660</b>	<b>75,011</b>	<b>109,467</b>	<b>74,173</b>	<b>47,877</b>	<b>41,903</b>	<b>37,337</b>	<b>43,115</b>	<b>62,540</b>	<b>59,215</b>	<b>22,618</b>	<b>58,741</b>	<b>464,659</b>	<b>1,998,328</b>	
<b>TOTAL</b>	<b>117,516</b>	<b>22,087</b>	<b>52,473</b>	<b>64,801</b>	<b>42,269</b>	<b>126,692</b>	<b>180,058</b>	<b>46,116</b>	<b>249,660</b>	<b>75,011</b>	<b>109,467</b>	<b>74,173</b>	<b>47,877</b>	<b>41,903</b>	<b>37,337</b>	<b>43,115</b>	<b>62,540</b>	<b>59,215</b>	<b>22,618</b>	<b>58,741</b>	<b>464,659</b>	<b>1,998,328</b>	

## HEP ODS - Guaranteed supply - number of metering points on December 31, 2015

Description	Elektro-slavonija Osijek	Elektra Požeška	Elektra Sl. Brod	Elektra Vinkovci	Elektrolika Gospić	Elektroistra Pula	Elektro-primorje Rijeka	Elektrojug Dubrovnik	Elektro-dalmacija Split	Elektra Šibenik	Elektra Zadar	Elektra Karlovac	Elektra Sisak	Elektra Bjelovar	Elektra Čakovec	Elektra Koprivnica	Elektra Križ	Elektra Varaždin	Elektra Virovitica	Elektra Zabok	Elektra Zagreb	TOTAL CROATIA	
VN-110 kV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SN- 35 kV	1	-	-	1	-	-	1	-	2	-	-	1	1	-	-	-	-	-	-	-	-	7	
SN- 10 kV	25	5	23	11	4	13	20	4	20	3	16	12	8	-	2	3	2	5	1	6	27	210	
<b>Total SN</b>	<b>26</b>	<b>5</b>	<b>23</b>	<b>12</b>	<b>4</b>	<b>13</b>	<b>21</b>	<b>4</b>	<b>22</b>	<b>3</b>	<b>16</b>	<b>13</b>	<b>9</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>27</b>	<b>217</b>	
<b>TOTAL HIGH AND MEDIUM VOLTAGE</b>	<b>26</b>	<b>5</b>	<b>23</b>	<b>12</b>	<b>4</b>	<b>13</b>	<b>21</b>	<b>4</b>	<b>22</b>	<b>3</b>	<b>16</b>	<b>13</b>	<b>9</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>27</b>	<b>217</b>	
NN commercial (blue)	560	185	930	316	463	1,640	914	708	2,012	792	1,034	631	265	513	350	444	503	508	183	404	3,413	16,768	
NN commercial (white)	3,194	391	1,366	1,640	799	4,506	4,668	1,365	8,349	1,798	2,397	1,582	709	738	786	915	854	997	772	879	11,787	50,492	
NN commercial (red)	167	16	75	69	57	317	344	116	473	107	157	110	47	62	75	80	69	76	26	93	894	3,430	
NN commercial (orange)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total NN commercial</b>	<b>3,921</b>	<b>592</b>	<b>2,371</b>	<b>2,025</b>	<b>1,319</b>	<b>6,463</b>	<b>5,926</b>	<b>2,189</b>	<b>10,834</b>	<b>2,697</b>	<b>3,588</b>	<b>2,323</b>	<b>1,021</b>	<b>1,313</b>	<b>1,211</b>	<b>1,439</b>	<b>1,426</b>	<b>1,581</b>	<b>981</b>	<b>1,376</b>	<b>16,094</b>	<b>70,690</b>	
<b>NN public lighting</b>	<b>103</b>	<b>2</b>	<b>2</b>	<b>77</b>	<b>81</b>	<b>252</b>	<b>108</b>	<b>33</b>	<b>247</b>	<b>104</b>	<b>110</b>	<b>190</b>	<b>38</b>	<b>54</b>	<b>40</b>	<b>65</b>	<b>59</b>	<b>36</b>	<b>4</b>	<b>69</b>	<b>98</b>	<b>1,772</b>	
NN residential (blue)	-	-	4	-	-	32	2	-	25	-	3	1	-	1	-	-	6	1	-	-	3	78	
NN residential (white)	-	-	1	-	-	1,214	11	-	591	-	35	9	-	7	-	-	15	5	-	-	43	1,931	
NN residential (black)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NN residential (orange)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total NN residential</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>1,246</b>	<b>13</b>	<b>-</b>	<b>616</b>	<b>-</b>	<b>38</b>	<b>10</b>	<b>-</b>	<b>8</b>	<b>-</b>	<b>-</b>	<b>21</b>	<b>6</b>	<b>-</b>	<b>-</b>	<b>46</b>	<b>2,009</b>	
<b>TOTAL LOW VOLTAGE</b>	<b>4,024</b>	<b>594</b>	<b>2,378</b>	<b>2,102</b>	<b>1,400</b>	<b>7,961</b>	<b>6,047</b>	<b>2,222</b>	<b>11,697</b>	<b>2,801</b>	<b>3,736</b>	<b>2,523</b>	<b>1,059</b>	<b>1,375</b>	<b>1,251</b>	<b>1,504</b>	<b>1,506</b>	<b>1,623</b>	<b>985</b>	<b>1,445</b>	<b>16,238</b>	<b>74,471</b>	
<b>TOTAL</b>	<b>4,050</b>	<b>599</b>	<b>2,401</b>	<b>2,114</b>	<b>1,404</b>	<b>7,974</b>	<b>6,068</b>	<b>2,226</b>	<b>11,719</b>	<b>2,804</b>	<b>3,752</b>	<b>2,536</b>	<b>1,068</b>	<b>1,375</b>	<b>1,253</b>	<b>1,507</b>	<b>1,508</b>	<b>1,628</b>	<b>986</b>	<b>1,451</b>	<b>16,265</b>	<b>74,688</b>	

## HEP ODS - Market suppliers - number of metering points on December 31, 2015

Description	Elektro-slavonija Osijek	Elektra Požeška	Elektra SI, Brod	Elektra Vinkovci	Elektrolika Gospić	Elektroistra Pula	Elektro-primorje Rijeka	Elektrojug Dubrovnik	Elektra-dalmacija Split	Elektra Šibenik	Elektra Zadar	Elektra Karlovac	Elektra Sisak	Elektra Bjelovar	Elektra Čakovec	Elektra Koprivnica	Elektra Križ	Elektra Varaždin	Elektra Virovitica	Elektra Zabok	Elektra Zagreb	TOTAL CROATIA	
<b>VN-110 kV</b>	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	2	4
SN- 35 kV	6	-	3	5	1	5	10	-	7	3	2	4	1	-	1	4	1	-	2	1	7	63	
SN- 10 kV	160	35	84	95	46	208	135	57	118	38	88	90	41	14	64	51	63	75	30	31	364	1,887	
<b>Total SN</b>	<b>166</b>	<b>35</b>	<b>87</b>	<b>100</b>	<b>47</b>	<b>213</b>	<b>145</b>	<b>57</b>	<b>125</b>	<b>41</b>	<b>90</b>	<b>94</b>	<b>42</b>	<b>14</b>	<b>65</b>	<b>55</b>	<b>64</b>	<b>75</b>	<b>32</b>	<b>32</b>	<b>371</b>	<b>1,950</b>	
<b>TOTAL HIGH AND MEDIUM VOLTAGE</b>	<b>166</b>	<b>35</b>	<b>87</b>	<b>100</b>	<b>47</b>	<b>213</b>	<b>145</b>	<b>57</b>	<b>126</b>	<b>41</b>	<b>90</b>	<b>94</b>	<b>43</b>	<b>14</b>	<b>65</b>	<b>55</b>	<b>64</b>	<b>75</b>	<b>32</b>	<b>32</b>	<b>373</b>	<b>1,954</b>	
NN commercial (blue)	1,465	578	1,059	592	638	1,960	1,938	1,071	2,152	969	1,319	984	633	1,341	1,002	969	1,636	1,150	526	838	5,544	28,364	
NN commercial (white)	5,424	892	1,903	3,185	1,170	6,502	8,614	2,054	9,932	2,079	2,805	2,409	1,616	1,485	1,878	1,690	2,439	2,074	1,389	1,882	16,624	78,046	
NN commercial (red)	995	120	283	503	210	1,279	1,693	453	1,834	405	597	512	266	278	442	306	498	564	150	396	3,832	15,616	
NN commercial (orange)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total NN commercial</b>	<b>7,884</b>	<b>1,590</b>	<b>3,245</b>	<b>4,280</b>	<b>2,018</b>	<b>9,741</b>	<b>12,245</b>	<b>3,578</b>	<b>13,918</b>	<b>3,453</b>	<b>4,721</b>	<b>3,905</b>	<b>2,515</b>	<b>3,104</b>	<b>3,322</b>	<b>2,965</b>	<b>4,573</b>	<b>3,788</b>	<b>2,065</b>	<b>3,116</b>	<b>26,000</b>	<b>122,026</b>	
<b>NN public lighting</b>	<b>1,158</b>	<b>299</b>	<b>636</b>	<b>542</b>	<b>481</b>	<b>1,625</b>	<b>1,518</b>	<b>409</b>	<b>1,906</b>	<b>796</b>	<b>928</b>	<b>1,036</b>	<b>623</b>	<b>648</b>	<b>434</b>	<b>582</b>	<b>1,117</b>	<b>688</b>	<b>424</b>	<b>656</b>	<b>3,176</b>	<b>19,682</b>	
NN residential (blue)	6,682	1,192	2,537	2,601	913	1,446	2,049	278	1,722	1,218	1,119	1,709	2,228	2,360	1,732	2,743	4,770	2,851	1,742	1,398	7,611	50,901	
NN residential (white)	16,280	1,375	3,566	7,630	819	7,969	11,259	1,200	10,918	2,458	2,568	3,316	3,329	1,482	2,517	1,877	3,229	2,405	2,259	1,417	32,167	120,040	
NN residential (black)	-	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	
NN residential (orange)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total NN residential</b>	<b>22,962</b>	<b>2,567</b>	<b>6,103</b>	<b>10,231</b>	<b>1,732</b>	<b>9,458</b>	<b>13,308</b>	<b>1,478</b>	<b>12,640</b>	<b>3,676</b>	<b>3,687</b>	<b>5,025</b>	<b>5,557</b>	<b>3,842</b>	<b>4,249</b>	<b>4,620</b>	<b>7,999</b>	<b>5,256</b>	<b>4,001</b>	<b>2,815</b>	<b>39,778</b>	<b>170,984</b>	
<b>TOTAL LOW VOLTAGE</b>	<b>32,004</b>	<b>4,456</b>	<b>9,984</b>	<b>15,053</b>	<b>4,231</b>	<b>20,824</b>	<b>27,071</b>	<b>5,465</b>	<b>28,464</b>	<b>7,925</b>	<b>9,336</b>	<b>9,966</b>	<b>8,695</b>	<b>7,594</b>	<b>8,005</b>	<b>8,167</b>	<b>13,689</b>	<b>9,732</b>	<b>6,490</b>	<b>6,587</b>	<b>68,954</b>	<b>312,692</b>	
<b>TOTAL</b>	<b>32,170</b>	<b>4,491</b>	<b>10,071</b>	<b>15,153</b>	<b>4,278</b>	<b>21,037</b>	<b>27,216</b>	<b>5,522</b>	<b>28,590</b>	<b>7,966</b>	<b>9,426</b>	<b>10,060</b>	<b>8,738</b>	<b>7,608</b>	<b>8,070</b>	<b>8,222</b>	<b>13,753</b>	<b>9,807</b>	<b>6,522</b>	<b>6,619</b>	<b>69,327</b>	<b>314,646</b>	

## HEP ODS - TOTAL - number of metering points on December 31, 2015

Description	Elektro-slavonija Osijek	Elektra Požeška	Elektra SI, Brod	Elektra Vinkovci	Elektrolika Gospić	Elektroistra Pula	Elektro-primorje Rijeka	Elektrojug Dubrovnik	Elektra-dalmacija Split	Elektra Šibenik	Elektra Zadar	Elektra Karlovac	Elektra Sisak	Elektra Bjelovar	Elektra Čakovec	Elektra Koprivnica	Elektra Križ	Elektra Varaždin	Elektra Virovitica	Elektra Zabok	Elektra Zagreb	TOTAL CROATIA	
<b>VN-110 kV</b>	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	2	4
SN- 35 kV	7	-	3	6	1	5	11	-	9	3	2	5	2	-	1	4	1	-	2	1	7	70	
SN- 10 kV	185	40	107	106	50	221	155	61	138	41	104	102	49	14	66	54	65	80	31	37	391	2,097	
<b>Total SN</b>	<b>192</b>	<b>40</b>	<b>110</b>	<b>112</b>	<b>51</b>	<b>226</b>	<b>166</b>	<b>61</b>	<b>147</b>	<b>44</b>	<b>106</b>	<b>107</b>	<b>51</b>	<b>14</b>	<b>67</b>	<b>58</b>	<b>66</b>	<b>80</b>	<b>33</b>	<b>38</b>	<b>398</b>	<b>2,167</b>	
<b>TOTAL HIGH AND MEDIUM VOLTAGE</b>	<b>192</b>	<b>40</b>	<b>110</b>	<b>112</b>	<b>51</b>	<b>226</b>	<b>166</b>	<b>61</b>	<b>148</b>	<b>44</b>	<b>106</b>	<b>107</b>	<b>52</b>	<b>14</b>	<b>67</b>	<b>58</b>	<b>66</b>	<b>80</b>	<b>33</b>	<b>38</b>	<b>400</b>	<b>2,171</b>	
NN commercial (blue)	2,025	763	1,989	908	1,101	3,617	2,852	1,779	4,169	1,761	2,353	1,620	898	1,854	1,352	1,413	2,139	1,666	709	1,242	8,962	45,172	
NN commercial (white)	8,618	1,284	3,269	4,843	1,969	11,014	13,282	3,419	18,283	3,877	5,202	4,005	2,352	2,223	2,664	2,605	3,316	3,073	2,161	2,761	28,415	128,635	
NN commercial (red)	1,162	139	358	589	267	1,600	2,037	569	2,307	512	754	649	314	340	517	386	588	641	176	489	4,726	19,120	
NN commercial (orange)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total NN commercial</b>	<b>11,805</b>	<b>2,186</b>	<b>5,616</b>	<b>6,340</b>	<b>3,337</b>	<b>16,231</b>	<b>18,171</b>	<b>5,767</b>	<b>24,759</b>	<b>6,150</b>	<b>8,309</b>	<b>6,274</b>	<b>3,564</b>	<b>4,417</b>	<b>4,533</b>	<b>4,404</b>	<b>6,043</b>	<b>5,380</b>	<b>3,046</b>	<b>4,492</b>	<b>42,103</b>	<b>192,927</b>	
<b>NN public lighting</b>	<b>1,261</b>	<b>301</b>	<b>638</b>	<b>619</b>	<b>562</b>	<b>1,877</b>	<b>1,626</b>	<b>442</b>	<b>2,153</b>	<b>900</b>	<b>1,038</b>	<b>1,226</b>	<b>661</b>	<b>702</b>	<b>474</b>	<b>647</b>	<b>1,176</b>	<b>724</b>	<b>428</b>	<b>725</b>	<b>3,274</b>	<b>21,454</b>	
NN residential (blue)	40,567	11,859	25,624	21,375	23,927	30,242	44,404	16,797	67,701	34,349	44,451	33,678	23,275	29,503	19,034	29,405	42,993	37,263	12,241	38,165	116,155	743,008	
NN residential (white)	99,909	12,791	32,957	53,622	20,074	104,096	148,974	30,791	195,207	44,338	68,741	45,484	30,131	16,250	22,552	18,329	27,523	27,203	14,378	23,391	388,319	1,425,060	
NN residential (black)	-	-	-	-	-	3,031	1	6	1	-	-	-	-	-	-	-	-	-	-	-	-	3,039	
NN residential (orange)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	3	
<b>Total NN residential</b>	<b>140,478</b>	<b>24,650</b>	<b>58,581</b>	<b>74,997</b>	<b>44,001</b>	<b>137,369</b>	<b>193,379</b>	<b>47,594</b>	<b>262,909</b>	<b>78,687</b>	<b>113,192</b>	<b>79,162</b>	<b>53,406</b>	<b>45,753</b>	<b>41,586</b>	<b>47,735</b>	<b>70,516</b>	<b>64,466</b>	<b>26,619</b>	<b>61,556</b>	<b>504,474</b>	<b>2,171,110</b>	
<b>TOTAL LOW VOLTAGE</b>	<b>153,544</b>	<b>27,137</b>	<b>64,835</b>	<b>81,956</b>	<b>47,900</b>	<b>155,477</b>	<b>213,176</b>	<b>53,803</b>	<b>289,821</b>	<b>85,737</b>	<b>122,539</b>	<b>86,662</b>	<b>57,631</b>	<b>50,872</b>	<b>46,593</b>	<b>52,786</b>	<b>77,735</b>	<b>70,570</b>	<b>30,093</b>	<b>66,773</b>	<b>549,851</b>	<b>2,385,491</b>	
<b>TOTAL</b>	<b>153,736</b>	<b>27,177</b>	<b>64,945</b>	<b>82,068</b>	<b>47,951</b>	<b>155,703</b>	<b>213,342</b>	<b>53,864</b>	<b>289,969</b>	<b>85,781</b>	<b>122,645</b>	<b>86,769</b>	<b>57,683</b>	<b>50,886</b>	<b>46,660</b>	<b>52,844</b>	<b>77,801</b>	<b>70,650</b>	<b>30,126</b>	<b>66,811</b>	<b>550,251</b>	<b>2,387,662</b>	



## Successful corporate bond issuance

In October 2015, HEP issued new USD 550 million 7-year corporate bonds. The bonds were listed on the regulated market of the Luxembourg Stock Exchange. The existing bond refinancing preparations were carried out via parallel activities - the repurchase of old bonds, meetings with the investors regarding the new issue and the currency swap transaction.

Corporate bond issuance removed the risk of refinancing USD 500 million of debt with the maturity in 2017, extended the average maturity of funding sources and reduced the average weighted financing cost. Net positive financial effect of the transaction amounted to 17.2 million euro, resulting from the decreased financing cost, the repurchase of the existing bonds and the positive effect of terminating the existing current risk hedging lines. The positioning of HEP as a stable and respectable player on the international capital market will reflect in the potentially more favorable terms of any further issue. The demand was almost four times bigger than the offered amount and exceeded 2 billion USD. International institutional investors, among whom numerous respectable funds and the investors who had participated in the previous issuance, about 175 from 30 countries, recognized HEP as a confirmed energy leader and stable company with good credit rating and quality plan of investment in key capital projects. By refinancing bonds, HEP proved that it manages its debt proactively and demonstrated the ability of financial management in line with the best international practices.

# 17.2<sup>+</sup>

million euro was the net positive financial effect of refinancing corporate bonds in October 2015.

## Communication with customers and informational-educative content

Customer communication was performed in a number of channels, predominantly by electronic mail, but also via personal contact with HEP ODS employees in organizational units in the entire country and through the application „My bill“, used by 300,000 customers. Besides the application, customers can use the toll-free telephone service using the number 0800 0555, primarily used for meter readings. Customers can also use toll-free telephone numbers to contact the employees of HEP ODS.

The reporting year was especially dynamic in customer service development. Croatian Energy Regulatory Agency (HERA) passed the General Conditions for the Use of Network and Supply of Electricity in July 2015, which entered into force on October 1, 2015. Therefore, HEP ODS intensified communication in all own channels and the media, to provide timely and accurate information on the new regulation to its customers. Additionally, HEP ODS published advice to customers on its web page, explaining safe use of electricity and conduct in the case of failures or irregularities. In frequently asked questions section, simple and understandable information is provided on the topics which attract customers' interest.

Stronger market liberalization and the emergence of new electricity suppliers brought about the occurrence of some unfair or misleading sale practices. Customers have reported cases in which sale agents falsely identified themselves as HEP representatives, requested insight in their electricity bills, access to meters and meter reading and thus misled customers by offering to sign contracts for electricity supply with other companies. It was recorded that authorized representatives of some companies offered contracts to customers by falsely claiming their affiliation and agreement with HEP. Some incidents of customers' counterfeited signatures were also reported. With the intention to clearly communicate its sale practices to the customers, HEP organized an information campaign during fall with the purpose of informing the customers with their rights and dangers of potential fraud.

During 2015 certain untrue information were published offering advice in the case of termination of electricity supply due to debt, which misled customers related to their rights and obligations and even incited them to undertake illegal activities. Since such statements were published in various channels inciting citizens to undertake the illegal handling of equipment, which could endanger lives, and encouraging them to attack company representatives, HEP ODS continuously responded to such publications in the media or in social networks with an aim to inform customers on legally acceptable conduct. In September 2015, HEP ODS communicated the danger of illegal photovoltaic units to the distribution network, without previous authorization by the company.

### Reliability of electricity supply

The table presents the indicator of electricity supply reliability SAIDI (average interruption duration per customer) and shows the decrease in the planned interruptions in the distribution network, compared to 2014.

Year	SAIDI (min)	
	planned	forced (caused by force majeure)
2011	308.50	250.59
2012	295.45	372.49
2013	253.49	306.03
2014	250.15	411.57
<b>2015</b>	<b>251.43</b>	<b>264.89</b>

The estimate of the interruptions in electricity supply in 2015 amounted to 4,523,767 kWh.



### Stable investment conditions

HEP Group was one of the largest investors in Croatia in 2015, with the total investment reaching 2.5 billion kuna. Replacement of equipment, reconstruction and revitalization of the existing generation facilities, transmission and distribution networks was in the focus. Investment projects significantly engaged domestic producers and contractors. Investments were performed with own means, without additional long-term loans, while suppliers were paid within agreed deadlines.

Standard&Poor's agency downgraded Croatia's sovereign rating from stable to negative in July 2015. In view of the methodology used for rating of state-owned companies, the report published on July 22, 2015, subsequently downgraded the outlook of HEP's rating (BB-) from stable to negative. Moody's asserted the stable projection for its rating awarded to HEP in 2015 (Ba2). Both credit agencies confirmed the stated rating for the issuance of USD 500 million bonds in October.



### ELEN, eMobility in HEP

eMobiity is a development project by which HEP Group wishes to keep pace with the energy strategy of the European Union. It is based on the idea of automotive electricity use from renewable sources of energy. ELEN is a development project of construction of public charger networks in entire country - in the cities, but also on highways and other motorways. An umbrella agreement was reached for the purchase of up to one hundred AC chargers, which are constructed according to the agreements with the cities, municipalities and legal entities.

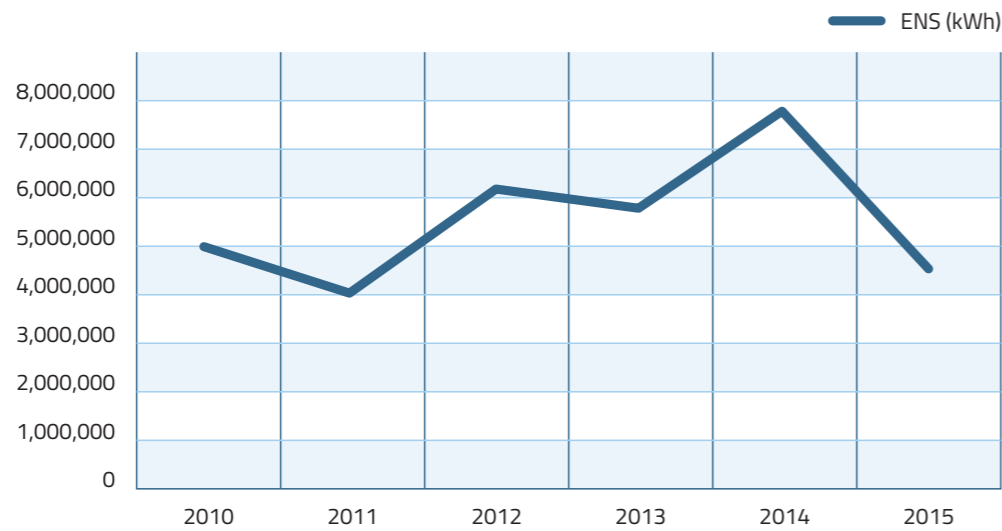
Long-term project objective of HEP Group is to develop a new commercial segment. On the general economic and environmental levels, the objectives are to increase energy efficiency and increase the quality of life by decreasing CO<sub>2</sub> emissions and noise in the cities. Besides urban centers, the supercharging DC units (charging the battery in 15 to 30 minutes) are planned to be constructed on highways, enabling connectivity of larger Croatian cities. Besides constructing AC chargers in the cities, ELEN plans to build a national network to enable citizens and tourists to travel all over the country with their electric vehicles. Inter-city transport is planned by installing the equipment co-financed by the EU CEF program, by which TEN-T corridor would be covered by 27 superchargers.

In late August 2015, HEP launched two new ELEN chargers in Osijek, in front of the Elektroslavonija building on Cardinal Franjo Šeper square and on INA gas station in Gaj square. Two more chargers in Osijek are planned for 2016 - one in cooperation with the City of Osijek on University of Osijek Campus and the other in Portanova, the largest regional shopping center in Eastern Slavonia. In early November 2015, ELEN charger was launched in Varaždin, at the Crodux gas station in Optujska street. A month later, two more chargers were opened in Brothers Radić street and Jelačić square. For the time being, all ELEN chargers offer free-of-charge service, with the use of ELEN RFID identification card.

HEP installed a total of 13 public chargers in Croatia until the end of 2015. One in Vukovar and Labin, two in Osijek and Varaždin with AC chargers (2x22 kW), five superchargers (50kW DC and 43 kW AC) in Koprivnica, constructed within EU project Civitas Dyn@mo. At the end of 2015, chargers in Slavonski Brod, Opatija and Križevci were under construction. The installation of chargers in Zagreb, Rijeka, Opatija, Split, Dubrovnik, Šibenik, Zadar, Vodice, Umag, Virovitica, Bjelovar, Metković and some more cities is planned for 2016.

In HEP headquarters in Zagreb, on April 8, 2015, new electric vehicles of HEP Group fleet were presented - Volkswagen e-up! and e-Golf, purchased under the subvention of the Fund for Environmental Protection. A new system of ELEN chargers in HEP HQ building garage was also presented.

Interrupted electricity supply in the distribution system



Complaints

HEP ODS Complaints Commission in 2015

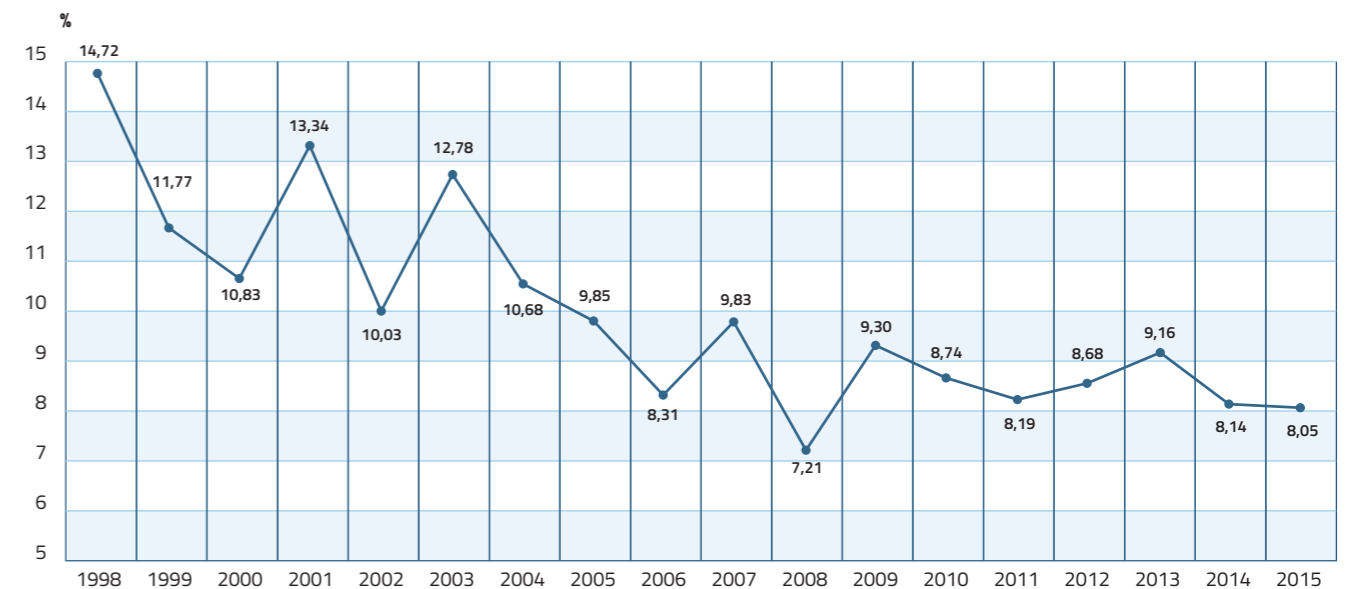
Reason for complaint

	Billing			Faulty meter			Connection / Disconnection			Voltage circumstances			Other			Total	Accepted	Refused
	total	accepted	refused	total	accepted	refused	total	accepted	refused	total	accepted	refused	total	accepted	refused			
2014.	278	45	233	11	4	7	4	0	4	2	0	2	34	5	9	329	54	279
2015.	263	40	223	6	4	2	8	1	7	3	0	3	43	11	32	323	56	267

Network losses

The amount of electricity network losses directly indicates economics of business and the quality of electricity distribution. Therefore, for many years, the decrease in losses has been one of the major business goals of HEP ODS.

Losses in the distribution network



Activities aimed at losses reduction resulted in the positive trend of decrease over years. Losses are usually presented in percentage of totally realized procurement of electricity.

According to the methodology electricity losses in distribution network are calculated as a difference between electricity introduced into the distribution network (from transmission network, other distribution networks and power plants connected to the distribution network) and the energy calculated to the end-users. When analyzing losses, we have to bear in mind the influence of the linear system of calculation for residential segment, which in this methodology causes certain irregularities.

Electricity losses are divided in two categories:

- > technical losses, which are the consequence of operational condition of the distribution network and technical characteristics of network elements (due to magnetization of the transformer core, heat losses due to lines and transformer overload and others),
- > non technical losses, as a consequence of unmeasured and uncalculated electricity consumed by customers (illegal consumption, mistakes in meter readings and billing, technical irregularities in metering points and others)

The share of technical and non technical losses of electricity in the total amount of losses is almost impossible to determine and therefore estimates of shares are used in practice.

Electricity losses in 2015, established according to the methodology of calculated electricity, amount to 8.05 percent in total, with technical losses taking the share of 70 percent and non technical 30 percent.




## Participation in public consultations

HEP continuously and systematically monitors the process of adoption and amendments of legal documents relevant to the operation and development of the Croatian energy system - energy, spacial planning and construction, environmental protection and others. HEP experts from various sectors participate in the work of committees and workgroups in charge with amending and developing new legal documents and in public consultations.

HEP recognized the importance of cooperation with the European Commission and ensured timely organizational preconditions. Sector for EU and Regulatory Affairs was established in 2013 with the aim of monitoring, coordination and participation in legislative processes related to the passage and amending of energy regulations on national and European levels. Various HEP subsidiaries operate in compliance with various business processes, with diverse objectives, interests and needs. Respecting diversity of business, which is occasionally significant, one of the major purposes of the Sector is to coordinate subsidiaries and harmonize unified opinions, observing particular needs and ensuring solutions which are the most convenient for the entire Group.

European Commission pays significant attention to the energy sector and the creation of new energy policies, focusing on security and independence of energy supplies of member states and respecting low-carbon development trends. HEP participated in public consultations during 2015, concentrated on the creation of a new energy market, the future of renewable sources of energy after 2020 as well as the revision of the Energy Efficiency Directive. By timely participation in the processes of revising or passing new regulations, we attempted to ensure the most favorable outcomes for the business operations of HEP Group.



# 26 000

contracts on supply HEP Opskrba realized within Hepi tariff model, an innovative package of household services.

## HEP-Opskrba

Active customer acquisition, primarily in the residential segment, stronger market activity, new strategies of customer relations, new product offer, intensive communication and solving issues at the first contact, recognizing and adapting to market trends resulted in the increase in customer base in 2015.

- > Continuous contacts (meetings, telephone, e-mail) with the representatives of large and medium customers
- > Annual meeting with the customers in Croatia (700 largest customers in four cities)
- > The first meeting with customers in Slovenia (50 largest customers and business partners)
- > Online customer communication (17,627 entries in „My account“ application)
- > Contact center - 123,341 calls and 14,923 e-mails received, 51,549 visits to web page of HEP Opskrba
- > Newsletter (16 numbers, 2,203 recipients), social network activity
- > Celebration of Hepi launch

Hepi tariff model for residential customers is positioned as an innovative package of services and has more than 26,000 contracted customers.



## New block in TE-TO Sisak

A new combined co-generation Block C of the thermal-heat generation power plant in Sisak entered trial generation at the end of 2013. The investment was 240 million euro worth. Block C, with the capacity of 230 MWe/50 MWt, replaced the matured block A, with the capacity of 210 MWe, which was functional since 1970. The old block was outdated according to technological, environmental, energy and economic criteria. New Block C ensures 10 percent of the Croatian electrical energy power and enables the generation of 10 percent of total electricity, according to the present needs of the electrical energy system. The heat capacity of Block C comprises 75 percent of generation capacity in the district system of Sisak. Due to the high efficiency level, it can serve 85 percent of the total consumption. Block C fully is fully complied to the national and EU environmental standards provisioned for the contemporary thermal energy facilities and will increase the electrical energy independence of the county in the long run. Along with BE-TO Sisak project, Block C forms the basis for the future development of Sisak heat energy network. Following the trial period, the operating license for Block C is expected to be issued in 2016.



## The first HEP biomass co-generation plants

Contracts were signed in April 2015 in Osijek and Sisak for the construction of small co-generation RES plants, using biomass, each 3 MWe/10MWt. New Osijek plant, situated next to HEP thermal-heat power plant, will utilize the existing infrastructure and will primarily produce process steam to supply industrial customers (32,400 tons per year). The annual generation will reach 18,300 MWh of electricity and approximately 65,800 MWh of heat energy for the district heating system. It will use biomass - wood cutting, procured by long-term contract, assuring quantity and quality necessary for the reliable plant work. The main function of BE-TO Sisak will be the generation of heat for the district system in Sisak, so the plant will be situated next to the existing facilities of HEP-Toplinarstvo. New facility will generate approximately 19,300 MWh electricity and 63,900 MWh heat energy. Additionally, the plant will produce approximately 21,600 tons of process steam annually in the status of privileged producer, compliant to the Tariff System for the Production of Electricity from RES and Co-generation. Until the end of 2015, all necessary permits were obtained for construction, and the construction sites were prepared in both locations.

### HEP- Opskrba - number of metering points

Customer category	2014	2015	% 15/14
High voltage	46	55	19.6
Medium voltage	1,193	1,225	2.7
Low voltage - commercial	91,300	86,844	-4.9
Low voltage – public lighting	12,146	13,049	7.4
Low voltage - residential	20,655	25,313	22.6
Total low voltage	124,101	125,206	0.9
<b>Total</b>	<b>125,340</b>	<b>126,486</b>	<b>0.9</b>

### HEP-Opskrba - customers

Number of customers	2014	2015	% 15/14	
Number of customers	64,949	66,724	2.73	
No. of MM per customer	1.9	1.9	-0.23	
Electricity sale per customer	MWh/customer	99	102	3.38
	kn/customer	36,859	36,861	0.01
No. of customers per employee	890	902	1.35	

## Requests, inquiries and complaints by HEP-Opskrba customers

A total of 18,650 requests, inquiries and complaints by customers were received in 2015, out of which 10,300 were registered by e-mail, 4,500 by fax and 3,850 by land mail. Mostly the received requests related to billing and reminders. Complaints received via electronic mail were reduced in comparison to the previous year. Namely, in 2014, most customers demanded additional explanations related to two separate bills. Also, following the introduction of semi-automatic ledger in August 2015, ensured a more precise registering of invoices.

Telephone inquiries by customers are recorded daily and mostly refer to ledger harmonization and printout of outstanding items. Increased telephone communication stemmed from efforts to improve payment efforts. Inquiries relate to complaints about interest rates or payment reminders, payment closing, checking performed payments, compensations, return of mistakenly allocated payments or overpaid bills. The time in which requests are solved or responses sent depends on the complexity of each issue. Each request is filed, analyzed, harmonized in books and finally the response is returned to customer along with the bookkeeping documentation.



## Cooperation on European Projects

Sector for EU and Regulatory Affairs was envisaged as a central body to coordinate and provide support in the preparation and implementation of EU projects in HEP Group. During 2015, we considered projects which could be financed from European structure and investment funds. Project objectives have to be aligned with the objectives stated in the Operational Programme Competitiveness and Cohesion 2014-2020, passed in late 2014.

HEP interests are best represented in the specific objective 4 of the OPCC - supporting transition to the low carbon economy in all sectors. With this intention, our focus is on conducting projects of energy efficiency and the use of renewable sources of energy, smart energy management, development and implementation of smart distribution systems.

During 2015, HEP prepared applications for potential co-financing from EU funds, aimed at investments in smart grid. Smart grid pilot project will be led by HEP ODS, planned to reach two objectives - decrease of network losses and increase of the number of new connections. The sector participated in a number of applications on tenders like INTERREG, in cooperation with the Faculty of Electrical Engineering and Computing and HEP ODS, on the transboundary project „Encompassing System of Flood Protection on the Drava and Mura Rivers“, with partners from Austria, Croatia, Hungary and Slovenia.

Evaluation of projects is expected in 2016. The project within Danube Strategy E-FLOOD, conducted in cooperation with the partners from Slovenia and Hungary was approved in December 2015. It focuses on the flood protection system on the Drava and Mura rivers. Cooperation was realized with Končar Electrical Engineering Institute on the establishment of the energy competence center within OPCC, priority axis 1, Research, Technological Development and Innovation.



## Revitalization of hydropower plants

Besides using biomass to produce heat energy, hydropower plants take the largest stake in renewable sources of energy in gross total consumption of energy in Croatia. The total consumption of energy from RES in Croatia amounts to 28 percent, compared to the European average of 16 percent. According to the Eurostat data for 2014, Croatia takes the sixth place among twenty EU countries. Besides production profitability and the optimal utilization of the existing locations, this is one of the reasons why HEP continuously invests in revitalization of hydropower facilities. In July 2015, the third reconstructed block of hydropower plant Zakučac was activated. The capacity was raised for 52 MW, which would enable the increase of the average annual generation by 58 GWh. The total investment in HE Zakučac reconstruction reached close to one billion kuna. Following the activation of the third unit, the preparations were launched to realize the final, fourth, phase, that is the replacement of the fourth generation unit. Electricity production in hydropower plant Zakučac is of vital interest for the stability of electrical energy system in Croatia, with the crucial issue of hydropower availability. During the reconstruction of one unit, other units were in operation and generating electricity, which was a special technical challenge to the modernization process. Until the end of 2015, most of the activities related to the revitalization of the hydropower plant Dubrovnik were completed. Following the reconstruction of the unit B, conducted during 2012 and 2013, the reconstruction of the unit A was initiated. The total investment amounts to 320 million kuna and will result in the increase of the capacity of about 20 MW and the generation of approximately 100 GWh annually.

Besides the revitalization of hydropower plants Zakučac and Dubrovnik, during 2015, HEP has prepared technical documentation for the revitalization of other hydropower plants, within the framework of an extensive investment cycle in reconstruction, additional construction and revitalization of the existing hydropower facilities, with the total value of 3 billion kuna. Having in mind the size of investment, one of the prominent projects is hydropower plant Varaždin, with the cost amounting to 310 million kuna and Senj, with the cost amounting to 290 million kuna. The investment cycle will comprise hydropower plants Čakovec, Vinodol, Rijeka, Gojak and finally Orlovac, with the preliminary projected investment reaching more than 500 million kuna. With these investment projects in RES facilities, HEP remains the largest green investor in the Croatian economy.

HEP hydropower plants are on average older than 40 years, some older than a century. Since the Croatian independence, only one hydropower plant was built - HE Lešće. Therefore, it is vital to invest in reconstruction, replacement of outdated equipment by contemporary technological solutions and the revitalization of facilities. Such projects ensure the modernization of the technological process and equipment, frequently by introducing automated and long-distance management, aimed at the increase of efficiency of hydropower plants, prolonging their life cycle and decrease of maintenance and facility management cost. All activities are performed in compliance with increasingly strict requirements of the environmental and water protection.

Although the primary goal of the revitalization of hydropower facilities is not the increase of capacity and generation, it is realized wherever possible. In total, the result of investments in existing hydropower plants, their reconstruction, additional construction and revitalization should yield additional 120 MW of hydropower capacity. Comparatively, the construction of one such new hydropower plant would make the sixth largest among the 26 existing hydropower plants owned by HEP.

## HEP-Toplinarstvo

HEP-Toplinarstvo provides services in the areas of the cities of Zagreb, Samobor, Velika Gorica, Zaprešića, Osijek and Sisak. During 2015, the number of end-customers of heat energy was increased by 0.2 percent and at the end of the year recorded 124,831, out of which 118,562 (95 %) were residential customers, while 6,269 were (5%) were commercial customers. HEP-Toplinarstvo was dedicated to raise the heat energy customer satisfaction level. The topic in focus was the installation of heat cost allocators (HCA). Namely, in the process of harmonization with the EU regulation, the Law on Heat Energy Market provisioned that all residential and commercial facilities connected to the joint heat meter should install heat cost allocators, heat meters and thermostatic radiator sets (thermostatic valves and heads) i.e. appliances which can regulate the consumption of heat energy. Residential buildings with more than 70 residential units were obliged to install the appliances until end year 2015, while the buildings with less than 70 residential units are obliged to do so until the end of 2016.

HEP-Toplinarstvo has conducted activities of informing and advising customers since the beginning of the new regulation application. As early as November 2013, the customers received a leaflet on the obligation and terms for the installation HCAs or heat meters and thermostatic valves. Jointly with the representatives of the Ministry of Economy and the Croatian Energy Regulatory Agency, HEP-Toplinarstvo organized dozens of public events in the Croatian cities, primarily for residential buildings' authorized representatives. Citizens and the media received timely replies to their inquiries and important information was published on the company web.

# 150 MW

additional power which will  
be realized by revitalization  
of hydropower plants.





## Advanced customer communication

Since January 2015, all HEP-Opkrba residential customers can use the mobile application m-hepi. Besides being the unique application on the market, it enables the customers to be well informed and to supervise their consumption. M-hepi is a free of charge application that can be used to calculate savings on electricity bill and submit requests for supply contract. Following the registration, customers can monitor and print bills and payments, check consumption in the past period, contract data and tariff models, pay bills with credit cards and access bonus in Hepi club.

HEP-Opkrba is dedicated to cherishing customer relations. Each customer with the annual consumption larger than 0.5 GWh has an account manager with 24-hour availability. Account manager is in charge with all contracting activities, providing advice related to consumption, energy efficiency, green energy and authorized to negotiate commercial conditions with customers. Additionally, account managers receive complaints by large customers, mediate in issues arising between customers and distribution operator, provide initial consultancy to customers related to energy efficiency, help customers in understanding legal regulations of electricity market and are available for any inquiry and advice on the optimal solutions.

Customers with annual consumption less than 0.5 GWh can reach sale representatives of HEP-Opkrba by phone, e-mail and personal contact. Commercial customers in the category of small and medium enterprises are provided care in Customer Center, they can receive information by toll free phone or online. HEP-Opkrba within continuous engagement in developing customer relations, pays special attention to direct contacts with customers by organizing customer meetings in four Croatian cities: Opatija, Osijek, Split and Zagreb. In 2015, such meetings were attended by 700 reputable businessmen, representing the largest customers on the Croatian electricity market.

In order to provide timely information vital for their business, customers are informed via web pages of HEP-Opkrba, ZelEn, ELEN and Hepi, Facebook fan page and YouTube channel. HEP-Opkrba newsletter provides useful information on the company business activities and news on energy sector, regulatory issues and other areas. During 2015, 16 newsletters were distributed to 2,203 recipients.

HEP-Opkrba Customer Center received 123,341 calls, out of which 76,543 from residential customers. 97 percent of calls were responded to, which is by one percent more than in the previous year. Average number of calls per day was 514. Additionally, 14,923 e-mails from customers were received (out of which 8,763 related to Hepi), relating to various inquiries on new supply contracts (clarification on tariff models, public procurement, prices, conditions, supply fees, market competition and others). Individual conversations were held with 743 customers who visited company offices. HEP-Opkrba Facebook fan page recorded 882 fans until the end of 2015, while YouTube channel had 3,221 viewings of video clips.

The topic of HCAs appeared in a negative context in public communication at the beginning of the heating season in October 2015, due to the delayed heating in some residential buildings, caused by delayed installation in some buildings. Problems arose in December 2015, when the residents in the buildings in which the appliances had been installed received the first bills calculated according to the new methodology, based on the HCA installation. Namely, the customers who have not changed their heating habits or lived in the buildings in which a large amount of energy is lost due to poor insulation and low energy efficiency, received larger, instead of expectedly smaller bills.

All analyses up to date showed that the total quantity of supplied heat energy read on the joint meter in the heat substation in the majority of buildings with installed HCAs was decreased from 15 to 35 percent compared to the period before the installation. However, although the total consumption of heat energy is decreased on the building level, as a rule, the installation of HCAs and thermostatic valves does not automatically guarantee the savings of energy and lower cost of heat for each residential or commercial unit in the building. Cost reduction depends on customer behavior, position and characteristics of the residential or commercial unit. End customers frequently expect that the sole act of HCA installation will reduce their monthly cost, without having changed their way of energy management, improved insulation, etc., and regardless of the fact that their unit may be situated in the so-called unfavorable position in the building (northern side, highest floor, etc.) It is important to note that HCAs are not appliances whose installation achieves savings automatically, but they motivate customers to more rational use of heat energy and achieving energy and financial savings. Customers ought to be aware that the company which they contracted to install HCAs has to program each HCA correctly, so it can measure precise temperature of radiators and space. Also, when installing HCA's, customers have to conduct the balancing of the heating system, which ensures optimal distribution of heat energy on all radiator units within the building.

Number of complaints considered by Complaints Commissions of HEP-Toplinarstvo in 2014 and 2015

YEAR	Quality of supply services			Quality of heat energy			Change in connected load			Change at metering point			Redistribution of supplied heat volume			Other reasons			TOTAL		
	total	accepted	refused	total	accepted	refused	total	accepted	refused	total	accepted	refused	total	accepted	refused	total	accepted	refused	total	accepted	refused
2014	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5	0	5
2015	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2	5	0	5	8	0	8

**HEP-Plin****Number of customers (metering points)**

Supply area	Number
County of Osijek and Baranja	63,720
County of Požega and Slavonia	8,249
County of Virovitica and Podravina	3,811
Other counties	108
<b>Total</b>	<b>75,888</b>

Category	2014	2015	% 15/14
Residential TM1-TM4	69,255	70,135	1.3
Commercial TM1-TM8 (up to 1 mil. m <sup>3</sup> )	5,351	5,745	7.4
Commercial TM9-TM12 (over 1 mil. m <sup>3</sup> )	5	8	60
<b>Total</b>	<b>74,611</b>	<b>75,888</b>	<b>2</b>

## Cooperation with suppliers

HEP Group is obliged to operate in compliance with the Law on Public Procurement in all processes of the procurement of commodities, works or services. In this sense, the participants of the supply chain are directly contracted partners or indirect subcontractors. In the procurement process, HEP requires from tenderers to state the information on type and producer of offered commodities, thus including the producers in the supply chain. It is rare that producers directly participate as contracted partners, only in the cases of sizeable worth of procurement and required logistics which covers the entire country.

Contracting Rules of HEP Group came into effect in January 2015, regulating general conditions, organization of procurement system and business processes in the procurement organization in HEP and depending companies. The document includes planning of procurement, procurement categories, execution of procurement processes for commodities, works and services, conclusion of contracts and agreements and issuance of orders. It also provided the obligation to pass certain internal implementing acts. One of the most important implementing acts is the Decision on the Procurement Categories, which provides details on the categories of commodities, works and services for HEP and subsidiaries. Procurement categories comprise strategic commodities, joint commodities and services, commodities, works and services procured for strategic energy generation facilities and other commodities, works and services. Procurement categories of joint commodities and services enabled the centralization of procurement objects for HEP and subsidiaries.

In 2105, HEP Group processed procurement with the total value of 4,159,907,092 kuna. The largest stake in the procurement is public procurement with the total value of 2,867,234,014 kuna, i.e. 69 percent from the totally assessed procurement value. Total low value amounted to 462,950,874 kuna, while the procurement value in the processes that were exempted from Law on Public Procurement reached 829,722,204 kuna. The total assessed value of procurement in 2015, decreased in comparison to the previous year.

Based on the procurement plans for 2015, HEP Group companies concluded contracts and agreements and issued orders amounting to 2,079,204,806 kuna. The largest stake was concluded in the segment of public procurement, amounting to 1,601,539,934 kuna, i.e. 77 percent of the total value. Low value processes reached the value of 407,636,147 kuna, while the processes exempted from the Law on Public Procurement reached 70,028,725 kuna.

All procurement processes initiated in 2015, have not been completed and the total value of procurement will be somewhat higher than presented here. However, it can be concluded that in 2015, with the almost same number of procedures, the total value of contracts, agreements and orders would be 37 percent lower than in 2014, which would not be dramatically changed following the completion of all procedures. Therefore, the total assessed value of procurement in 2015, compared to the previous year and contracted values, indicate that the higher quality of planning resulted in savings in the procurement process.



### Energy from renewable sources

ZelEn is electrical energy obtained exclusively from renewable sources of energy, i.e. HEP hydropower plants, offered on the market by HEP-Opkrba. The product was developed in a response to goals of EU energy and climate policies. All means gathered by sale of ZelEn are used exclusively to finance projects of RES development and energy efficiency targeted at public sector institutions caring for socially sensitive population. In 2015, HEP-Opkrba was the sole supplier of electricity from renewable sources in Croatia, under the protected seal „Friend of Nature“.

Annual celebration of ZelEn was organized in March 2015, when we delivered 1,300 LED light bulbs to the social care institutions. In 2015, contracts with 17 new customers were concluded and 32 old ones prolonged, so at the end of 2015, ZelEn had 49 customers with 291 GWh of electricity supplied.

On the occasion of Planet Earth Day and Renewable Energy Day, HEP-Opkrba continued its action „100 Green Trees“, organizing environmental actions and planting trees around 26 hydropower plants owned by HEP. In mid March HEP-Opkrba visited HE Kraljevac and planted new laurel and maple trees, thus marking 103<sup>rd</sup> anniversary of the hydropower plant.

## HEP Group companies

### HEP-Proizvodnja: From rich tradition to new trends

HEP-Proizvodnja, like the entire Group, celebrated a valuable anniversary in 2015, marking 120 years from the installation of the first electricity system in Croatia. The center of the first system was hydropower plant Krka, one of the first hydropower plants with the alternating current generator in the world, launched on August 28, 1895. This event happened just three days after the launch of the famous hydropower plant on the Niagara falls, which was a key-stone in global use of alternating current, developed by the renowned scientist Nikola Tesla. Hydropower plant Krka (later re-named Jaruga) was in operation only until 1914, but hydropower plant Jaruga 2, built in 1903 just next to it, is still in operation. Today, hydropower plant Jaruga 2, just like hydropower plant Miljacka, constructed in 1906, operate in the area of the National Park Krka.

The beginnings of our modern electricity history are naturally tied to the construction of hydropower plants. Croatia is rich in river flows and our predecessors built 26 hydropower plants in the country. Some of them are over dozens years old and require substantial reconstruction. Therefore, HEP initiated an intensive cycle of investment in hydropower plants. Thus, we contribute to the realization of goals to generate electricity with minimum greenhouse gas emissions. Entire generation from HEP hydropower plants holds a certificate of the renowned international certification company TÜV SÜD on the generation from the renewable sources of energy. These certificates formed the basis for selling green electricity in the interrim period for the introduction of guarantee system for the electricity origin, under HROTE supervision. Until the end of the year, the system included the generation from our latest hydropower plant Lešće, based on the status of the privileged producer, issued by the Croatian Energy Regulatory Agency.

The stake of the generation from the sources that contribute to the low carbon emission of 75.3 percent in 2015 grows if we take into account the generation from the highly efficient combined co-generation gas plant – Block L in TE-TO Zagreb, which received the preliminary certificate as the privileged producer by HERA.



### Marketing breakthrough of HEP

On the occasion of 120<sup>th</sup> anniversary celebrating the first electricity system in Croatia, a special HEP group image campaign was conceived and launched. The creative concept was based on the lyrics of the popular song „Shine in darkness“, whose intention was to accentuate the importance and presence of HEP throughout the history until modern times. Promotional video concept matched the music and lyrics of the song with the development and benefits of electricity. Although HEP-Opkrba launched the first marketing activities in 2013, it was necessary to invent new value-added products (m-hepi mobile application) and to launch new marketing campaign to inform customers on products and services in order to attract new customers.

### HEP ODS: Keeping up with the fast development

HEP-Operator distribucijskog sustava d.o.o. conducts the activities of electricity distribution from the transmission network to end-customers. The company is responsible for the construction, maintenance and management of the distribution network and facilities. It provides public service of electricity supply according to the regulated conditions.

Market liberalization, European energy regulations and amendments of the national legislation, global trends and fast technological development initiated changes by which HEP ODS wishes to respond to the growing demands of the market and customers. These changes are structural and they do not only reorganize company's business operations, but also influence the shift in strategic thinking and business strategy development.

During 2015, a number of activities were initiated to create a new organizational layout of HEP ODS, based on functional models of management, with the purpose to increase the expert influence, decrease organizational complexity and standardize business processes. Globalized market dictates a strong influence of distributed generation. Closed distribution systems are on the rise, e-mobility is growing, smart electric and electronic appliances are increasingly used. Such trends influence planning and development of the advanced distribution network and faster reaction to customer demands focused on digital interaction and support to new services.

The most prominent short-term challenge for HEP ODS is harmonizing business operations to new regulations, planning and financing advanced distribution network. Company has initiated the harmonization of development and investment plans until 2030. Due to our strategic position on the electricity market, HEP ODS has a strong social responsibility to strive for excellence and maximum efficiency. Having in mind the unique position, i.e. that there are no competitors in distribution, our goals are improvement and development high-quality services under acceptable prices.

In 2015, HEP ODS performed significant capital investments in new facilities, primarily focused on large cities substations – TS 110/10(20) kV in Ferenščica and Sesevete in Zagreb, TS 110/10(20) kV in Rijeka and TS 110/10(20)kV on Srđ in Dubrovnik. Capital investments were executed in building new junction in the wider Šibenik area (TS 110/10(20) kV in Primošten and Vodice), in Zadar (TS 110/10(20) kV Zadar East) and Split (TS 110/10(20) kV Terminal). These will be crucial energy objects which would increase the security of distribution network. The distribution network in Gorski kotar, which had been completely damaged by the ice storm damage in February 2014, was fully reconstructed.

HEP ODS workers faced severe weather conditions also in 2015. Network suffered failures in Lika and Kordun in November 2015. HEP ODS teams, despite extremely harsh conditions, repaired damage in the shortest possible time, proving again their dedication and skill.

### HEP-Opkrba: Ready for a dynamic market

Activities and strategic approach of HEP-Opkrba are based on entrepreneurship. The goals are continually adapted to the market conditions, so strategic planning of price policies and increased competitiveness of the company resulted in keeping the old and acquiring new customers. Activities concentrated on continuous creation of new products and services will advance customer relations. HEP-Opkrba is especially dedicated to developing business excellence, investing in employee know-how and increase of their competencies. We realize this by careful selection of employees who are ready to realize strategic goals, develop new innovative

solutions and create new values by competitive offer of products and services. HEP-Opkrba works on continuous segmentation of customers, so we can create attractive new product and services and efficient price policies to manage our portfolio.

By offering the most favorable quality and price, HEP-Opkrba additionally strengthened its position on the domestic market and hindered the growth of competition. Offers provided by HEP-Opkrba were most favorable in public tenders for public lighting in the two largest Croatian cities. So, the company regained the position of the public lighting supplier of the City of Zagreb, to which it has supplied electricity since 2014. New, four-year contract on the supply of the City of Split, confirmed traditional excellent business relations, but also high standards of HEP-Opkrba. The tender requested that at least 50 percent of the supplied energy was generated in the renewable energy sources. HEP-Opkrba won 67 percent of all public tenders for the supply of electricity to the subjects of public procurement. It also won the tender executed by the State Office for Centralized Procurement, which represented 526 end-customers in signing the general agreement and subsequently the individual contracts.

#### HEP-Plin: Competing in the commercial segment

HEP-Plin distributes and supplies natural gas to customers. Gas distribution is performed according to the regulated principles of public service, the supply is performed according to the regulated principles of providing public service for residential and supply to other customers according to the market principles by freely contracting mutual rights and obligations. HEP-Plin used to be a community service company which supplied gas to residential customers in three counties (Osijek - Baranja, Vukovar - Srijem and Virovitica - Podravina) until two years ago when the company spread operations to the national level. In 2015, we celebrated 40 years of HEP-Plin and received a special recognition by the Croatian Gas Association.

Spreading portfolio to the segment of commercial customers in entire country resulted in the increase of income in 2015. Increased income enabled us to boost investment growth by 20 million kuna per year. Substitution of gas meters in residential units was conducted in 2015 and new gas meters with the corrective function were installed to enable more precise reading. HEP-Plin was the second largest gas supplier in Croatia in 2015, which covered the largest distribution area. It supplied high-quality gas, which is analyzed twice a month and the results can be checked on the web page of HEP-Plin.

Residential customers predominantly use gas for heating. In 2015, increase of consumption was caused by colder winter period on average, compared to the previous year. Distribution network was maintained functional, while field teams responded and removed failures within the shortest possible time. Larger gas supply stoppages due to gas network failures were not recorded. The construction of gas network, based on concession agreements, continued in 2015 and will be continued in the subsequent year.

In order to improve customer communication, a Customer Center with the special toll free number was launched in 2015.

#### HEP-Opkrba plinom: Challenges of the liberalized market

Drop in gas prices on the European market and in Croatia trended into 2015 and resulted by reduced purchase and sale price of gas, regulated by the Government decisions. Increased liberalization of energy markets, along with the restrictions to the suppliers on the national wholesale markets for the suppliers subject to the public service obligations until 2017, demands defining new strategic goals for the gas business within HEP Group. The objective is to ensure the necessary conditions and to prepare the company for the competitive gas market in the country, following its full liberalization, by taking over customers from public service and commercial customers and simultaneously by keeping the present customers, that is suppliers who presently perform public service of supply.

Considering the intensive competitiveness and increasingly complex conditions to lead business on the Croatian gas market, it can be expected that the gas suppliers which are vertically integrated with the distribution operator would choose the strategy of shrinking market share in gas supply i.e. decide to perform only regulated gas distribution. The openness of the European energy market and experience from some neighboring markets indicate the necessity to create new „energy products“, which can increase company competitiveness within the Group and support their strengthening and positioning on the national and surrounding energy markets. Sale of energy packages (electricity + gas) is one of the options which can strengthen the position of HEP Group.

HEP-Opkrba plinom is ready to be included in the process of defining services and offering new energy product to the end-customers jointly with other companies in HEP Group. In this way we would increase efficiency, optimize costs of management and supervision of operations connected with contracted obligations towards other gas market players, optimize and reduce cost of natural gas purchase for the use of HEP companies.



#### Participation in the regulatory processes and planning

HEP procurement experts participated in the work of the Commission for the National Action Plan on Green Public Procurement until 2020. The Government passed the Plan in August 2015 and it was delivered to the subjects of public procurement in December 2015. The Action Plan prescribes the criteria for green procurement of various commodities and services, like paper, motor vehicles, electricity, telecommunication services and other. HEP will implement green criteria according to the regulations in the oncoming years.

### HEP-Toplinarstvo: Reliable and stable service

HEP-Toplinarstvo considers 2015 as a successful year, having provided quality and secure supply of heat energy and process steam by supplying 1.9 TWh of heat energy. Our operations were primarily concentrated on loss reduction, rationalization of business operations and improvement of billing of supplied heat energy to our customers.

We had two important investment projects in 2015: revitalization and replacement of the part of hot water, warm water and steam network in Zagreb, Velika Gorica and Osijek and the revitalization of network tubes around the major heating stations TS-2 and TS-3 in Sisak. The investments had primary purpose of increasing reliability of heat energy supply, reducing loss of heat energy in distribution and refilling the system with technological water. We also continued working on the project of connecting city district Dubrava to the heating system of Zagreb, whose system is divided into six parts due to its size as well as the project of technical and economic optimization of long-distance heating in Osijek.

### HEP-Trgovina: presence on the markets from Germany to Kosovo

HEP-Trgovina carries out the following activities on behalf and for the account of HEP d.d.: purchase and sale of electricity, lease of cross-border transmission capacities purchase and sale of gas, lease of transportation system capacities, optimization of HEP's power plant operations for ensuring the required electricity volume for HEP customers under the most favorable terms, emission trading, green certificate trading, power purchase agreements with producers other than HEP Group. Purchase and sale of electricity, gas, emissions and green certificates are conducted bilaterally, through trading platforms and in energy exchanges in Central and Southeast Europe, like CROPEX – Croatian Energy Exchange, South Pool – BSP Regional Energy Exchange (Ljubljana, Slovenia), HUPX – Hungarian Power Exchange (Budapest, Hungary), EEX - European Energy Exchange (Leipzig, Germany), EPEX SPOT - European Power Exchange, SEEPX – SEE Power Exchange (Belgrade, Serbia) and CEGH - Central European Gas Hub (Vienna, Austria).

HEP has a direct access to the Western European market of electricity, gas, coal and emission units and all transactions of purchase and sale of electricity on the wholesale market in EU countries are conducted by HEP d.d. In non-EU countries (Serbia, Bosnia and Herzegovina, Kosovo), the access to the market is realized through daughter companies of HEP-Trgovina in those markets. Electricity supply to customers outside Croatia is possible exclusively via local companies which have permits to perform such business operations. Therefore HEP-Trgovina in cooperation with HEP-Opkrba performs supply of electricity to customers in other countries (Slovenia, Bosnia and Herzegovina and Serbia) via its daughter companies.

HEP-Trgovina purchases gas for supply of thermal power plants and heat energy plants of HEP-Proizvodnja and for supply of commercial customers of HEP-Plin. HEP d.d. and HEP-Trgovina are entered in the register of balance group leaders on the gas market of Croatia, which enables the lease of the capacity of gas transportation system and gas trading on the virtual trading point Croatia. HEP-Trgovina established the balance group of HEP d.d. in the Slovenian market, which provided the option to lease capacities of transportation system at entrance and exit of the transportation system of Slovenia. In March 2015, HEP balance group was established on the Austrian market and trans-border transport capacity was leased from Austria to Croatia. In August 2015, HEP-Trgovina entered HEP to Central European Gas Hub, which ensured the direct access to liquid Western European market, purchase of gas on the point of delivery (virtual point

Austria), which presents significant diversification of purchase lines and enables the purchase of gas from a larger number of sellers. In 2015, a total of 4,471 GWh of gas was purchased.

HEP-Trgovina, besides bilateral trading of emissions, participates in primary auctions of emission units organized by EEX exchange and on the futures market. A total of 3,368,000 emission units were purchased in 2015, which covered entire needs of HEP Group for emission units for electricity and heat energy generation in 2015 and 2016 and 17 percent of the planned needs for 2017.

### Nuclear power plant Krško: Quality and reliable generation

Nuclear power plant Krško has been operating longer than three decades in compliance with the highest expert and technical standards of nuclear technology. Development of standards reflects in the high level of nuclear security, stability and competitiveness of production compared to other sources of energy as well as the goals to reach and maintain social acceptability of nuclear power plant.

In 2015, nuclear power plant Krško generated 5370 GWh electricity, which was divided between two co-owners – HEP and GEN Energija. The result has an added value, because NE Krško is an example of nuclear security and excellence due to fulfilled security indicators, high reliability and strict adhering to all administrative and environmental restrictions. The World Association of Nuclear Operators (WANO) conducted extensive check of the operations of NE Krško at the end of 2014, which found good working practice, high expertise and safety at work, so NE Krško was assigned the highest grade in 2015. The objective for 2016 is to focus on human behavior, management and directing and the efficiency of corrective program.

# 67%

of successfully won tenders by HEP Opkrba in public procurement procedures for the supply of electricity.

At the end of 2015, the International Centre for Settlement of Investment Disputes in Washington reached the verdict obliging the Republic of Slovenia to pay HEP more than 40 million euro for non-supplied electricity from nuclear power plant Krško from July 1, 2002 until April 19, 2003. Namely, Slovenian ELES cut the long distance lines from Krško towards Zagreb in 1998 after which the Government of the Republic of Slovenia expropriated HEP's establishing share of 50 percent. Years long negotiations ensued, which resulted by signing of the international agreement on NE Krško at the end of 2001, cancellation of all mutual demands until June 30, 2002 and the agreement to reinstate the supply the latest by July 1, 2002. The issue was addressed with ICSID in November 2005, when HEP requested the arbitration against the Republic of Slovenia claiming damage on the account of having been compelled to use more expensive own generation or purchase more expensive electricity instead of using electricity from Krško. Today, the operations of the nuclear power plant is managed jointly and the cooperation of partners is correct and professional.



### Publication of market integrity and transparency related information

HEP Group launched web portal [www.remit.hr](http://www.remit.hr) in May 2015. In the first phase, the data published will comprise all planned and unplanned events related to large power plants (installed capacity larger than 100 MW per unit) and the data on the change of availability, if the change of capacity was equal to or larger than 25 MW (dynamics of change is published on hourly basis.)

The portal launch fulfilled the requirements of the EU Regulation on wholesale energy market integrity and transparency (REMIT) and its implementing acts, which define the rules for the market participants on the wholesale electricity and gas markets, according to which the energy subjects are obliged to publicize the privileged information. REMIT regulation sets rules to prevent manipulation that may impact wholesale markets and which are compliant to the rules regulating financial markets and wholesale energy markets functionality, having in mind their specific characteristics. The regulation enables the supervision of energy wholesale markets, conducted by the Agency for the Cooperation of Energy Regulators (ACER), respecting the colleration between emission trading systems and the electricity wholesale markets.



### Successful partnership with RWE on TE Plomin 2 concluded

Contract on the construction and management of thermal power plant Plomin 2, signed by HEP and RWE according to BOT model (Build-Operate-Transfer) in 1996, expired in May 2015. The thermal power plant was launched in 2000. By the contract expiration, HEP became the sole owner of TPP Plomin 2. In July 2015, HEP and RWE established a joint company to manage projects in the segment of renewable sources of energy - Novenerg. The purpose of the new company will be, not only to develop renewable energy projects in Croatia, but also to participate other Southeast European markets.

# 6

Environment: committed to the principles of environmental and energy efficiency

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To ensure the safe supply of energy to our customers, decrease impact on environment and to modernize own generation portfolio, HEP continued implementing the projects of hydropower plants revitalization, construction of small hydropower plants, construction of heat accumulator in TE-TO Zagreb, construction preparation for two biomass plants and with the electrical mobility project.

## 6

# Environment: committed to the principles of environmental and energy efficiency

## Energy

During the reporting period, HEP Group continued to implement measures to monitor and decrease own energy consumption within and outside the organization. HEP Group companies have used a total of 58.93 GWh of electricity in their facilities in 2015, which is almost 7 percent less than in 2014. Energy inspections, started in the previous period, continued in 2015, as they will be the basis for improvement of reporting on HEP Group's energy consumption in the following reporting periods.

## Emissions

### Transfer periods for HEP facilities

Industrial Emissions Directive (IED) stipulates transfer periods for reaching emission limit values for certain pollutants for existing facilities. HEP-Proizvodnja has submitted a demand for exemption of thermal power plants for heat energy production and lower emission limit values for NO<sub>x</sub> for gas fueled blocks in EL-TO Zagreb and gas blocks PT1, PT2 and 45 MW in TE-TO Osijek to the Ministry of Environmental Protection and Nature in order to secure uninterrupted supply of heating energy for these cities. The Ministry rated requests for EL-TO Zagreb and TE-TO Osijek positively in 2015, allowing the continuation of gas blocks' operations after January 1, 2018 and consequently supply of heat energy for Zagreb and Osijek.

During 2015, HEP-Proizvodnja submitted a request for exemption for limited life cycle for the period between January 1, 2016 and December 31, 2023 for gas turbines in KTE Jertovec, blocks A and B in TE-TO Sisak and 320 MWe block in TE Rijeka. The Ministry approved exemption requests for KTE Jertovec, TE Rijeka and block B in TE-TO Sisak, and based on that ordered a change in the IPPC permit issued on the Ministry's website. Request for exemption of TE-TO Sisak block A was not approved.





## IPPC permits for HEP plants

IPPC permit is issued for plants and facilities whose current operations, or operations after reconstruction and launches into regular operation, can cause emissions of pollutants into soil, air, waters and sea, if their operations are listed in the Annex I of the IPPC Directive, considering that IPPC obligation for energy generation plants is also defined by the total heat energy in MW. Obligation to obtain the IPPC permit are HEP plants for fuel combustion with 50 MW or more in nominal heat energy owned by the following operators:

- > HEP-Proizvodnja - TE Plomin 1, TE Plomin 2, TE Rijeka, TE-TO Sisak, KTE Jertovec, TE-TO Zagreb, EL-TO Zagreb and TE-TO Osijek
- > HEP-Toplinarstvo - Pogon Osijek

HEP initiated the procedure to obtain this permit for these plants in June 2012. By the end of 2015, the following plants received their IPPC permits:

- > Existing HEP-Proizvodnja plants TE-TO Sisak, TE-TO Osijek, TE Rijeka, KTE Jertovec as well as Osijek Plant owned by HEP-Toplinarstvo
- > New facilities: Block C in TE-TO Sisak and Plomin C-500

### Greenhouse gas (GHG) emissions - CO<sub>2</sub>

During 2015, a total of 2,956,802 tons of CO<sub>2</sub> were emitted from HEP sources; compared to 2014, emissions remained on the same level. However, compared to earlier periods, emissions record a decreasing trend from 2011 to 2014. These emissions have been on the decrease thanks to the increase of electricity generation from HEP's hydropower plants and use of natural gas as a more environmentally friendly fuel compared to liquid fuel in the production process of electricity and heat energy.

HEP's GHG CO<sub>2</sub> emission sources are:

- > HEP-Proizvodnja's thermal energy production facilities and thermal power plants for heat energy production TE Plomin 1, TE Plomin 2, TE Rijeka, TE-TO Sisak, KTE Jertovec, TE-TO Zagreb, EL-TO Zagreb and TE-TO Osijek
- > HEP-Toplinarstvo's boiler facilities for heat energy production facilities for buyers in Zagreb, Sisak, Osijek and part of Zagreb County
- > Boiler facilities used for own heating owned by HEP-Operator distribucijskog sustava

### CO<sub>2</sub> emissions

Year	CO <sub>2</sub> t/annually
2011	4,035,541
2012	3,726,274
2013	3,490,584
2014	2,947,102
2015	2,956,802

It is important to underline that HEP procures a part of electricity on energy markets, however, for now, information on CO<sub>2</sub> that has been emitted in the process of its generation is not shown along with the information on the bought MWh of electricity.

### HEP in the EU Emissions Trading System (EU-ETS)

In accordance with proscribed deadlines, in 2015 HEP submitted emission units for 2014 for all nine accounts open at the EU-ETS GHG Registry, fulfilling its obligation to the EU Emissions Trading System for the second year in a row.

GHG emission allowances free of charge are allowed by the European Commission to HEP's sources with nominal heat energy higher than 20 MWt for generation of heat energy, which have been transferred to central heating system and transfer of technology steam to so-called "carbon leakage" facilities, or those facilities that could be dislocated to countries that are not EU-ETS tributaries.



## Industrial energy efficiency projects

HEP does not only sell electricity, it provides additional energy services and is a long-term partner to its consumers. These energy services enable energy and cost savings by implementing energy efficiency measures, renewable energy sources and systematic energy management. Typical industrial projects in 2015 included the use of waste heat in cooling systems, increase of efficiency in electric motor systems and swapping industrial lighting. For example, project implemented in PPK Karlovačka mesna industrija, meat production industry, included implementation of systems recuperating waste heat from existing cooling systems, while energy efficiency measures in ELKA factory, as well as Viktor Lenac and UJanik group shipyards included modernization of lighting through implementation of energy efficiency measures, which included engineering services and securing financial assets according to ESCO model. All these projects helped respective companies record significant savings in the consumption of energy and decrease of production costs, which in turn influenced improvement of their business results.

**Free GHG emission allowances**

Facility	Number of free GHG emission allowances		
	2013	2014	2015
Pogon Osijek	45	402	338
TE-TO Zagreb	200,475	176,365	157,135
EL-TO Zagreb	167,026	143,701	128,557
TE-TO Osijek	59,365	50,913	43,150
TE-TO Sisak	12,021	9,028	12,353
<b>TOTAL</b>	<b>438,932</b>	<b>380,409</b>	<b>341,533</b>

GHG emission allowances are allocated based on the Report on operations, and quantities are liable to changes depending on the generation of heat energy for the previous year, in accordance to reports operators deliver to the Croatian Agency for Environment and Nature by January 15 of the current year for the previous calendar year.

Indirect emissions of CO<sub>2</sub> in HEP Group have also been decreasing with periodical replacement of vehicles with new ones that offer lower CO<sub>2</sub> emissions per kilometer. Implementation of e-mobility project and purchase of 22 electric vehicles replaced part of HEP's vehicles using fossil fuel derivatives, which influenced the decrease of pollutants into air. In 2015, GHG intensity amounted to 261 gCO<sub>2</sub>/ kWh of energy produced in HEP Group sources.

HEP-Operator distribucijskog sustava keeps records on the quantities of fluorine GHG SF<sub>6</sub> (sulfur hexafluoride) and, as obligated by the law, reports annually to the Ministry of Environmental Protection and Nature. In 2015, 53.24 kilograms of SF<sub>6</sub> have been filled up on ten locations in distribution areas.

**NO<sub>x</sub>, SO<sub>x</sub> and other emissions into air**

During 2015, emission of sulphur oxides (SO<sub>2</sub>) from HEP Group sources increased by 32 percent, while emission of solid particles grew by 24 percent compared to 2014. The reason for increased emissions lies in the obligation to consume stored liquid fuel with sulphur content higher than one percent in HEP thermal power plants and thermal power plants for heat energy production by December 31, 2015 at latest. This obligation stems from IPPC permits for HEP thermal energy production facilities with nominal heat energy higher than 50 MW and demands of the Ministry of Environmental Protection and Nature.

**Systematic energy management in HEP buildings**

HEP supports and participates European Union and Croatia's activities aimed at preservation of climate, energy independence and economic competitiveness. This is why the company brought the decision to adopt the Program of Establishment and Implementation of Systematic Energy Management in HEP's Buildings (HEP SGE Program). With this program, HEP is eager to decrease the impact of its buildings on the environment and use of natural resources, secure healthier working conditions and decrease expenses for energy sources. The program sets efficient management over energy costs and identifies potentials for energy and water savings by updating existing general, construction and energy data on buildings owned by HEP. The program includes introduction of ESCO Monitor® system for monitoring and analysis of consumed energy and water in real time, implementation of remote reading, implementation of water and energy consumption optimization, establishment of system for reporting on achieved savings, education of stakeholders in energy management system as well as raising awareness of HEP employees regarding the rational use of energy in the workplace with a series of educational activities.

ESCO Monitor® system is completely applicable in all organizations regardless of size, organizational complexity or number and complexity of buildings, and is used for monitoring, analysis and optimization of energy consumption in buildings, of street lighting, industrial facilities and systems of renewable energy sources. The system can be used for inspection of all general, construction and energy parameters, management and inspection of metering points (tariff and control meters, temperature and humidity sensors...), consumption planning and implementation of energy efficiency measures as well as other measuring and verifications. The user is allowed insight into real time consumption, analysis and consumption plans, supervision and management, as well as early detecting and alarming in case of change in water or electricity consumption (in case of poor energy efficiency, malfunctions or unexpected occurrences). Implementation of ESCO Monitor® provides in-depth information on the system functionalities and can help in deciding to introduce certain energy efficiency measures. ESCO Monitor® Panel is a communication channel enabling collection, measurement, analyses and transparent communication of information within ESCO Monitor® to the users. The panel is placed in frequented areas in the workspace and can show different information, from total energy use, energy consumption per user or product, updated meteorological data and advice encouraging users to adopt certain habits in order to save energy. The panel has two-fold use: to raise awareness of the employees and to motivate them to change behaviors as important segment of energy policy implementation in any organization.

During the implementation of the program, HEP ESCO Training Centre organizes special courses aimed at preparation and estimation of viability of implementation for energy efficiency and renewable energy source projects, measuring and verification of achieved savings and energy management in accordance with ISO 50001 norm, Green Office projects, as well as workshops for office workers in order to motivate them to consume energy responsibly in office buildings. Educational module for building maintenance personnel was devised within TRAP-EE EU project, with best European practices adopted, which will be used for education of HEP employees.

HEP ESCO is in charge for the implementation of this project, in cooperation with energy managers in HEP Group members. HEP ESCO conducted preliminary estimates of energy and water consumption within SUNSHINE EU project, based on the pilot project conducted in ten office buildings owned by HEP. In addition, within EU scientific and research project A2PBEER HEP ESCO also analyzed a building owned by HEP (Elektra Zagreb in Gundulić Street) in a virtual simulation project that would test and suggest introduction of newly-developed systems and technologies. Experiences and knowledge gained from EU projects will be henceforth used in the implementation of the program.

Considering that HEP owns a number of buildings, activities in the program will be divided into several phases, based on available data and priorities related to energy consumption. Implementation of this program is the first phase in introducing systematic energy management in 100 objects owned by HEP. SGE Program encompasses buildings used by HEP Group members as well as building complex in 37 Vukovar Street in Zagreb. After the completion of the first phase, basis for program implementation in other buildings will be established.

#### Emissions of NO<sub>x</sub>, SO<sub>2</sub> and solid particles

Year	NO <sub>x</sub> t/annually	SO <sub>2</sub> t/annually	Solid particles t/annually
2011	5,574	9,621	220
2012	5,156	8,055	179
2013	5,286	6,025	93
2014	4,779	3,747	145
2015	4,701	4,957	180

Agents damaging for the ozone layer, i.e. agents under control are found in cooling equipment, air-conditioning and fire extinguishers. In accordance with the law, HEP Group collects data on quantities and use of these agents, while maintenance is conducted by services licensed by the Ministry of Environmental Protection and Nature.

#### Financial consequences and other risks and opportunities influenced by climate change

Depending on hydrological circumstances, HEP produces 30 to 60 percent of electricity in hydropower plants, i.e. using renewable energy source. During arid years, needs for electricity is covered by electricity production in thermal power plants that use fossil fuels or by purchasing energy on the market. Higher generation in thermal power plants signifies higher CO<sub>2</sub> emissions causing climate change, but also higher generation cost for electricity, since every ton of CO<sub>2</sub> emitted from sources using fossil fuels with nominal heat energy higher than 20 MWh

requires one emission unit. With a goal to maintain secure supply, HEP's production portfolio is comprised from sources which use different types of energy sources for electricity generation. After EU accession, Croatia has the obligation to decarbonize its energy sector, while goals that need to be reached by 2020 (-20 percent compared to 1990), 2030 (-40 percent compared to 1990, with EU-ETS sector -43 percent compared to 2005) are very ambitious, while the goal for 2050 is to completely decarbonize the energy sector or minimize CO<sub>2</sub> emissions to five percent of earlier emissions at most. While electricity is available on the market for purchase, heat energy and steam for industrial use need to be generated from own sources, i.e. thermal power plants for heat energy production and boiler facilities for heat production.

In order to secure uninterrupted supply, decrease environmental impact and modernize own production portfolio, HEP continued to revitalize its hydropower plants (HE Zakučac) and initiated plans to construct as well as construction itself of small hydropower plants (HE Prančevići, ABM HE Varaždin) in order to utilize hydro potential of the biological minimum, invested in construction of heat accumulator in TE-TO Zagreb, prepared for construction of two power plants fueled by non-treated wood pellets in Osijek and Sisak, procured electric vehicles for own needs and implemented e-mobility project.



#### Optimization of heating and cooling systems

Faculty of Mechanical Engineering and Naval Architecture from the University of Zagreb and HEP ESCO launched a joint project entitled "Advanced Regulation of HVAC Building Systems" with the main goal to demonstrate potential and methodology of advanced regulation in existing HVAC (heating, ventilation and air conditioning) systems in office buildings.

Heating and cooling optimization of existing HVAC building systems has significant potential for saving energy and money. Advanced management consists of a simplified model of a building which serves to forecast the building's heating response, considering the disruptions in the heating or cooling system and forecasted change of the outside temperature, insulation, number of people present, and other sources of heat. In this manner, optimization of the process is enabled considering, for example, potential savings of energy.

This project was envisioned as a pilot project on a typical office building in Zagreb, regularly shaped with identical division of levels and offices, and equipped with central cooling and heating systems. With that in mind, results of this study could be implemented to a number of existing buildings, while the project would serve as the first step towards the development of advanced regulation for a wide variety of buildings as well as for the implementation of dynamic optimization ("model predictive control") which offers even greater savings potential. For the pilot project, HEP ESCO chose HEP's new administrative building in Kupska Street in Zagreb.

## Water and waste-water management

Table shows quantities of withdrawn water and water works of this kind, quantities, and emissions of waste waters from thermal power plants and thermal power plants for heat production in 2015. There have been no sources significantly affected by water withdrawal, or natural habitats or species significantly affected by water emissions.

### Withdrawn water and waste water discharge types and quantities from thermal power plants and thermal power plants for heat production in 2015

PLANT	SOURCE	Water quantity (m <sup>3</sup> )	Waste water	Treatment system	DISCHARGE	Water quantity (m <sup>3</sup> )
TE PLOMIN	Bubič Burrow	722,970	technological waters	treatment of waste waters, neutralization and depositing device	Čepić canal - sea	180,561
			rainfall from coal depot	lamellar settler		
			oily waters	oil separation		
	Public water supply system	13,895	sanitary waters	BIO device		3,089
Sea (cooling waters)	425,627,640	cooling waters	no treatment		276,657,966	
TE RIJEKA	Public water supply system	47,647	technological waters	treatment of waste waters, neutralization and depositing device	Sea	2,770
			oily waters	oil separation		
			sanitary waters	BIO device		
Sea (cooling waters)	17,353,000	cooling waters	no treatment		17,353,000	
TE-TO SISAČ	Sava	278,540	technological waters	treatment of waste waters, neutralization and depositing device	Sava	8,940
			oily waters	oil separation		
	Public water supply system	5,278	sanitary waters	no treatment		5,278
	Sava (cooling waters)	23,532,000	cooling waters	no treatment		23,532,000
TE-TO ZAGREB	Wells (+ public water supply system)	948,068	technological waters	treatment of waste waters, neutralization and depositing device	City sewage system	430,666
			oily waters	oil separation		
			sanitary waters	no treatment		
Sava (cooling waters)	44,942,600	cooling waters	no treatment	Sava river	35,954,080	
				Savica lake	8,988,520	
EL-TO ZAGREB	Wells	1,025,019	technological waters	treatment of waste waters, neutralization and depositing device	City sewage system	217,693
			oily waters	oil separation		
Public water supply system	10,213	sanitary waters	no treatment			
TE-TO OSIJEK	Drava	318,418	technological waters	neutralization	City sewage system	146,366
			oily waters	oil separation		
			sanitary waters	no treatment		
Public water supply system	3,078	clean rainfall waters and rainfall waters from liquid fuel management system	oil separation	Palčić canal	12,861	
KTE JERTOVEC	Krapina	32,390	technological waters	treatment of waste waters, neutralization and depositing device	Jertovec stream	16,435
			oily waters	oil separation		
	Public water supply system	1,859	sanitary waters	BIO device		

## Materials

Due to the obligation to consume stored liquid fuel with sulphur content higher than one percent in HEP thermal power plants and thermal power plants for heat energy production by December 31, 2015 at latest, in accordance to the demand of the Ministry of Environmental Protection and Nature as well as stipulations from IPPC permits, during 2015 HEP recorded increased consumption of liquid fuel compared to the year before. Decrease in consumption of coal is the result of repairs in TE Plomin 2 which lasted a month and a half. There were no significant pollutions in the reporting period.

### Quantities and types of used fuels

Fuel type	2013	2014	2015
Liquid fuel/x10 <sup>3</sup> t	50	32	54
Natural gas/x10 <sup>6</sup> m <sup>3</sup>	620	385	418
Coal/x10 <sup>3</sup> t	933	919	873



### SUNSHINE web platform anticipates energy needs

One of the new energy efficiency measures is smart energy management in buildings. Combining IT and energy efficiency with the help of existing network creates a management system of new energy infrastructure. Integrating solutions, EU project SUNSHINE (Smart Urban Services for Higher Energy Efficiency) thus developed a web platform that supports energy management and energy efficiency in urban centers (smart city), based on dynamic and tailor made approach to energy consumption.

In a large international consortium, 14 other companies and institutions from energy sector, non-profit and public sector, private ICT companies, urban planning companies and institutes as well as consultancies and foundations from nine European countries, participated in the project along with HEP ESCO. User interface of the SUNSHINE web platform is organized into several programs. Methodology and systems developed within this project with the purpose of upgrading energy efficiency were demonstrated and evaluated through pilot projects in Italy, Greece, Austria, Malta and Croatia. In Croatia, the pilot project established the system of measuring, managing and regulating consumption of electricity in several HEP's buildings and outside lighting of HEP-Toplinarstvo administrative building.

261 g CO<sub>2</sub>

was the intensity of greenhouse gasses per kWh of energy generated in HEP Group plants.

## Biodiversity



There were no significant influences of HEP operations, products or services on biodiversity in 2015.

### Projects: Rational energy management

Several energy management projects have been conducted in EL-TO Zagreb in 2015 aimed at decreasing energy losses and increasing production efficiency. After the application of measures for the decrease of waste water emission, EL-TO Zagreb emits about five times less water in the environment. Apart from energy savings, significant financial savings have also been made. Within the "Project of Energy Transformation Process Efficiency Increasing in EL-TO Zagreb Plant", possibility of energy waste decrease by decrease of losses of smoke gases' energy was determined. With a modest investment in the installation of new economizing areas, it has been determined that the project might save up to several tens of thousands MWh of thermal energy annually. IC thermography inspection of isolation determined the state of heat isolation which led to isolation of certain parts of the system, which helps decrease of energy consumption by around 3,500 MWh and financial savings of about 1.15 million kuna annually. Project "Reconstruction of Drainage System and Installation of Precise Flow Gauges in EL-TO Zagreb Plant" developed an innovative system of water flow measuring which timely indicates possible water leakages in the plant and enables quick reaction of the plant staff. These projects are positive examples in the decrease of energy consumption and losses in complex co-generation facilities. Decrease of consumption and losses in the plants contributes to rational energy management and improvement of efficiency of the entire plant.

In 2015, construction ended and test period began for the heat accumulator in TE-TO Zagreb. Construction of this accumulator improved the level of TE-TO Zagreb plant efficiency which means decrease of fuel consumption, i.e. better utilization of its heating power in the connected process of heat energy production for heating, cooling, air-conditioning and preparation of consumable warm water, industrial steam and electricity. Decrease of pollutants and greenhouse gases is directly connected.

### Protected areas of Drava River hydropower plants

Three HEP hydropower plants, Varaždin, Čakovec and Dubrava, are all situated on the Drava River, in Mura-Drava Regional Park, one of the most important protected European river ecosystems. A part of HE Varaždin accumulation territorially belongs to Slovenia, which pronounced this area an ornithology reserve (Ormož lake Reserve). The Drava River hydropower plants' accumulations are important winter habitats for European marsh birds and a part of NATURA 2000 European eco-network. HEP therefore pays special attention to protection of ornitofauna and ichtiofauna of these areas.

Drava River hydropower plants co-finance planned increase of fish fund – trout, pike-perch, pike and carp – conducted by sporting and fishery associations from Međimurje and Varaždin counties. In addition, analysis showed that rare and endangered fish listed on the Red List of freshwater Croatian fish - European mud minnow – inhabits the left drainage canal of HE Dubrava, so special attention is given to preservation of this specie.

Coordination of electricity generation and preservation of all components of environment surrounding is determined by the stipulations of Natural Resource Management Plan in the area of Drava hydropower plants. The most important activities stemming from this plan include:

- > Regulation of water level and its quality in places of hatching, incubation and early development of fish and reptile larvae. Expert assistance in these activities is provided by the Division of Zoology of the Faculty of Science.
- > Rehabilitation of the previous arm of the Drava River by removing fluvial deposits and plants which enables migrations and hatching of fish into the Drava old arm, as well as marsh bird nesting.
- > Removal of invasive species such as zebra mussel, waterweed Elodea and water milfoil Myriophyllum within regular maintenance.
- > Hand mowing of meadows and drainage ditches in the area of Drava hydropower plants in order to sustain critically endangered German tamarisk plant (*Myricaria germanica*) which is on the Red List of endangered plants and animals in Croatia, as well as military orchid (*Orchis militaris*) and early spider orchid (*Ophrys sphegodes*).
- > Monitoring of activities near HE Čakovec and HE Dubrava dams to preserve otter habitats (*Lutra lutra*).



### Reconstructions in service of higher quality waste waters

Reconstruction of oily water separation in oil fuel management system was finished and separator was launched into trial work in TE-TO Zagreb. Dry sludge as the product of separation is delivered to a company authorized for waste management. EL-TO Zagreb conducted reconstruction of drainage system and installation of precise flow meters in order to enable calculation according to real quantity of emitted technological waste water. This proves that the actual quantity of emitted water is significantly smaller than the one reported to Croatian Waters in previous periods. Reconstruction also saw the installment of additional separator and settler prior to emission into city sewage system. The entire process of system reconstruction in EL-TO plant along with installation of precise flow meters resulted in substantial financial savings. Less precise Parshall canals for measuring water flow were installed earlier onto control-measuring shafts, while facility modernization and constant care of the quantity of emitted waste waters led to a significant decrease of total quantities of emitted waste waters.

In the ten months during 2015 that saw accurate calculations, EL-TO Zagreb saved as much as HRK 3.8 million.

Part of the internal discharge system that did not meet structural stability and functionality (water impermeability) in TE-TO Sisak was recovered. Recovery of the system included parts of the technological sewage, A1 collector, new rainfall sewage and sanitary sewage. Impermeability was then tested, showing that it completely meets impermeability requirements according to HRN EN 1610:2002.

With a goal to sustain safety and establish original state of the accumulation, in mid-2015 HEP finished works on removal of fluvial deposits from HE Varaždin accumulation. An island for bird breeding was constructed, while an old arm at the entrance to the accumulation was rehabilitated to reach the original state, i.e. the state before the accumulation. All activities were realized in cooperation with the State Institute for Nature Protection (later integrated into Croatian Agency for Environment and Nature), BIOM Ornithology Association and Sporting and Fishery Club Cestica 1995.

#### Activities in other hydropower plants

Activities to obtain previous acceptability assessment of the project for eco-network have been launched and necessary elaborates made for the construction of oil and grease storage in RHE Velebit, as well as for removal of fluvials and cleaning of Opsenica accumulation.



### Central Chemical and Technical Laboratory licensed according to international standard

Central Chemical and Technical Laboratory (CCTL) operates within HEP-Proizvodnja, testing characteristics of light distillate oil, coal, coke, solid biofuels and special types of samples that the laboratory is equipped to test. The laboratory was founded in 1938 as a department of production facilities in City Electric Central and its original task was to analyze feed waters for boilers as well as to analyze coal as the only fuel used in the power plant at the time. In 1968, the laboratory is taken out of the EL-TO Zagreb structure and begins with operations as Central Chemical and Technical Laboratory, performing analyses for other plants owned by then Elektroprivreda Hrvatske. With introduction of light distillate oil and gas as fuels, the laboratory stopped with coal analyses, and introduced monitoring of characteristics of used liquid fuels. In 2001, after the procurement of new laboratory equipment and introduction of new analytical methods, the laboratory resumes coal analyses.

In 2011, CCTL received license to test light distillate oil and coal according to HRN EN ISO/IEC 17025:2007 from the Croatian Accreditation Agency, while in 2013, it expanded the license to testing of solid biofuels which makes it the first licensed laboratory for coal and solid biofuels testing in Croatia. It will recertify its license for all testing in 2016.

Tests are procured by plants within HEP Group, but the laboratory records increased number of outside orders for analyses as well. They are conducted by modern equipment according to Croatian, European and international norms, while the laboratory develops own methods where necessary.

CCTL is the member of CROLAB, Association of Croatian Laboratories, as well as technical committees for solid biofuels and solid recovered fuels within Croatian Standards Institute. The laboratory cooperates with faculties of the University of Zagreb by conducting lab practicums and traineeships for final student theses and dissertations, including Faculty of Chemical Engineering and Technology, Faculty of Mechanical Engineering and Naval Architecture, Faculty of Mining, Geology and Petroleum Engineering and Faculty of Forestry.



### Development of circular economy

According to waste management hierarchy, its goal is to prevent the production of waste if at all possible; if not, reuse of the object is preferable to its discarding. Waste depositing on landfills should be avoided as much as possible, and it should be done by material or energy recovery, depending on the content and characteristics of the object. At the end of 2015, the European Commission issued a new and ambitious package of measures for circular economy aimed at strengthening competition, opening new workplaces and achieving sustainable growth.

Transition to a circular economy that attempts to keep the value of products, materials and resources within the economy as long as possible, while decreasing waste creation to a minimum, is an important contribution to the efforts of the European Union to incite development of sustainable, low-carbon and competitive economy which uses resources efficiently. This transition is an opportunity for transformation of the Croatian economy and creation of new and sustainable competitive advantages for Europe. Circular economy concept is a goal achievable only by changing habits in all segments of the economy, from resource use, over production and distribution, to consumption.

Looking into its potential contribution to the concept of circular economy, HEP organized Waste-2-Energy conference in cooperation with the Ministry of Environmental Protection and Nature, Swedish Embassy in Croatia and Business Sweden company in 2015, which presented technologies for utilization of waste derived fuels and waste for generation of electricity and heat, financing models for power plant construction, as well as experiences and practice from Sweden, Germany and Denmark. Considering technological development and the fact that power plants fueled by different types of waste derived fuels now apply best available techniques in their operation, pollutant emissions are held below proscribed limit values. If Croatia decides to include energy recovery of waste for electricity, heat and industrial steam generation in its waste management policy, HEP has good preconditions for the construction of such a facility on one of the locations of its existing thermal power plants.

Rehabilitation of rainfall drainage system 197 meters long has been conducted on GHE Orlovac plant. Water impermeability has been tested after these works which showed that it completely meets impermeability requirements according to HRN EN 1610:2002.

During the revitalization of GHE Zakučac, separator for aggregate C has been installed on the turbine level of the plan, while system of oily waters monitoring has been integrated (indicator of oiliness). Water released from drainage well, if clean, is directly sent into the drainage canal. In case the indicator of oiliness reports levels of oil in the water, the water is sent through the separator before being released to the drainage canal. Oiliness indicator reports pollution higher than 20 ppm of oil.



## Separate collection of waste in HEP headquarters

Based on the legal demands in the area of waste management and separate collection of waste on the place of production, and following the hierarchy of waste management, HEP established internal waste management system in HEP Group HQ in Zagreb in 2015. Employees are urged to collect waste separately - paper, glass, plastic, metals, toners and mixed communal waste, while the restaurant can additionally collect used edible oils and biodegradable waste. System was established in cooperation between HEP-Upravljanje imovinom, HEP-Proizvodnja and HEP Group's Strategy and Development Sector.

### Savica Ornithology Reserve

The only remaining natural marsh area in Zagreb, Savica Ornithology Reserve, consists of 12 interconnected lakes with extraordinary biodiversity. As many as 180 species of birds have been spotted in the Savica area, which is nearly a half of Croatian bird fauna. Out of the 180 species, 18 are strictly protected on international level as well. It is curated by Sporting and Fishing Association Peščenica, Croatian Ornithology Society, the City of Zagreb and TE-TO Zagreb, which is situated in the vicinity of the reserve. Importance of Savica Lake is in the education of younger generations about environmental protection, which was recognized by the Agency for Environmental Protection and the State Institute for Nature Protection (which in 2015 merged into a single institution, Croatian Agency for Environment and Nature) as well as the Croatian Ornithology Society, which use Savica Lake to organize bird watching and bird ringing.

### Protection of storks and eagle owls

In 2004, HEP signed an Agreement on Cooperation in protection of the protected species white stork (*Ciconia ciconia*) with the authorized institution for nature protection. HEP ODS workers install carriers for nests in accordance with the agreement, which decreases the possibility of nests being set on fire and prevents electrocution of storks. In HEP ODS distribution areas stork population is monitored and ringed in cooperation with the Croatian Academy of Sciences and Arts Ornithology Institute, while HEP ODS provides support by securing hydraulic lift and other necessary equipment.

Revision of this Agreement between HEP and the Ministry of Culture was conducted in 2015; during more than 10 years of cooperation, significant changes have occurred in the institutional framework and legal regulations in environmental protection, which is why revision was necessary to adjust the Agreement with present conditions and secure further protection of the white stork.

After several incidents of electrocution, HEP ODS installed protection on the trunk polls from Opuzen to Metković in order to protect eagle owls (*Bubo bubo*). HEP ODS installed multi-voltage protection on trunks eight kilometers in length.

## Waste management

During 2015, HEP Group produced a total of 3,877 tons of hazardous and 112,778 tons of non-hazardous waste. Increase in the quantities of hazardous waste compared to 2014 was the result of cleaning the light distillate oil tank in HEP's thermal power plants and thermal power plants for heat production.

### Hazardous and non-hazardous waste in HEP Group

Year	Hazardous waste/t	Non-hazardous waste/t
2011	1,574	116,236
2012	2,259	103,519
2013	1,565	101,705
2014	1,964	109,698
2015	3,877	112,778

### Waste management in Krško nuclear power plant

Management of radioactive waste and spent nuclear fuel is the obligation of the Republic of Croatia; Fund for financing degradation and management of radioactive waste and spent nuclear fuel from Krško nuclear power plant was founded in 2007. HEP is obligated to secure funds for this Fund in the amount of 14.25 million euro annually, which was defined by the existing Degradation Program. Since the beginning of its operations, the Fund received 1,268 million kuna, i.e. 171 million euro, while its assets amounted to 1,533 million kuna on December 31, 2015, or 201 million euro.

Currently, all radioactive waste and spent nuclear fuel is stored on location of the Krško plant. A total of 165 packages of radioactive waste of 38.9 m<sup>3</sup> in volume were stored in Krško in 2015. This volume includes 19 barrels of ash that were returned after successful campaign of combustible waste incineration within which 350 barrels were sent for incineration in 2014. Total volume of radioactive fuel in temporary depot was 2,264.3 m<sup>3</sup> on December 31, 2015. Fuel pool was used for storage of 1,252 combustible elements from 27 previous combustion cycles. Total mass of spent combustible material amounts to 448 tons.

Krško nuclear power plant was granted extended life cycle by 2043. Considering that the spent fuel pool has space for 1,709 combustible elements (which was originally supposed to be enough for operations by 2023), the owners decided to initiate a project aimed at dry storage of spent nuclear fuel as the best solution for increased nuclear safety and storage capacity.

In order to systemize management of this kind of waste, Croatia is expected to establish Radioactive Waste Management Centre, with detailed research works initiated on the same location in order to construct the future depot for radioactive waste in general, including radioactive waste from Krško nuclear power plant. The Fund was appointed national organiza-

tion for radioactive waste and spent nuclear fuel from NPP Krško management, while procedure for strategic estimate of the impact of National Program for implementation of radioactive waste management strategy was also launched.

## Investments in environmental protection

Total costs of HEP's regular operations and investments in environment amounted over 156 million kuna in 2015. Large amount of these costs (more than 60 million kuna) pertained to different kinds of fees (fees for nitrogen and sulphur oxide emissions use of waters, water protection, eco-tests for motor vehicles etc.).



### Partnership of TE Plomin and Holcim in CSR circular economy project

Cooperation between TE Plomin and Holcim cement factory in Koromačno was presented as an example of circular economy on the seventh CSR Conference in Zagreb in December 2015.

This partnership has been a long term relationship; similarities in the production process and mutual distance between the plants of just 28 kilometers incited the transition to circular economy that was identified as a significant opportunity for both companies' operations. Advantages of this cooperation can be seen in a more efficient use of resources, contribution to the development of low-carbon economy, decrease of costs and risks in the value chain, along with creation of economic and social value.

Byproducts from TE Plomin (fly ash and plaster) are used in Holcim's cement plant in Koromačno as mineral additives in the production process, respecting at the same time the highest standards of environmental protection and securing quality of products. Plaster produced by flue-gas desulfurization from TE Plomin 2 has been used in Holcim's plant as a secondary material since 2001; certain amount of plaster is combined with clinker into the cement mill. Since 2001 to the end of 2015, cement production recovered more than 660,000 tons of fly ash, which would otherwise be landfilled in TE Plomin.



### HEP's informative environmental protection system - INFOZOK

In order to secure more efficient data management in relation with HEP's facilities' environmental impact indicators and reporting to the authorized institutions, HEP launched internal informative environmental protection system in 2009 named INFOZOK. This is an application which is a result of joint efforts and collaboration between Strategy and Development Sector and ICT Sector. The system started as a form for collection of data on transformers and condensation batteries filled with polychlorinated biphenyls (PCB) and was updated with forms for collection of data on waste production and streams within the company. In 2015, the system was updated with forms for water management, types and quantities of waste waters, forms for IPPC permit management, as well as obligations for HEP stemming out of environmental protection legal framework. INFOZOK will be further updated in accordance with regulatory obligations and internal necessities.

#### Costs and investments into environmental protection in 2015

Environmental protection area	Costs of regulat operations (in HRK thousands)	Investments (in HRK thousands)	
Air and climate	54,463	0	
Waste waters	1,890	18	
Waste	12,244	3,649	
Protection of soil and underground waters	887	554	
Protection of nature and landscape	9,331	2,725	
Protection from radiation	40	14	
Research and development	180	56	
Other (mostly fees in regular operations)	69,692	754	
<b>TOTAL in 2015</b>	<b>148,727</b>	<b>7,769</b>	<b>156,496</b>

There were no initiated, solved or disputes in procedure related to HEP's environmental impact through formal mechanisms. Additionally, there have been no financial penalties or non-financial sanctions from failing to abide by the law and regulations from environmental protection framework.



## Certificates

Dedicated to operations on the highest level when environmental protection is concerned, but also keen on offering environmentally acceptable and energy efficient services, HEP constantly works on validating their quality. Its 26 hydropower plants, which make more than a half of total generating capacities of Croatian electric energy system, HEP generates certified energy from renewable sources. All HEP's hydropower plants are certified by TÜV SÜD for production of green energy.

During 2015, integrated systems of environmental management have been introduced according to international ISO 14001 norm, as well as quality management system according to ISO 9001 norm in PP HE Jug and HE Dubrovnik plants. This means that all thermal and hydropower plants owned by HEP-Proizvodnja are adjusted to ISO norms for quality and environment, which confirms responsible and systematic management of business operations and environmental impacts.

All HEP ODS distribution areas adopted environmental management systems according to ISO 14001 norm. During 2015, HEP began with preparations to introduce health and safety management system according to OHSAS 18001 norm. Decision on establishment of energy management system according to 50001 norm has been brought, as an answer to new regulations stipulated by Rulebook on Energy Inspection for Large Companies (National Gazette 123/15).



### "100 green trees" in HE Kraljevac

"100 green trees", joint action by HEP-Proizvodnja and HEP-Opkrba, was initiated in 2014, when the first five trees were planted near HE Ozalj facilities and its landscape, which has been destroyed by a storm that affected a big part of mountain areas in Croatia, was tidied. Employees of HEP-Opkrba, together with buyers, users of green energy ZelEn, plant trees and fix up landscapes of 26 HEP's hydropower plants. For continuance of the action in 2015 HE Kraljevac and March 21 was selected as the World Day of Forest Protection.

Young team of HEP-Opkrba had the help of representatives of buyers from Zagreb (HŽ Infrastruktura, Odašiljači i veze and others) and Split (Brodosplit, Tommy and others), as well of the representatives of Croatian Association for Energetics in this action. With it, HEP-Opkrba wants to contribute to UN program launched in 2010 named „Billion Acts of Green - international movement to protect the planet and secure sustainable future“.

# 156.5 mil.

kuna was the amount of the costs  
of HEP Group in environmental  
protection in 2015.

HEP in the society:  
versatile aspects



In 2015, HEP donated two million kuna for mine clearing activities in Kotar Forrest near Petrinja, covering the area of 294,322. HEP has been participating in humanitarian mine clearing projects since 1998. The company invested 65 million kuna in clearing its own properties and donated a total of 10.2 million kuna to the Croatian Mine Action Center from 2011 until end 2015.

## 7 HEP in the society: versatile aspects

### Altruistically for the needy

#### Measures against (energy) poverty

Signing the agreement on cooperation in measures to prevent energy poverty with the Croatian Government HEP took to obligation to participate on the project which will secure vouchers for electricity for 125,000 citizens (60 to 70 thousand households), listed in the base of welfare system as beneficiaries of guaranteed minimal compensation. Preconditions for this cooperation were set with Government's bill on amendments to the Welfare Law, which introduce special compensation for sensitive energy buyers and regulate the manner of participation in the measure.

In January 2015, HEP CEO Perica Jukić signed an Agreement on debt write-off for citizens of poorer social status with blocked accounts, for which the Government determined criteria with the largest debtors – banks, telecoms, state owned companies and city administrations. The agreement for alleviating financial difficulties for a part of citizens is a social measure which pertains to approximately 60,000 people.

#### Street lighting for refugee centers

In the autumn of 2015, in the midst of refugee crisis, Osijek branch of HEP ODS Elektroslavonija extended support to Osijek Office for Protection and Rescue, which was in charge of taking care of migrants and refugees which came to Slavonia in vast numbers. In a very short time, Elektroslavonija employees installed temporary network and lighting polls in Čepin shelter, as well as in military compound in Beli Manastir. Although the majority of such work normally done by machinery had to be done manually, taking care of a number of people, especially children, and in substantial heat, Elektroslavonija employees excelled at this task.

### Solar energy for households in rural areas

HEP ESCO and HEP ODS joined the project of rural electrification, assisting in equipping households with solar systems for electricity production. Project is implemented within UN Development Program (UNDP Croatia) in cooperation with Environmental Protection and Energy Efficiency Fund, School for Information Technologies and with support of counties and municipalities. There are still households in rural parts of Croatia that do not have access to electricity. The main goal of the project is to secure that every household remote from access to electricity has the chance to get access to locally generated electricity from renewable sources, thus creating preconditions for life and economic development in rural areas. More than 50 solar systems for these households are planned to be installed by the end of April 2016.

## Transparently on complex projects

### With arguments on disputes over TE Plomin block C

HEP has been communicating its intentions over the construction of TE Plomin block C in Istrian Labinština transparently and openly, facing negative attitudes of a part of (local) decision makers, local community and eco-activist groups, as well as generally adverse attitude of the media surrounding this topic. Regardless of the fact the Croatian Government proclaimed construction of block C a strategically important project for Croatian energy stability in 2014, disputes over the construction of the new block fueled by coal met with resistance from a part of stakeholders in 2015 as well. Following the decision of Istria County to ban coal as fuel for electricity generation in the county and pressures from certain participants of local governments, heads of cities and municipalities from Labinština decided to conduct an advisory referendum on the appropriate fuel for Plomin thermal power plant.

Wanting to fully understand worries the local community expressed related to their perception of possible impact from the construction of this plant to health and environment, HEP conducted a public survey. It showed citizens' concerns over the selection of coal as the energy source, but not the opposition to the construction of the plant. The local community clearly expressed understanding of benefits from possible new workplaces and added value for the community, under the condition that there will be no harmful effect on health and environment. HEP also conducted a series of communication and information activities in order to secure all information on the future block C of this thermal power plant. A flyer stating all important facts about this project was distributed to households in Labinština, while answers to frequently asked questions were published on HEP's website. Project was frequently discussed in local media as well.

Advisory referendum held on March 29, 2015 asked the citizens of Labinština the following question: "Do you support the construction of TE Plomin C 500 fueled by coal?". Referendum was held in the city of Labin and municipalities Kršan, Pićan, Raša and Sveta Nedjelja, gathered a total of 36.6 percent of voters, out of who 94.5 percent stated they are against coal as the main energy source for TE Plomin C. Bodies of all five local self-government units from Labinština found that less than 50 percent plus one voter voted on the referendum, which makes it void. Response to the referendum was much lower than announcements expressed in the public survey.

Wanting to demonstrate the functioning of two existing blocks TE Plomin 1 and TE Plomin 2, which use coal as fuel, as well as benefits from the construction of the third, replacement block (replacement for TE Plomin 1), HEP also organized study tour for local community representatives – Open Door Day – which gathered more than 200 interested citizens in the plant in May 2015. Led by plant experts, visitors had the opportunity to see the plants, while special interest was shown in methods of environmental protection. This was not the first visit to the thermal power plant – since its opening, the facilities were visited by tens of thousands of people – but this was the first time TE Plomin opened its door to visitors for a day.



### HEP-Opkrba active in socially responsible projects

HEP-Opkrba joined the project "Business Take-Off", aimed at promotion and support to Croatian small and medium sized entrepreneurs and craftsmen, which included educational presentations free of charge. In five cities in Croatia, entrepreneurs had the opportunity to participate in presentations with advice on how to save on electricity, while HEP-Opkrba employees presented the functioning of Croatian electricity market, regulated and market operations, price structure and market liberalization, and advised them about the factors that need to be taken in consideration with contracting electricity supply. This project was an excellent opportunity for introducing energy market to SMEs as well as to find out more about their concerns. Along with presentation on electricity savings, they were given LED light bulbs in order to realize further savings.

By signing the cooperation contract on March 26, HEP-Opkrba joined the common procurement project "Artifex" with the intention to support entrepreneurship with favorable prices of electricity in Zagreb and Zagreb County. HEP-Opkrba was qualified as the partner in the project by offering the most favorable prices and confirming once more its best supply conditions and leading position on the market. After successful cooperation with Zagreb Chamber of Crafts, HEP-Opkrba defined cooperation with Croatian Chamber of Crafts as well, eager to support the development of craftsmanship by offering favorable electricity pricing. Croatian Chamber of Crafts gathers nearly 77,000 of crafts which make a respectable share in Croatian economy; this means, that encouraging their competitiveness, through savings they will realize, is a measurable contribution to Croatian economic activities.

Panel discussion entitled "Strategy of female entrepreneurship development", which opened questions on managerial and entrepreneurial activity of women, presence of women in management structure of companies, as well as trend of increased unemployment in female population between 40 and 50 years of age, included the participation of HEP-Opkrba CEO Tina Jakaša, who presented her experience on managing market oriented company in the energy sector.

### Negative decision for Ombla

By the end of 2014, HEP initiated the procedure for assessment of environmental acceptability of HE Ombla to the eco-network, in which the State Institute for Nature Protection asked for additional research. In February 2015 HEP submitted the request for implementation of Main Assessment of HE Ombla to the eco-network; in the conclusion of the study, the study developer stated: "... Taking into consideration independent and joint impacts of the construction of HE Ombla on preservation and integrity of eco-network, it can be concluded that this intervention, with application of measures for mitigation, is acceptable and that thus presented HE Ombla would be completely integrated into Vilina špilja – Ombla spring system, creating, along with its hydro energy and water supply function, the function of stability and biodiversity accumulator in the Dubrovnik hinterlands".

State Institute for Nature Protection disputed significance and interpretation of demanded research, and asked for amendments and additional research, however, after the developers submitted their response to this decision to the authorized ministry, the Ministry of Environmental Protection and Nature decided to direct the study of Main Assessment into public discussion, which lasted from April 10 to May 11, with public presentation of the study on April 20 in Dubrovnik and media briefing on the same day in order to inform the public thoroughly on the procedure. In addition, due to exceptional interest of the public and expressed concerns in the local community, HEP openly responded to all questions asked during the public discussion, including those that did not pertain to the subject of this study.

HEP developed Ombla project in accordance with all spatial planning documents, and it was, as decided by the Croatian Government, defined as a priority investment worth a billion kuna that fulfills Croatian and European goals of energy and climate policies. Likewise, these researches are some of the most comprehensive and systematic researches of underground fauna in cave and spring areas in the Dinarides ever conducted. Although licensed expert organizations concluded that this intervention is acceptable, with mitigation measures, to species, habitats and integrity of the eco-network, and that HE Ombla could even have positive influence on biodiversity, the Ministry of Environmental Protection and Nature decided to deny HEP's request for assessment of environmental acceptability of HE Ombla to the eco-network.



### Cooperation with faculties

In December 2015, HEP signed a contract on cooperation with educational, development and scientific project with the University of Dubrovnik, continuing the tradition of cooperation it nurtures with the Faculty of Electrical Engineering and Computing in Zagreb, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture in Split, Polytechnic of Rijeka and University of Zagreb. For special achievements in the fields of energy, HEP awarded students of the Faculty of Mechanical Engineering and Naval Architecture. On the Faculty of Electrical Engineering in Osijek HEP assists in R&D project "Research and Development of Solar Electric Automobile" which gathers around 20 students engaged on their theses and dissertations on various components of solar electric vehicle.

## Thoughtfully where it matters

Along with many well-known socially responsible projects like awarding students from science and engineering fields, HEP joined certain new projects in 2015 wanting to help raise the quality of life in communities. We thus present only some of the numerous projects through which HEP supported development of society, economy and environment in this reporting period, for which it secured a total of 10,684,164 kuna.

### Investments into mine clearing until every step is safe

Continuing its long term project of investments into mine clearing activities in Croatia, HEP secured donation worth two million kuna to the Croatian Mine Action Center in 2015. The funds were used to clear mines in Kotar Forrest in Petrinja, area of 294,322 square meters.

Hrvatska elektroprivreda has been participating in humanitarian mine clearing projects since 1998. The company invested 65 million kuna in clearing of its own properties, while it donates funds to the Croatian Mine Action Center for projects in accordance with their priority. By the end of 2015, HEP donated a total of 10.2 million kuna to the Croatian Mine Action Center.

### Journalism prize for the field of environmental protection – take 16<sup>th</sup>

On the occasion of Earth Day, APO (member of HEP Group) and Croatian Journalists' Association committee of journalists reporting on environmental protection awarded "Velebitska degenia", award for reporting in this field, for the sixteenth time in a row. Sixteen authors entered 28 pieces into the competition, significantly more than in the previous years, and the winners were Romeo Ibrišević for photography "Watch so you don't get buried under piles of garbage", Ivanka Jelinčić Jurin for radio reportage on the issue of hydrocarbon exploitation in the Adriatic, and Dragan Nikolić for documentary "Green Denmark".

### IMAM ŽICU! – the longest educational CSR project in Croatia

IMAM ŽICU! Award is the longest running Croatian CSR project connecting economy with elementary and secondary education. The award was founded in 1995 and is presented to pupils for successes in the fields of mathematics and physics, while it has been awarded to young electrical mechanics since 2005 as well. In 2015, award of 2,500 kuna was presented to 38 pupils, who received them at HE Ozalj. The quality of the project was also confirmed by Croatian Public Relation Association Grand Prix in 2015, which it received as the best communication project in the field of CSR.



## What HEP does: Little Lovro's big steps

HEP marked 120 years of electric power industry in Croatia and 25 years of HEP with a series of educational programs entitled "Little Lovro's Big Steps". In 14 parts of the program, stories of the different aspects of HEP operations have been told, as well as of its role in the local communities, and infrastructural, national, strategic and every other importance it has in everyday life. Through the travels of Lovro and his grandfather, and expert help from "HEP people", company projects dealing with social responsibility and environmental protection, like stories about storks, HEP's hydropower plants, electric vehicles and charging stations, mine clearing projects, HEP's sportsmen and many other have been presented. The series aired on Nova TV during the autumn 2015 and drew viewers' attention.

### Growing up with knowledge and without violence

According to the data of the International Computer and Information Literacy Study (ICILS), only one computer is available to 26 pupils in Croatia, while schools have been equipped with new ones on average eight years ago. This statistics encouraged HEP to launch "For Our Little geniuses" action with Narodni radio, and donate 30 new computers for nine elementary schools in order to enable quality theoretical and practical IT education. Almost a hundred schools from entire Croatia applied to the contest with video applications, and those selected have none or only one computer to a large number of pupils, in both cases predominantly schools from the areas of special state care. HEP plans to conduct this contest in the years to come, and equip as many schools as possible with computers.

In 2015, HEP also supported the action organized by Radio Antena "Say Stop to Bullying with Music", directed at prevention of bullying among children. With a slogan "Tune in and overpower violence – silence is not the answer", the action invited school bands to send their music applications. Interest was vast and 27 bands entered the competition, while the expert jury chose three finalists, bands from Daruvar Grammar School, Čakovec High School and V Grammar School from Zagreb. Selected bands competed in Zagreb at the end of November, and the winner was Daruvar Grammar School band with the song "Sing".

# 21 times



HEP rewarded the best young physicists and mathematicians within the project IMAM ŽICU! which received the award by the Croatian Public Relations Association as the best communications project in corporate social responsibility in 2015.

## Community investments

### Fees for power plant spatial use in 2015/ HRK

Facility	City / Municipality	%	TOTAL, 2015
<b>HEP-PROIZVODNJA d.o.o.</b>			<b>59,486,057</b>
<b>HYDROPOWER PLANT SECTOR</b>			<b>43,690,466</b>
<b>Production area HE North</b>			<b>8,640,145</b>
<b>HE Varaždin</b>			<b>3,347,349</b>
	Varaždin	14%	468,628
	Sračinec	22%	736,416
	Petrijanec	39%	1,305,466
	Cestica	25%	836,837
<b>HE Čakovec</b>			<b>2,511,027</b>
	Orehovica	5%	125,551
	Čakovec	25%	640,138
	Nedelišće	8%	200,882
	Varaždin	8%	213,263
	Trnovec Bartolovečki	46%	1,179,835
	Sveti Đurđ	4%	100,441
	Martijanec	4%	50,915
<b>HE Dubrava</b>			<b>2,781,768</b>
	Prelog	43%	1,196,160
	Sveta Marija	12%	333,812
	D, Vidovec	2%	55,635
	D, Dubrava	3%	83,453
	Sveti Đurđ	24%	667,624
	Mali Bukovec	2%	55,635
	Veliki Bukovec	14%	389,447
<b>Production area HE West</b>			<b>11,533,868</b>
<b>HE Rijeka</b>			<b>438,046</b>
	Rijeka	64%	280,349
	Jelenje	36%	157,696
<b>HE Vinodol</b>			<b>719,756</b>
	Vinodolska	22%	158,346
	Lokve	35%	251,914
	Fužine	40%	287,902
	Kraljevica	3%	21,592
<b>HE Zeleni Vir</b>			<b>52,138</b>
<b>HE Senj</b>			<b>7,444,615</b>
	Senj	18%	1,340,030
	Otočac	29%	2,158,938
	Perušić	29%	2,158,938
	Gospić	24%	1,786,707

Facility	City / Municipality	%	TOTAL, 2015
<b>HE Sklope</b>			<b>629,444</b>
	Perušić	20%	125,888
	Gospić	80%	503,555
<b>HE Gojak</b>	<b>Ogulin</b>	<b>100%</b>	<b>1,420,000</b>
<b>HE Ozalj</b>	<b>Ozalj</b>	<b>100%</b>	<b>180,452</b>
<b>HE Lešće TOTAL</b>			<b>649,413</b>
	Ogulin	32%	207,812
	Generalski stol	23%	149,365
	Bosiljevo	45%	292,235
<b>HE Lešće</b>			<b>573,099</b>
	Ogulin	32%	183,391
	Generalski stol	23%	131,812
	Bosiljevo	45%	257,894
<b>ABM Lešće</b>			<b>76,313</b>
	Ogulin	32%	24,420
	Generalski stol	23%	17,552
	Bosiljevo	45%	34,341
<b>Production area HE South</b>			<b>22,073,852</b>
<b>RHE Velebit</b>			<b>3,349,421</b>
	Obrovac	39%	1,306,274
	Gračac	8%	267,953
	Lovnac	41%	1,373,262
	Jasenice	12%	401,930
<b>HE Đale</b>			<b>964,730</b>
	Trilj	26%	250,829
	Vrlika	29%	279,221
	Hrvace	20%	192,946
	Otok	25%	241,182
<b>HE Kraljevac</b>			<b>395,239</b>
	Omiš	10%	39,523
	Zadvarje	90%	355,715
<b>HE Orlovac</b>			<b>3,130,592</b>
	Otok	67%	2,097,496
	Trilj	33%	1,033,095
<b>HE Zakučac</b>			<b>12,143,808</b>
	Vrlika	22%	2,671,637
	Hrvace	14%	1,700,133
	Otok	19%	2,307,323
	Omiš	21%	2,550,199
	Trilj	24%	2,914,514
<b>HE Peruća</b>			<b>1,028,827</b>
	Vrlika	60%	617,296
	Hrvace	40%	411,531

Facility	City / Municipality	%	TOTAL, 2015
<b>HE Miljacka</b>			<b>754,267</b>
	Promina	50%	377,133
	Ervenik	22%	165,938
	Kistanje	28%	211,194
<b>HE Jaruga</b>			<b>156,257</b>
	Skradin	38%	59,377
	Drniš	50%	78,128
	Šibenik	12%	18,750
<b>HE Golubić</b>	<b>Knin</b>	<b>100%</b>	<b>142,751</b>
<b>HE Krčić</b>	<b>Knin</b>	<b>100%</b>	<b>7,957</b>
<b>HE Dubrovnik plant</b>			<b>1,442,599</b>
<b>HE Dubrovnik</b>			<b>1,414,034</b>
	Konavle	35%	494,912
	Župa	65%	919,122
<b>HE Zavrle</b>	<b>Župa</b>	<b>100%</b>	<b>28,564</b>
<b>THERMAL POWER PLANT SECTOR</b>			<b>15,795,591</b>
<b>TE Sisak</b>	<b>Sisak</b>	<b>100%</b>	<b>1,699,054</b>
<b>TE Rijeka</b>	<b>Kostrena</b>	<b>100%</b>	<b>312,074</b>
<b>TE Plomin</b>			<b>7,310,341</b>
	Kršan	64%	4,259,073
	Labin	18%	1,555,601
	Raša	6%	498,555
	Pičan	6%	498,555
	Sveta Nedelja	6%	498,555
<b>KTE Jertovec</b>	<b>Konjšćina</b>	<b>100%</b>	<b>44,828</b>
<b>TE TO Zagreb</b>	<b>Grad Zagreb</b>	<b>100%</b>	<b>4,254,476</b>
<b>TE TO Osijek</b>			<b>486,809</b>
<b>TE TO Osijek</b>	<b>Osijek</b>	<b>100%</b>	<b>486,675</b>
<b>PTE Osijek</b>	<b>Osijek</b>	<b>100%</b>	<b>133</b>
<b>EL TO Zagreb</b>	<b>Grad Zagreb</b>	<b>100%</b>	<b>1,688,006</b>
<b>TE Plomin d.o.o.</b>			<b>11,950,495</b>
	Kršan	64%	6,977,947
	Labin	18%	2,534,157
	Raša	6%	812,796
	Pičan	6%	812,796
	Sveta Nedelja	6%	812,796
<b>HEP GROUP</b>			<b>71,436,552</b>

During 2015, power plants within HEP-Proizvodnja recorded 8.830 TWh of generated energy, which is 9.94 percent less than in 2014, and thus resulted in lower amount of paid fees for spatial use.

Although TE Plomin generation was by 10.1 percent lower than in 2014, calculated fee for spatial use is higher, stipulated by the new decision that came into power in mid-2015, increasing unit fee amount for TE Plomin by 30 percent.

#### Comparison of paid fees for power plant spatial use in 2014 and 2015

	Calculated fee for spatial use (HRK)			Generated electricity (GWh)		
	2014	2015	DIFFERENCE	2014	2015	DIFFERENCE
HEP-Proizvodnja	74,919,142.47	59,514,174.31	-15,404,968.16			
Hydropower plant sector	63,393,361.90	43,690,466.01	-19,702,895.89	8,356	5,673	-32.1%
Thermal power plant sector	11,525,780.57	15,823,708.30	4,297,927.73	1,450	1,862	28.4%
TE Plomin	11,454,248.90	11,950,495.32	496,246.42	1,441	1,295	-10.1%
<b>HEP Group</b>	<b>86,373,391.37</b>	<b>71,464,669.63</b>	<b>-14,908,721.74</b>			



#### Education on nuclear energy and Krško study tour

Since 1992 HEP cooperates with Zagreb Technical Museum, organizing, among other, study tours for high school pupils to NE Krško. More than 7,000 children thus visited the plant in this period and the importance of this project was recognized considering that timely informing and education are the most important factors in creating opinions and standpoints (especially in the field of nuclear energy).

Additionally, current issues surrounding contrivance of locations for future energy facilities, especially depots for low and mid-radioactive waste, underline the importance of expert communication with the wider public.



#### Fresh knowledge for experts and students

Awareness on the importance of energy efficiency and the need to realize savings is developing fast, as companies become more aware of the effect on energy efficiency on profitability. This is why HEP ESCO founded its Training Centre which organizes educations on matters of energy efficiency, which is important not only for technical staff but for all users of buildings and plants.

Expertise and knowledge of HEP ESCO have been awarded on regional level; as one of the partners on European project TRAP-EE („Training Personnel towards Operational Energy Efficiency of the Buildings“), it organized and conducted pilot trainings for technical staff.

Together with partners from Slovenia and Austria, HEP ESCO won the Silver Apple of quality in the category Leonardo da Vinci, Transfer of Innovations, awarded by Slovenian Center for mobility and European projects of education and professional development to the best European projects from this field. Slovenian national agency granted this award based on external evaluation grading validity, results, management, duration and innovation of the project. The award was presented to Innovation-Development Institute of the University of Ljubljana as the coordinator of the TRAP-EE project.

HEP Nastavno obrazovni center (HEP Education and Training Center) is the place happily visited by students and pupils of technical education, who like to take the opportunity gain to insight into operations of this part of HEP Group. Their visits often result in increased interested in HEP NOC, so the center organizes traineeships for pupils and students during the school year and summer holidays.



HEP people:  
a look inside



According to the research conducted by MojPosao web portal from February 2015, HEP is still one of the most desirable employers in Croatia, on the eighth position. For as many as 67 percent of participants, HEP Group is the most attractive employer in terms of workplace safety as the most important factor.

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# HEP people: a look inside

## Working in HEP

All employees of HEP Group's daughter companies that are signatories of the Collective Agreement are covered by this agreement. It stipulates employee rights to medical check-ups as health protection, safety at work according to technical and scientific achievements, and protection of privacy that guarantees work conditions safe from discrimination, sexual or any other kind of harassment; in 2015, there have not been any cases of discrimination. Apart from proscribed legal deadlines for giving notice on significant changes in the operations, Collective Agreement obligates HEP to a timely communication with trade unions, once in two months, on the process of preparations of plans for restructuring and privatization of the employer and their impact on economic and social status of employees. Collective Agreement in power in 2015 was signed for the period between October 1, 2014 and June 30, 2016. No plans for incentives of retirement in HEP Group have been defined for 2015. During 2015 ten labor legal actions were initiated, 44 were totally underway, while 12 were resolved.

## Salaries and compensations

Data for beginner gross salaries in HEP Group companies show the highest entry level salaries of all newly-employed staff, not just salaries of junior staff; certain newly employed people are not beginners and their salaries are higher due to higher bonus on working period and higher coefficient. There is no gender-based discrimination in entry level coefficients; they are equal for all employees with the same level of education. In 2015, male employees have been hired in smaller companies with bigger salaries (not entry level), while newly hired female employees had smaller salaries (among them were persons with entry level status which lowered the average salary). Considering the legacy plan, it is estimated that 3,349 employees will retire by 2025, which is 30.8 percent of all employees.

The process of transformation was strongly directed at maintaining younger experts who will lead the company in the longer term. Therefore, a list of key expertise and positions has been made relevant for transferring knowledge to younger colleagues. Special internal Knowledge Center cares that highly specialized and sparsely available knowledge stays within the company for future generations.

## Education and professional development

HEP strives to plan and utilize internal resources optimally in implementation of education with a goal of encouraging learning culture as well as professional and personal development. In 2015, a total of 8,499,841 kuna were invested in education, namely 5,900,718 kuna for education and 2,293,803 kuna for professional development. Internal education was organized for 82 employees of HEP Group, 114 employees frequented HEP NOC programs for professional development, 84 professional qualification programs, and 562 frequented various seminars and courses, while 89 underwent education for completing expert license courses. The authorized sector also implemented several education programs from the field of personal development (communication skills and business manners, business correspondence, selection interviews and problem-solving skills) for entry level staff and other interested employees.



### Reorganization to increase business efficiency

HEP began all-encompassing organizational transformation in 2014, with the intention to increase business efficiency by introducing new market functions, centralizing procurement, strengthening of sale and marketing, decreasing costs of outsourcing, as well as the number of employees and organizational units. New organizational framework creates stronger basis for investment planning, while transformation itself is expected to bring net financial benefit for the company between 2 and 2.5 billion kuna in the next five years.

Changes in the organizational structure implemented in mid-2016, decreased the number of organizational units in vertical and horizontal organizational chart. The process encompasses all HEP Group companies apart from HOPS (which was separated from the Group according to ITO model without changes in the ownership relations) and HEP ODS. The first phase of HEP ODS reorganization started in the second half of 2015 and is planned to end by mid-2017. The number of companies in HEP Group also decreased. APO company was merged with HEP, while operations previously covered by HEP-Obnovljivi izvori energije are now under the Sector for Other Energy Sources, newly founded organizational unit in HEP-Proizvodnja. Ownership over HEP Nastavno-obrazovni centar was taken over by HEP ODS. HEP-Odmor i rekreacija was, along with taking over part of HEP's operations, newly registered with the name HEP-Upravljanje imovinom. Hrvatski centar za čistiju proizvodnju (Croatian Center for Cleaner Production) is the institution that, after APO's closing down and merger with HEP, took over APO's range of operations until they are resolved.

Along with the listed operative measures, HEP began with structural changes to improve HEP-Trgovina and increase competitiveness and agility of HEP-Opkrba. New market functions have been introduced, like strategic marketing, mergers and acquisitions strategy, market strategy, while IT support to business operations have been fortified.

In the process of reorganization, 597 employees left HEP in 2015. All employees that decided to leave received redundancy payment, while savings made on gross salaries amount to 66 million kuna annually. HEP's goal is to finish the transformation with younger structure of human resources and successful knowledge transfer to younger experts.



### One of the most desirable employers in Croatia

According to the research conducted by MojPosao web portal from February 2015, HEP is still one of the most desirable employers in Croatia, on the eight position. For as many as 67 per cent of participants, HEP Group is the most attractive employer in terms of workplace safety as the most important factor.

HEP Group does not offer programs for gaining skills and life-long learning which support employment expectancy and help in successful conclusion of the career. Likewise, it does not have established system of regular assessment of performance and individual development. However, after implementation and testing of functioning of this system in HEP-Opkrba, as the first company in HEP Group to introduce the system, as well as gathering feedback from managers and employees, it can be expected that such or similar system will be introduced in other HEP Group companies. Dynamics of this process will depend on future strategic decisions and HEP business goals.

## Safety at work

Safety at work was in the authority of Work Safety, Fire Protection and Physical and Technical Safety Department of the Sector for General Operations by May 30, 2015. In the period prior to this date, safety at work was conducted by head of the department, experts for workplace safety and fire protection with expert license, and three referents, one of who was safety specialist. This department conducted operations of workplace safety coordination in HEP Group, internal monitoring over implementation of measures of safety and protection against fire, coordinated works on the HEP building complex and all other operations from this field stipulated by the law. With June 1, 2015 new Rulebook on organization and systematization came into force, according to which safety operations have been transferred into the authority of the Office for Corporate Safety, i.e. Department of Protection and Contingency, while the employees that thus far conducted these operations have been transferred into the Department for Defense Preparations of the same office, leaving the second part of the year in changes to the Rulebook on organization and systematization and establishment of Department for Workplace Safety, Fire Protection and Defense Preparations.

A total of 150 injuries at work were registered in 2015 (19 female employees and 131 male). Out of this, 16 injuries were severe, 134 lighter; 7,344 days (58,752 hours) were lost. Out of severe injuries, 10 occurred in the workplace, one during a business trip, and five on the way to work or going from work. Out of the severe injuries on the workplace, two were caused by electrocution, seven by falling which resulted in fractures or sprains, one occurred as a result of an attack on HEP employee doing their work. Out of the total number of injuries in the workplace and during regular operations, 110 of them were the result of breaching or failing to follow safety procedures. There have been no registered professional illnesses in this period, or demands or needs for education on the matter of health and safety filed by suppliers or subcontractors.



## Especially proud of...

We are especially proud of our people who invest their expertise and creativity into company development. Our colleague Krešimir Komljenović won a gold medal for his innovation "pipe construction for measuring liquid flow" on international innovation exhibition INNOVA 2015. As many as 300 exhibits from 20 countries were presented in three days, and impressive competition which makes this medal even shinier. But this is not the only award Krešimir received in 2015; Energy Institute Hrvoje Požar awarded him in the category "projects of rational energy management" for increasing efficiency of EL-TO Zagreb plant. "Implemented projects demonstrate positive examples in decrease of energy consumption and energy losses in complex co-generation plants (...) which contributes to rational energy management and improvements of overall efficiency of the plant", says the explanation for this award.

During 2015, HEP employees donated blood a thousand times. Our donors gathered in clubs and associations responded to blood drives organized by HEP, but also by Croatian Transfusion Medicine Institute. For decades, HEP employees are generous in donating the fluid of life, while clubs and blood drives became a tradition in HEP and its companies.

Member of Athletics Club Karlovac and employee of HEP-Opkrba Renata Novosel regularly wins medals in this sport. Only a few of her titles include second place and silver medal on World Veteran Championship as well as setting Croatian record on 100 meters. In 2015, Renata excelled on the Balkan Games, winning gold on 100 and 200 meter races, and in long jump. Her efforts were recognized by Croatian Athletic Federation and pronounced her the best athletic veteran in 2015. Along with this string of wins, Renata also positively influences her colleagues from HEP-Opkrba, teaching them methods of office workouts, which led to the design of a handbook with exercises "Working out in the office".

Renata is not the only HEP's sporting star; Ivan Stanić, TE Plomin employee, is the first Croatian to participate in six largest world marathons. Mladen Gaćeša from EL-TO Zagreb participates in cycling marathons and has cycled through many cities which hosted the Olympic Games. Zlatko Mihoček from Elektra Čakovec climbed some of the highest peaks in Nepal including 6,189 meter high Island Peak.

# 1000<sup>0</sup>

times HEP employees donated blood in blood drives organized by the Croatian Transfusion Medicine Institute, most frequently organized on HEP premises.

## Social impact in numbers (Data do not include HOPS)

### Employees

		31.12.2014	% of the total number of employees	31.12.2015	% of the total number of employees
AGE GROUP	<30	473	4.3%	500	4.6%
	30 - 50	5,239	47.6%	5,087	46.8%
	50>	5,277	48%	5,270	48.5%
<b>TOTAL</b>		<b>10,989</b>	<b>100%</b>	<b>10,857</b>	<b>100%</b>
GENDER	Male	8,628	78.5%	8,501	78.3%
	Female	2,361	21.4%	2,356	21.7%
<b>TOTAL</b>		<b>10,989</b>	<b>100%</b>	<b>10,857</b>	<b>100%</b>

### Management

		31.12.2014	% of the total number of employees	31.12.2015	% of the total number of employees
AGE GROUP	<30	0	0%	0	0%
	30 - 50	73	62.3%	75	66.9%
	50>	44	37.6%	37	33%
<b>TOTAL</b>		<b>117</b>	<b>100%</b>	<b>112</b>	<b>100%</b>
GENDER	Male	94	80.3%	88	78.5%
	Female	23	19.6%	24	21.4%
<b>TOTAL</b>		<b>117</b>	<b>100%</b>	<b>112</b>	<b>100%</b>

### Age and gender structure

AGE	Male	Female
Do 20	5	0
20-25	91	9
25-30	311	84
30-35	558	181
35-40	926	238
40-45	1,265	297
45-50	1,262	360
50-55	1,452	469
55-60	1,662	538
60-65	969	180
<b>TOTAL</b>	<b>8,501</b>	<b>2,356</b>

### Newly employed according to age and gender

AGE	Male	Female
Do 20	8	0
20-25	36	6
25-30	71	27
30-35	41	21
35-40	18	9
40-45	14	11
45-50	10	4
50-55	1	2
55-60	5	1
60-65	0	0
<b>TOTAL</b>	<b>204</b>	<b>81</b>

### Raznolikost: osobe s invaliditetom

AGE	Male	Female
Do 20	0	0
20-25	0	0
25-30	1	2
30-35	7	1
35-40	29	6
40-45	52	10
45-50	125	17
50-55	167	18
55-60	223	41
60-65	143	17
<b>TOTAL</b>	<b>747</b>	<b>112</b>

## Compensations - gross average salaries in 2015 (HRK)

EDUCATION LEVEL	FEMALE	MALE	RATIO M/F
DSc	20,803.30	20,815.50	1.00
MSc	18,381.80	18,713.30	1.02
MA	14,165.55	14,860.95	1.05
Associate degree	10,677.70	12,038.26	1.13
Secondary school	8,969.03	9,558.34	1.07
Elementary school	7,180.86	7,361.35	1.03
Highly skilled	9,361.66	10,685.85	1.14
Skilled	7,878.11	9,004.36	1.14
Semi-skilled	6,084.97	7,494.50	1.23
No skills	6,277.49	7,160.90	1.14
<b>Total</b>	<b>10,495.32</b>	<b>10,724.27</b>	<b>1.02</b>

## Educational structure

EDUCATION LEVEL	FEMALE	MALE
DSc	5	15
MSc	52	139
MA	598	1,284
Associate degree	268	606
Secondary school	1,240	3,654
Elementary school	72	56
Highly skilled	6	1,356
Skilled	49	1,144
Semi-skilled	11	71
No skills	55	176
<b>Total</b>	<b>2,356</b>	<b>8,501</b>

Differences in gross average salaries between men and women in certain categories are caused by difference in age and qualification structure of employees. Collective Agreement guarantees HEP Group companies' employees bonuses on time spent working in HEP, as well as bonuses on entire work term, so a part of differences in salaries can be explained by higher number of senior male employees in relation to female employees of the same age group (6,610 i.e. 61 percent of HEP Group employees are men older than 40, while 1,844 i.e. 17 percent employees of HEP Group employees are women of the same age group). Differences in compensations are also the result of education structure; number of men on every bracket is higher than the number of women (persons with higher education have bigger salary coefficients and work on positions of higher complexity).



## Heroes of Pelješac fire - fighting flames and maintaining electricity supply of the peninsula

Around fifty employees of HEP ODS spent five days of the scalding summer of 2015 with firefighters fighting flames that caught Pelješac peninsula, trying to secure undisturbed electricity supply for Pelješac and Mljet. The fire devoured 3,500 hectares of forest and endangered several communities on Pelješac and Korčula, while significant damage has been made to low-voltage network and 10kV trunks on wooden polls. Employees carried the equipment because of the unapproachable terrain and lifted new polls on fire sites, connecting the network back, but putting down fire as well, where it needed to be done. Their efforts were fruitful; during the five days of fire the majority of the peninsula maintained electricity supply, which was out only when firefighters demanded supply discontinuation.

Head of Elektrojug Dubrovnik (HEP ODS) plant office Pijavično Mato Jerković was awarded, along with his colleagues, "Croatian Pride" award for contribution in saving Pelješac from this fire. Mato and his team followed firemen and fixed key trunks in order to secure uninterrupted work of pumps without which fighting the fire in inaccessible parts of Pelješac would be impossible.

## Average minimum and entry level salary ratio in 2015 according to gender

GENDER	AVERAGE MINIMUM SALARY (HRK, gross)	AVERAGE ENTRY LEVEL SALARY (HRK, gross)	RATIO
M	5,945.96	7,676.03	29%
F	5,540.24	5,255.68	-5%

\*average entry level salary can be higher than the average minimum salary considering the difference in work positions, i.e. different types of jobs and education levels

## Education and professional development

	Average no of education hours	2014	2015
Gender	Male	20.4	34.52
	Female	11.9	17.81
Employee category	Employees	18.23	30.31
	Management	47.93	83.50

#### Injuries in the workplace according to companies

Company	2014	2015
HEP d.d.	3	2
HEP-Proizvodnja	15	13
HEP ODS	128	127
HEP-Toplinarstvo	6	4
HEP-Plin	3	1
HEP-Opkrba	1	2
HEP-Trgovina	1	0
HEP-Upravljanje imovinom	2	1
<b>TOTAL</b>	<b>159</b>	<b>150</b>



#### Twenty years of sports games

Twentieth Hepijada, sports games for EHP employees, was held in Pula in 2015 and gathered 128 sportsmen and women that competed in bowling, darts, table tennis and air rifle shooting. Big transfer trophy went to Elektra Požega (HEP ODS), while the second and third place was won by Elektra Bjelovar and Elektroistra Pula respectively (HEP ODS). Apart from Hepijada, other sporting meets are regularly organized in HEP, like sporting meets for war veterans and various memorials and humanitarian tournaments across Croatia.

#### Number of retirees planned

YEAR	Number of retirees
2016	138
2017	199
2018	255
2019	376
2020	410
<b>UKUPNO</b>	<b>1,458</b>

## CROATIAN PRIDE



Mato Jerković (HEP ODS) and his colleagues from Elektrojug Dubrovnik were awarded Croatian Pride for having fixed the key trunks in order to secure uninterrupted work of pumps without which fire fighting in inaccessible parts of Pelješac would have been impossible.

Report profile and GRI G4  
indicators in this report



Although HEP Group has been including certain non-financial impact in its Annual Financial Reports for more than a decade, our Sustainability Reports are the result of additional efforts to thoroughly describe our comprehensive impact on environment, economy and society, and explain to the readers what we do to manage these impacts.

## 9 Report profile and GRI G4 indicators in this report

Sustainability Report of HEP Group for 2015 represents a continuation of the project which resulted in the first such HEP's report, for 2013 and 2014. Although HEP Group has been including certain non-financial impact in its Annual Financial Reports for more than a decade, our Sustainability Reports are the result of additional efforts to thoroughly describe our comprehensive impact on environment, economy and society, and explain to the readers what we do to manage these impacts. As the previous one, this Report is written according to core option of the Global Reporting Initiative G4 Guidelines. The previous Report covered 99 indicators, and this one expands on our influences to cover 108 indicators, including 13 indicators from sector supplement Electric Utilities.

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Tamara Tarnik i Darko Alfirev

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Bestias

**SUSTAINABILITY REPORTING CONTACTS**

Tamara Tarnik (tamara.tarnik@hep.hr)

Darko Alfirev (darko.alfirev@hep.hr)

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