

Izveštaj STK 6: TRŽIŠTE ELEKTRIČNE ENERGIJE I DEREGULACIJA
EC 6 Report: ELECTRICITY MARKET AND DEREGULATION

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- Dunja Grujić, Elektrodistribucija Srbije, Beograd
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U predviđenom roku za prijem radova i nakon razmatranja od strane recenzenata i stručnih izvestilaca, prihvaćeno je 5 radova u skladu sa preferencijalnim temama iz poziva za pisanje referata / *Within the scheduled timeframe for receipt of papers and after consideration by reviewers and expert rapporteurs, 5 papers were accepted in accordance with preferential subjects from the call for papers*:

1. Tržište električne energije / *The Electricity Market*
2. Regulatorni modeli / *Regulatory models*
3. Transformacija uloge kupca električne energije / *Transformation of the end-consumer role*
4. Distribuirani izvori energije na konkurentnom otvorenom tržištu / *Distributed Energy Resources in competitive environment of open electricity market*

Članovi komisije su izvršili recenzije prijavljenih referata i u nastavku su data zapažanja, komentari i pitanja autorima za diskusiju na savetovanju / *Members of the committee reviewed the reported papers and below are observations, comments and questions to authors*.

[STK 6, Preferencijalna tema 1: Tržište električne energije / EC 6, Preferential Subject 1: The Electricity Market](#)

R-6.01.

PORTAL UVID U RAČUN / VIEW YOUR BILL PORTAL

Jadranka Ristić, Jelena Veličković

U radu su prikazane i objašnjene sve funkcionalnosti portala Uvid u račun, namenjenog kupcima na garantovanom snabdevanju za elektronsko preuzimanje i plaćanje računa za utrošenu električnu energiju. Navedeni su izazovi u implementaciji portala i tehnologije u kojima je razvijen, sa posebnim osvrtnom na implementiranu bezbednost podataka.

The paper shows and explains all the functionalities of the Insight into the bill portal, intended for customers with guaranteed supply for electronic download and payment of bills for consumed electricity. Challenges in the implementation of the portal and the technology in which it was developed are discussed, with special reference to the implemented data security.

Pitanja za diskusiju / *questions for authors*:

1. Da li autori znaju da li je planirano da predmetnim portalom u budućnosti budu obuhvaćeni i kupci na komercijalnom snabdevanju? Da li bi kupcima na komercijalnom snabdevanju trebalo obezbediti dodatne informacije i/ili mogućnosti na portalu? / *Do authors know if there are plans to include commercial supply customers within the portal? Should the portal have any additional information and/or capabilities for commercial supply customers?*
2. Od svih navedenih izazova u implementaciji portala, koji je bio najveći i zašto? / *Out of all mentioned challenges in the implementation of the portal, which one was the biggest and why?*

I-6.02.

RAZVOJ SISTEMA ZA ELEKTRONSKU RAZMENU PODATAKA IZMEĐU UČESNIKA NA TRŽIŠTU ELEKTRIČNE ENERGIJE – MAPA PUTA I ISKUSTVA U BOSNI I HERCEGOVINI
DEVELOPMENT OF ELECTRONIC DATA EXCHANGE SYSTEM BETWEEN PARTICIPANTS IN THE ELECTRICITY MARKET – ROADMAP AND EXPERIENCE IN BOSNIA AND HERZEGOVINA

Dragan Rikić, Tihomir Dabović, Milkica Petrović Rikić, Željko Marković

U radu je opisano uvođenje EDI standarda za razmenu podataka između učesnika na maloprodajnom tržištu električne energije Bosne i Hercegovine. Opisano je trenutno stanje sa dobrim i lošim stranama primenjenog rešenja. Zatim se daje predlog unapređenja rešenja sa konkretnim koracima i načinom primene.

The introduction of the EDI standard for data exchange between participants on retail electricity market in Bosnia and Herzegovina is presented. The current state with advantages and issues with existing solution is described. Furthermore, advancement and improvement of the existing solution is recommended together with specific steps for implementation.

Pitanja za diskusiju / questions for authors:

1. Da li je do sada razmatrano predloženo rešenje unapređenja sistema razmene podataka između učesnika maloprodajnog tržišta električne energije? / Has any discussion been held about the recommendation for improvement of existing solution for data exchange between participants on retail electricity market?
2. Da li su preduzeti neki konkretni koraci na primeni novog rešenja? / Have any specific steps been applied on implementation of the recommended solution?

R-6.03.

ZAVISNOST TRŽIŠTA ELEKTRIČNE ENERGIJE OD INFORMACIONIH SISTEMA DEPENDENCE OF THE ELECTRICITY MARKET ON INFORMATION SYSTEMS

Dunja Grujić, Miloš Kuzman

Rad pruža detaljan uvid u zakonsku regulativu i obaveze učesnika na tržištu u Srbiji. Fokus rada je na neophodnosti informacionih sistema u svim aspektima funkcionisanja elektroenergetskog sistema i tržišta električne energije. Autori su temeljno obradili temu, naglašavajući sveprisutnost informacionih sistema i važnost njihove zaštite za stabilno poslovanje u ovom sektoru.

The paper provides a detailed overview of the legal regulations and obligations of market participants in Serbia. The focus of the paper is on the necessity of information systems in all aspects of the functioning of the power system and the electricity market. The authors have thoroughly examined the topic, highlighting the omnipresence of information systems and the importance of their protection for the stable operation of this sector.

Pitanja za diskusiju / questions for authors:

1. Kako operator distributivnog sistema osigurava poverljivost komercijalno osetljivih informacija korisnika sistema? / How does the distribution system operator ensure the confidentiality of commercially sensitive information of system users?
2. Koji su ključni izazovi sa kojima se suočavaju informacioni sistemi u distributivnim sistemima električne energije i koje konkretne strategije se koriste za njihovo prevazilaženje? / What are the key challenges faced by information systems in electricity distribution systems, and what specific strategies are used to overcome them?
3. Kakvi su rezultati istraživanja o uticaju bezbednosnih problema informacionih sistema na tržište električne energije i koje konkretne mere preporučujete za minimiziranje tih uticaja? / What are the findings of research on the impact of information system security issues on the electricity market, and what specific measures do you recommend to minimize these impacts?
4. Kako predlažete da se postigne balans između transparentnosti podataka neophodnih za praćenje tržišta električne energije i zaštite komercijalno osetljivih informacija? / How do you propose balancing the transparency of the data necessary for monitoring the electricity market with the protection of commercially sensitive information?

[STK 6, Preferencijalna tema 4: Distribuirani izvori energije na konkurentnom otvorenom tržištu / EC 6, Preferential Subject 4: Distributed Energy Resources in competitive environment of open electricity market](#)

R-6.04.

NAČINI (PRE)RASPODJELE TROŠKOVA DEBALANSA NA ČLANOVE UDRUŽENE UNUTAR JEDNE BALANSNE GRUPE MODES OF IMBALANCE COSTS (RE)DISTRIBUTION TO MEMBERS JOINED WITHIN ONE BALANCING GROUP

Miroslav Divčić, Mladen Apostolović

Rad obradjuje temu koja je od izuzetnog značaja za integraciju intermitentnih obnovljivih izvora energije u elektroenergetski sistem i tržište električne energije. Iako tema odstupanje balansnih grupa i učesnika na tržištu nije nova, u ovom radu je prikazan aspekt koji do sada nije obrađivan u velikom broju javnih radova što rad čini dodatno korisnim za širu stručnu javnost. Bilo bi zanimljivo videti analizu raspodele troškova balansiranja unutar heterogene balansne grupe, odnosno da li bi rezultati analiza i zaključci rada bili isti ukoliko bi se u balansnoj grupi pored proizvođača nalazili i potrošači. Dodatno, moglo bi se diskutovati na temu da li balansna grupa predstavlja vid agregacije u smislu u kome je agregacija na tržištu električne energije definisana u legislativi. S toga bi bilo interesantno u nekim od narednih radova uraditi analizu uticaja agregacije na odstupanje balansnih grupa, kao i odnose preraspodele troškova između agregatora i BOS.

The paper deals with a topic that is extremely important for the integration of intermittent renewable energy sources into the power system and the electricity market. Although the topic of deviation of balance groups and market participants is not new, this paper presents an aspect that has not been dealt with in a large number of public papers so far, which makes the paper additionally useful for the wider professional public. It would be interesting to see an analysis of the distribution of balancing costs within a heterogeneous balancing group, that is, whether the results of the analysis and the conclusions of the paper would be the same if there were also consumers in the balancing group in addition to producers. Additionally, it could be discussed whether the balancing group represents a type of aggregation in the sense that aggregation on the electricity market is defined in the legislation. Therefore, it would be interesting to analyze in some of the following papers the impact of aggregation on the deviation of balance groups, as well as the cost redistribution relations between the aggregator and BOS.

Pitanja za diskusiju / questions for authors:

1. Da li autori rada imaju konkretna saznanja o praktičnoj primeni navedenih koncepata preraspodele troškova odstupanja u tržišnim oblastima BiH i Srbije? / Do authors have specific knowledge about the practical application of the aforementioned concepts of redistribution of deviation costs in the market areas of Bosnia and Herzegovina and Serbia?

2. Autori su naveli da je jedna od prednosti udruživanja u balansne grupe optimizacija proizvodnje i potrošnje u smislu boljeg planiranja i upravljanja proizvodnjom. Da li se ovde misli samo na balansne grupe u kojima članovi grupe istovremeno imaju i kupoprodajne ugovore sa BOS i da li je optimizacija u smislu planiranja i upravljanja proizvodnjom moguća ukoliko se samo radi o prenosu balansne odgovornosti između članova balansne grupe i BOS? / Authors stated that one of the advantages of joining balance groups is optimization of production and consumption in terms of better planning and production management. Does this mean only balance groups in which the members of the group have sales contracts with BOS at the same time, and is optimization in terms of planning and production management possible if it is only about the transfer of balance responsibility between the members of the balance group and BOS?

3. Da li su autori u analizama proverili da li su koncepti primenjivi podjednako za dva ekstremno različita načina formiranja balansnih grupa - ukoliko je BG formirana samo od članova koji su preneli balansnu odgovornost bez prodaje električne energije i ukoliko je BG formirana samo od članova koji su pored prenosa balansne odgovornosti prodali energiju BOS? / Did authors check in analyses whether the concepts are equally applicable for two extremely different ways of forming balancing groups - if the BG was formed only from members who transferred the balancing responsibility without selling electricity and if the BG was formed only from members who in addition to the transfer of balance responsibility also sold energy to BOS?

STK 6, Preferencijalna tema 3: Transformacija uloge kupca električne energije / EC 6: Preferential Subject 3: Transformation of the end-consumer role

R-6.05.

OPTIMIZACIJA FOTONAPONSKE ELEKTRANE ZA VLASTITE POTREBE

OPTIMIZATION OF THE PHOTOVOLTAIC POWER PLANT FOR ITS OWN NEEDS

Jasmina Džaferović

Rad se bavi izuzetno važnom, zanimljivom i aktuelnom temom, naročito u svetlu neophodnosti energetske tranzicije i porasta cena električne energije kom svedočimo prethodnih godina. Autorka je na jasan i precizan način, između ostalog, opisala jedan konkretan slučaj fotonaponske elektrane, izbora njene optimalne snage, visine potencijalne investicije, budućih ušteda i perioda povrata investicije. Naročiti značaj rada leži u tome što je od interesa i za stručnu i za širu javnost, odnosno kako za fizička i pravna lica koja žele da grade sopstvene proizvodne objekte, tako i za operatore sistema i druge učesnike na tržištu, kao i za izvođače radova na izgradnji proizvodnih objekata.

The paper deals with an extremely important, interesting and current topic, especially in light of the necessity of the energy transition and the increase in electricity prices that we have witnessed in previous years. The author in a clear and precise manner, among other things, described a specific case of a photovoltaic power plant, the choice of its optimal power, the

amount of potential investment, future savings and the investment return period. The particular importance of the paper lies in the fact that it is of interest to both experts and the general public, i.e. both for natural and legal persons who want to build their own production facilities, as well as for system operators and other participants on the market, as well as for contractors of generating facilities.

1. Kakav uticaj na distributivni sistem i druge korisnike distributivnog sistema imaju kupci-proizvođači, naročito u slučaju priključenja velikog broja kupaca-proizvođača? / *What influence prosumers have on the distribution system and other users of the distribution system, especially in the case of the connection of a large number of prosumers?*

2. Da li je, po mišljenju autorke, potrebno pojednostaviti procedure za priključenje kupaca-proizvođača u odnosu na druge korisnike sistema? / *In the author's opinion, is it necessary to simplify the procedures for the connection of prosumers in relation to other users of the system?*