



# REVISTA INCLUSIONES

HOMENAJE A CLAUDIA PEÑA TESTA

Revista de Humanidades y Ciencias Sociales

Volumen 7 . Número Especial

Octubre / Diciembre

2020

ISSN 0719-4706

**CUERPO DIRECTIVO**

**Director**

**Dr. Juan Guillermo Mansilla Sepúlveda**  
Universidad Católica de Temuco, Chile

**Editor**

**OBU - CHILE**

**Editor Científico**

**Dr. Luiz Alberto David Araujo**  
Pontificia Universidade Católica de Sao Paulo, Brasil

**Editor Europa del Este**

**Dr. Aleksandar Ivanov Katrandzhiev**  
Universidad Suroeste "Neofit Rilski", Bulgaria

**Cuerpo Asistente**

**Traductora: Inglés**

**Lic. Pauline Corthorn Escudero**  
Editorial Cuadernos de Sofía, Chile

**Portada**

**Lic. Graciela Pantigoso de Los Santos**  
Editorial Cuadernos de Sofía, Chile

**COMITÉ EDITORIAL**

**Dra. Carolina Aroca Toloza**  
Universidad de Chile, Chile

**Dr. Jaime Bassa Mercado**  
Universidad de Valparaíso, Chile

**Dra. Heloísa Bellotto**  
Universidad de Sao Paulo, Brasil

**Dra. Nidia Burgos**  
Universidad Nacional del Sur, Argentina

**Mg. María Eugenia Campos**  
Universidad Nacional Autónoma de México, México

**Dr. Francisco José Francisco Carrera**  
Universidad de Valladolid, España

**Mg. Keri González**  
Universidad Autónoma de la Ciudad de México, México

**Dr. Pablo Guadarrama González**  
Universidad Central de Las Villas, Cuba

**Mg. Amelia Herrera Lavanchy**  
Universidad de La Serena, Chile

**Mg. Cecilia Jofré Muñoz**  
Universidad San Sebastián, Chile

**Mg. Mario Lagomarsino Montoya**  
Universidad Adventista de Chile, Chile

**Dr. Claudio Llanos Reyes**  
Pontificia Universidad Católica de Valparaíso, Chile

**Dr. Werner Mackenbach**  
Universidad de Potsdam, Alemania  
Universidad de Costa Rica, Costa Rica

**Mg. Rocío del Pilar Martínez Marín**  
Universidad de Santander, Colombia

**Ph. D. Natalia Milanesio**  
Universidad de Houston, Estados Unidos

**Dra. Patricia Virginia Moggia Münchmeyer**  
Pontificia Universidad Católica de Valparaíso, Chile

**Ph. D. Maritza Montero**  
Universidad Central de Venezuela, Venezuela

**Dra. Eleonora Pencheva**  
Universidad Suroeste Neofit Rilski, Bulgaria

**Dra. Rosa María Regueiro Ferreira**  
Universidad de La Coruña, España

**Mg. David Ruete Zúñiga**  
Universidad Nacional Andrés Bello, Chile

**Dr. Andrés Saavedra Barahona**  
Universidad San Clemente de Ojrid de Sofía, Bulgaria

**Dr. Efraín Sánchez Cabra**  
Academia Colombiana de Historia, Colombia

**Dra. Mirka Seitz**  
Universidad del Salvador, Argentina

**Ph. D. Stefan Todorov Kapralov**  
South West University, Bulgaria

**COMITÉ CIENTÍFICO INTERNACIONAL**

**Comité Científico Internacional de Honor**

**Dr. Adolfo A. Abadía**

*Universidad ICESI, Colombia*

**Dr. Carlos Antonio Aguirre Rojas**

*Universidad Nacional Autónoma de México, México*

**Dr. Martino Contu**

*Universidad de Sassari, Italia*

**Dr. Luiz Alberto David Araujo**

*Pontificia Universidad Católica de Sao Paulo, Brasil*

**Dra. Patricia Brogna**

*Universidad Nacional Autónoma de México, México*

**Dr. Horacio Capel Sáez**

*Universidad de Barcelona, España*

**Dr. Javier Carreón Guillén**

*Universidad Nacional Autónoma de México, México*

**Dr. Lancelot Cowie**

*Universidad West Indies, Trinidad y Tobago*

**Dra. Isabel Cruz Ovalle de Amenabar**

*Universidad de Los Andes, Chile*

**Dr. Rodolfo Cruz Vadillo**

*Universidad Popular Autónoma del Estado de Puebla, México*

**Dr. Adolfo Omar Cueto**

*Universidad Nacional de Cuyo, Argentina*

**Dr. Miguel Ángel de Marco**

*Universidad de Buenos Aires, Argentina*

**Dra. Emma de Ramón Acevedo**

*Universidad de Chile, Chile*

**Dr. Gerardo Echeita Sarrionandia**

*Universidad Autónoma de Madrid, España*

**Dr. Antonio Hermosa Andújar**

*Universidad de Sevilla, España*

**Dra. Patricia Galeana**

*Universidad Nacional Autónoma de México, México*

**Dra. Manuela Garau**

*Centro Studi Sea, Italia*

**Dr. Carlo Ginzburg Ginzburg**

*Scuola Normale Superiore de Pisa, Italia*

*Universidad de California Los Ángeles, Estados Unidos*

**Dr. Francisco Luis Girardo Gutiérrez**

*Instituto Tecnológico Metropolitano, Colombia*

**José Manuel González Freire**

*Universidad de Colima, México*

**Dra. Antonia Heredia Herrera**

*Universidad Internacional de Andalucía, España*

**Dr. Eduardo Gomes Onofre**

*Universidade Estadual da Paraíba, Brasil*

**Dr. Miguel León-Portilla**

*Universidad Nacional Autónoma de México, México*

**Dr. Miguel Ángel Mateo Saura**

*Instituto de Estudios Albacetenses "Don Juan Manuel", España*

**Dr. Carlos Tulio da Silva Medeiros**

*Diálogos em MERCOSUR, Brasil*

**+ Dr. Álvaro Márquez-Fernández**

*Universidad del Zulia, Venezuela*

**Dr. Oscar Ortega Arango**

*Universidad Autónoma de Yucatán, México*

**Dr. Antonio-Carlos Pereira Menaut**

*Universidad Santiago de Compostela, España*

**Dr. José Sergio Puig Espinosa**

*Dilemas Contemporáneos, México*

**Dra. Francesca Randazzo**

*Universidad Nacional Autónoma de Honduras, Honduras*

**Dra. Yolando Ricardo**

*Universidad de La Habana, Cuba*

**Dr. Manuel Alves da Rocha**

*Universidade Católica de Angola Angola*

**Mg. Arnaldo Rodríguez Espinoza**

*Universidad Estatal a Distancia, Costa Rica*

**Dr. Miguel Rojas Mix**

*Coordinador la Cumbre de Rectores Universidades  
Estatales América Latina y el Caribe*

**Dr. Luis Alberto Romero**

*CONICET / Universidad de Buenos Aires, Argentina*

**Dra. Maura de la Caridad Salabarría Roig**

*Dilemas Contemporáneos, México*

**Dr. Adalberto Santana Hernández**

*Universidad Nacional Autónoma de México, México*

**Dr. Juan Antonio Seda**

*Universidad de Buenos Aires, Argentina*

**Dr. Saulo Cesar Paulino e Silva**

*Universidad de Sao Paulo, Brasil*

**Dr. Miguel Ángel Verdugo Alonso**

*Universidad de Salamanca, España*

**Dr. Josep Vives Rego**

*Universidad de Barcelona, España*

**Dr. Eugenio Raúl Zaffaroni**

*Universidad de Buenos Aires, Argentina*

**Dra. Blanca Estela Zardel Jacobo**

*Universidad Nacional Autónoma de México, México*

**Comité Científico Internacional**

**Mg. Paola Aceituno**

*Universidad Tecnológica Metropolitana, Chile*

**Ph. D. María José Aguilar Idañez**

*Universidad Castilla-La Mancha, España*

**Dra. Elian Araujo**

*Universidad de Mackenzie, Brasil*

**Mg. Romyana Atanasova Popova**

*Universidad Suroeste Neofit Rilski, Bulgaria*

**Dra. Ana Bénard da Costa**

*Instituto Universitario de Lisboa, Portugal  
Centro de Estudios Africanos, Portugal*

**Dra. Alina Bestard Revilla**

*Universidad de Ciencias de la Cultura Física y el Deporte,  
Cuba*

**Dra. Noemí Brenta**

*Universidad de Buenos Aires, Argentina*

**Ph. D. Juan R. Coca**

*Universidad de Valladolid, España*

**Dr. Antonio Colomer Vialdel**

*Universidad Politécnica de Valencia, España*

**Dr. Christian Daniel Cwik**

*Universidad de Colonia, Alemania*

**Dr. Eric de Léséulec**

*INS HEA, Francia*

**Dr. Andrés Di Masso Tarditti**

*Universidad de Barcelona, España*

**Ph. D. Mauricio Dimant**

*Universidad Hebrea de Jerusalén, Israel*

**Dr. Jorge Enrique Elías Caro**

*Universidad de Magdalena, Colombia*

**Dra. Claudia Lorena Fonseca**

*Universidad Federal de Pelotas, Brasil*

**Dra. Ada Gallegos Ruiz Conejo**

*Universidad Nacional Mayor de San Marcos, Perú*

**Dra. Carmen González y González de Mesa**

*Universidad de Oviedo, España*

**Ph. D. Valentin Kitanov**

*Universidad Suroeste Neofit Rilski, Bulgaria*

**Mg. Luis Oporto Ordóñez**

*Universidad Mayor San Andrés, Bolivia*

**Dr. Patricio Quiroga**

*Universidad de Valparaíso, Chile*

**Dr. Gino Ríos Patio**

*Universidad de San Martín de Porres, Perú*

**Dr. Carlos Manuel Rodríguez Arrechavaleta**

*Universidad Iberoamericana Ciudad de México, México*

**Dra. Vivian Romeu**

*Universidad Iberoamericana Ciudad de México, México*

**REVISTA  
INCLUSIONES** M.R.  
REVISTA DE HUMANIDADES  
Y CIENCIAS SOCIALES

**Dra. María Laura Salinas**  
*Universidad Nacional del Nordeste, Argentina*

**Dr. Stefano Santasilia**  
*Universidad della Calabria, Italia*

**Mg. Silvia Laura Vargas López**  
*Universidad Autónoma del Estado de Morelos, México*

**CUADERNOS DE SOFÍA  
EDITORIAL**

**Dra. Jaqueline Vassallo**  
*Universidad Nacional de Córdoba, Argentina*

**Dr. Evandro Viera Ouriques**  
*Universidad Federal de Río de Janeiro, Brasil*

**Dra. María Luisa Zagalaz Sánchez**  
*Universidad de Jaén, España*

**Dra. Maja Zawierzeniec**  
*Universidad Wszechnica Polska, Polonia*

Editorial Cuadernos de Sofía  
Santiago – Chile  
OBU – CHILE

## Indización, Repositorios y Bases de Datos Académicas

Revista Inclusiones, se encuentra indizada en:





REX



UNIVERSITY OF SASKATCHEWAN



Universidad de Concepción



BIBLIOTECA UNIVERSIDAD DE CONCEPCIÓN

**INSTITUTIONAL PROVISION OF ENERGY SECURITY IN THE CONTEXT OF DIGITALIZATION  
OF THE SOCIO-ECONOMIC SYSTEM:  
ENSURING THE SECURITY OF THE DIGITAL ECONOMY**

**Dr. Mir Abdul Kayum Jallal**

V.I. Vernadsky Crimean Federal University, Russia  
ORCID: 0000-0002-6411-2672  
akjallal@mail.ru

**Dr. Diana Burkaltseva**

V.I. Vernadsky Crimean Federal University, Russia  
ORCID: 0000-0002-9441-7696  
di\_a@mail.ru

**Ph. D. (c) Vladimir Ostriuk**

V.I. Vernadsky Crimean Federal University, Russia  
ORCID: 0000-0001-7015-4871  
ostrik-work@rambler.ru

**Ph. D. (c) Julia Plaksa**

V.I. Vernadsky Crimean Federal University, Russia  
ORCID: 0000-0002-0250-6828  
juliaplaksa@rambler.ru

**Dr. Aleksandr Betskov**

Management Academy of the Ministry of the Interior of Russia, Russia  
0000-0002-0602-6418  
amvd-6@bk.ru

**Ph. D. (c) Hizri Kilyashkanov**

Moscow Region State University, Russia  
ORCID: 0000-0002-2097-3630  
khizri.kilyashkanov@bk.ru

**Fecha de Recepción:** 04 de junio de 2020 – **Fecha Revisión:** 19 de junio de 2020

**Fecha de Aceptación:** 22 de septiembre 2020 – **Fecha de Publicación:** 01 de octubre de 2020

**Abstract**

The purpose of the article is to study the institutional provision of energy security in the context of the transformation of the socio-economic system on the example of the Russian Federation. The article uses general scientific methods of systemic, structural, complex, logical, statistical and economic analysis, an institutional approach is used.

**Keywords**

Digital economy – Institutional support – Electricity production – Consumption



**Para Citar este Artículo:**

Jallal, Mir Abdul Kayum; Burkaltseva, Diana; Ostrik, Vladimir; Plaksa, Julia; Betskov, Aleksandr y Kilyaskhanov, Hizri. Institutional provision of energy security in the context of digitalization of the socio-economic system: ensuring the security of the digital economy. Revista Inclusiones Vol: 7 num Especial (2020): 49-62.

Licencia Creative Commons Attribution Non-Comercial 3.0 Unported  
(CC BY-NC 3.0)  
Licencia Internacional



## Introduction

In the process of transformation of the socio-economic system and the widespread digitalization of economic processes at both the micro-, macro- and mega-levels, the issues of energy security, as a constituent element of the backbone component of the country's national security, are significant in ensuring the security of the state. Therefore, it is necessary to determine the place of energy security in the digital economy, as a transformational element of the national economy, in the process of transforming the socio-economic system.

As the world grows uncertain about the planet's remaining fossil fuel reserves, as well as concerns about the possibility of using the energy factor as a means of political influence, energy security is gradually taking its place in the national security system of states. However, it remains unclear whether energy security is an independent or constituent element of a system, for example, economic security in the digital economy. In this regard, it is required to develop a common systematic approach to energy security as a component of the national security system.

One of the fundamental directions of long-term economic security in accordance with the adopted strategy of national security of the Russian Federation is to achieve energy security, which implies meeting the domestic demand for energy resources, stimulating the competitiveness of domestic producers and energy companies, building resilience to negative factors, as well as increasing energy efficiency and energy conservation.

With the increasing importance of energy security, the number of works devoted to this issue also grows. It is necessary to mention the work of A.A. Prokhozheva, which examines the general aspects of the theory of national security<sup>1</sup>. American researcher D. Yergin studies numerous issues related to the field of energy security: from the history of the world oil industry to the impact of energy resources on international relations<sup>2</sup>. Not the last place in the theoretical understanding of energy security is occupied by the publications of A. Hoffman<sup>3</sup> and F. Cornell<sup>4</sup> in the *Journal of Energy Security*.

A number of studies are also devoted to the problems of financial and economic security, including in the context of the transformation of socio-economic systems<sup>5</sup>.

<sup>1</sup> A. A. Prokhozheva, *General theory of national security: textbook* (Moscow: RAGS, 2002).

<sup>2</sup> D. Yergin, *The Quest: Energy, Security, and the Remaking of the Modern World* (New York: Penguin Press HC, 2011).

<sup>3</sup> A. R. Hoffman, "Energy Poverty and Security", *Journal of Energy Security* (2009).

<sup>4</sup> P. E. Cornell, "Energy Security as National Security: Defining Problems Ahead of Solutions", *Journal of Energy Security* (2009).

<sup>5</sup> V. V. Pshenichnikov y A. V. Babkin, "Digital money as a product of the development of information and telecommunication technologies", *Quality Management, Transport and Information Security, Information Technologies* (2017): 259-265; N. G. Vovchenko; O. B. Ivanova; E. D. Kostoglodova y T. F. Romanova, "Institutional aspects of provision of sustainability of budget system of the Russian Federation" *Asian Social Science* Vol: 11 num 20 (2015): 235-243; D. D. Burkaltseva; O. G. Blazhevich; O. A. Gabrielyan; L. V. Savchenko; T. N. Skorobogatova; O. A. Guk; E. V. Vovk y M. A. Abubakarov, "Development of the financial security of the state: neutralization of threats", *Revista inclusiones* Vol: 6 num Especial (2019): 294-312; D. D. Burkaltseva; O. S. Reznikova; A. V. Betskov; H. S. Kilyashkanov; V. Y. Ostriki; A. Yakushev y J. V. Plaksa, "Economic security: conflict in the organization", *Revista Inclusiones* Vol: 7 num 2 (2020): 215-233; I. S. Sokolova; T. A. Busarova; N. V. Kolganova y E. M. Shcherbakov, "Assessment of the economic effect from the introduction of R&D

And despite the wide scope of the topic, the study of the institutional provision of energy security in the context of the transformation of the socio-economic system remains relevant.

The purpose of the study is to study the institutional provision of energy security in the context of the transformation of the socio-economic system on the example of the Russian Federation.

### **Research objectives:**

- Determination of the place of energy security in the digital economy system by means of algorithmization of the digital economy security system.
- Analysis of the dynamics of the structure of production and consumption of electricity in the Russian Federation for the period 2005-2017.
- Analysis of indicators of electricity consumption and the number of users on the Internet for 2005-2017. In Russian federation.
- Analysis of actual and ultimate indicators of energy security in Russia.
- Consideration of legal and regulatory documents governing energy security in Russia.

### **Research methodology**

The process of the formation of the digital economy, as an integral element of the transformation of the socio-economic system, in the modern world is proceeding at a rapid pace, this process is a global strategy for the development of countries and regions.

According to the McKinsey Global Institute (MGI), the process of development of the digital economy will be comparable in scale with the industrial revolution of the 18th – 19th centuries, which radically changed the whole world, giving many countries an impetus to rapid growth, changing the very development paradigm<sup>6</sup>.

---

at a science-intensive enterprise”, Bulletin of NGIEI Vol: 3 num 82 (2018): 130-142; V. E. Reutov; D. D. Burkaltseva; V. M. Yachmeneva; M. V. Algina; E. A. Smirnova y A. S. Tyulin, “Features of socio-economic systems’ transformation processes management”, Amazonia Investiga Vol: 8 num 22 (2019): 467 – 474; D. Burkaltseva; N. Apatova; E. Nalivaychenko; O. Boychenko; A. Yanovskaya; A. Betskov; H. Kilyaskhanov y O. Guk, “Features and new opportunities of the republic of Crimea tourism industry”, Revista Inclusiones Vol: 7 num Especial (2020): 325-336; O. M. Korobeynikova; D. A. Korobeynikov; L. V. Popova; O. V. Savina y R. Sh. Kamilova, “The current state of the payment infrastructure and development of payment systems in Russia and the Volgograd region”, Revista Espacios Vol: 38 num 62 (2017); O. G. Blazhevich; D. D. Burkaltseva; V. V. Shalneva; E. A. Smirnova; O. A. Guk; N. A. Kirilchuk; N. S. Safonova; I. M. Daudov y K. R. Gadayeva, “Municipalities: opportunities to improve financial security”, Revista inclusiones Vol: 6 num Especial (2019): 120-133 y F. F. Galimulina; A. I. Shinkevich; I. V. Zhukovskaya; I. P. Komissarova; A. N. Mayorova; I. A. Astafyeva; N. V. Klimova y K. R. Nabiullina, “Technology platforms as an efficient tool to modernize Russia's economy”, International Journal of Economics and Financial Issues Vol: 6 num 1 (2016): 163-168.

<sup>6</sup> M. Boden; C. Cagnin; V. Carabias y K. Haegeman, Facing the future: time for the EU to meet global challenges. European Commission Joint Research Centre Institute for Prospective Technological

Digital transformation is transforming the socio-economic system. This is the basis for the development of systems of government, economy, business, social sphere, and the whole society.

Thus, in the process of transformation of the socio-economic system and the transition to a digital way of doing business, the issue of energy security becomes especially acute. It is necessary to determine the place of energy security in the digital economy system using the algorithms of the digital economy security system:

Stage 1. Determine the strategic direction of the Digital Economy:

1.1 Mission.

1.2 Objectives

1.3 Objectives

1.4 Functions

1.5 Principles

Stage 2. Determine the mechanism for ensuring the security of the Digital Economy, which in the process is carried out by the following subsystems:

2.1 Develop safety criteria

2.2 Monitoring and forecasting security threats. Correction of actions

2.3 Reflection of public authorities on security

Stage 3. Identify the security subsystems of the Digital Economy

3.1 Financial and economic

3.2 Organizational and managerial

3.3 Information and analytical

3.4 Scientific and technical

3.5 Regulatory

3.6 Personnel

Stage 4. Identify threats to the security of the Digital Economy system and carry out correction by state regulatory bodies:

4.1 Internal threats (factors)

#### 4.2 External threats (factors)

Stage 5. Determine the backbone components of ensuring the security of the Digital Economy:

5.1 Social

5.2 Financial

5.3 Energy

5.4 Scientific and technical

5.5 Investment

5.6 Institutional

5.7 Manufacturing

5.8 Macroeconomic

5.9 Foreign economic.

Thus, the achievement of the necessary and sufficient level of security of the digital economy is possible when using regulators of both economic and institutional nature. Undoubtedly, the digital economy must protect itself from internal and external threats on its own with high labor productivity, product quality and production efficiency.

A certain guarantee of ensuring the security of the digital economy can be compensatory potential, the main function of which is to prevent critical situations, serve as their prevention and prevent the emergence, restore stability and sustainability of the country's socio-economic development processes. This indicates that the digital economy has some potential sustainable stability. With the help of digital technologies in market conditions, it is possible to compensate for the deviations of the economy under the influence of internal and external threats.

Such a compensatory synthesis is a special material stocks of a production and non-production nature, as well as the presence of instantly reacting system resources in the localization of critical conditions, support of reserve opportunities for social assistance and adaptation of the population; financial resources provided for the formation of the pre-crisis state of the digital economy, the digital insurance system, national and international support, the functioning of charitable foundations (digital), directions for the correction and mobility of health protection measures, flexible retraining of personnel.

## Results

In the architecture of the digital economy as a constituent element of the national economy in the process of transforming the socio-economic system, we have identified energy security as a backbone component of the security of the digital economy.

Our next step is to study the structure of electricity production and consumption dynamics to study the energy security of the digital economy (Fig. 1).

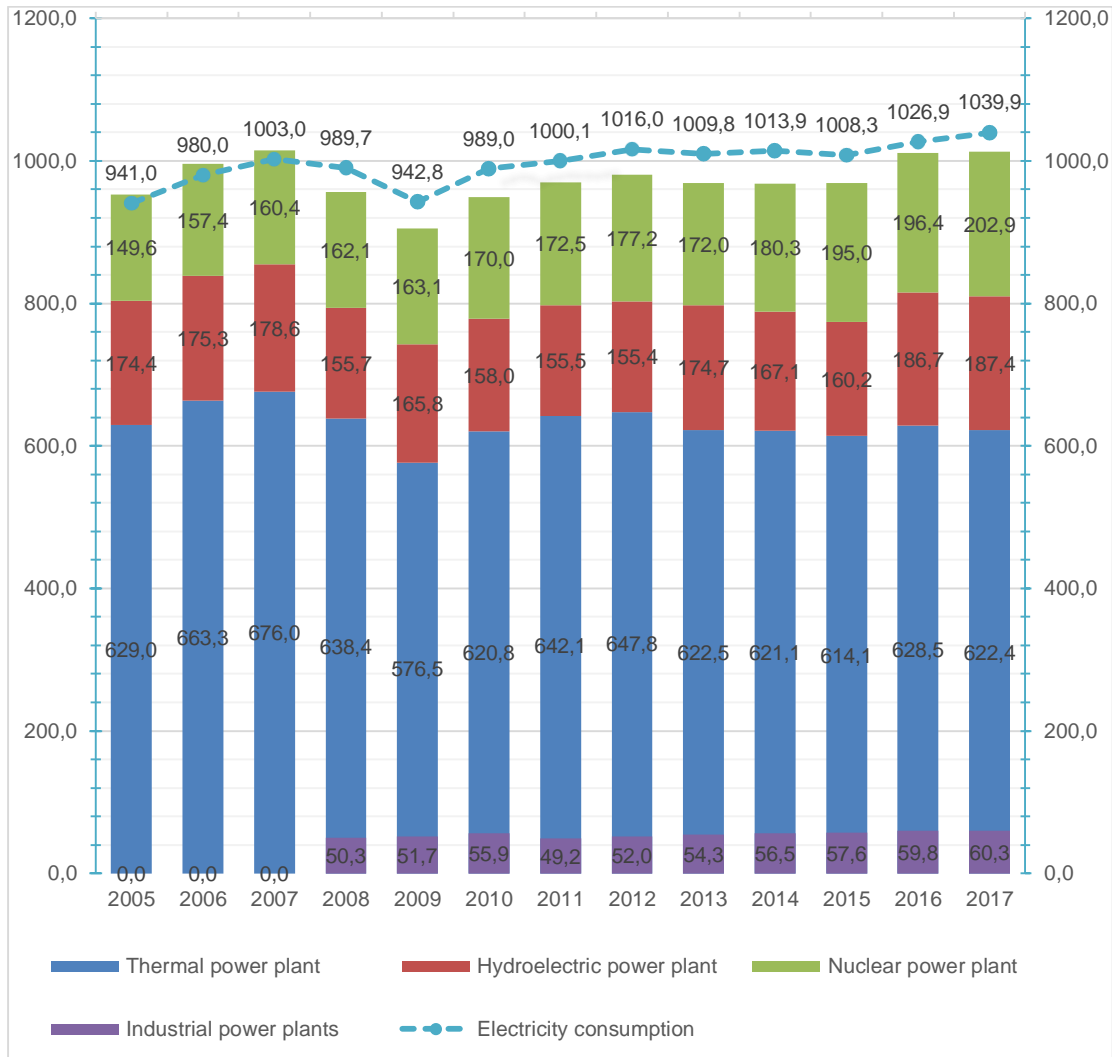


Figure 1  
Dynamics of the structure of production and consumption of electricity in the Russian Federation for the period 2005-2017  
Source: built on the basis<sup>7</sup>.

<sup>7</sup> Report on the functioning of the UES of Russia in 2017. Retrieved from: [http://so-ups.ru/fileadmin/files/company/reports/disclosure/2018/ups\\_rep2017.pdf](http://so-ups.ru/fileadmin/files/company/reports/disclosure/2018/ups_rep2017.pdf); The main characteristics of the Russian energy sector. Retrieved from: <https://minenergo.gov.ru/node/532>; Report on the functioning of the UES of Russia in 2015. Retrieved from: [http://so-ups.ru/fileadmin/files/company/reports/disclosure/2016/ups\\_rep2015\\_01.pdf](http://so-ups.ru/fileadmin/files/company/reports/disclosure/2016/ups_rep2015_01.pdf); Report on the functioning of the UES of Russia in 2013. Retrieved from: [http://so-ups.ru/fileadmin/files/company/reports/disclosure/2014/ups\\_rep2013.pdf](http://so-ups.ru/fileadmin/files/company/reports/disclosure/2014/ups_rep2013.pdf); Report on the functioning of the UES of Russia in 2012. Retrieved from: [https://so-ups.ru/fileadmin/files/company/reports/disclosure/2013/ues\\_rep2012.pdf](https://so-ups.ru/fileadmin/files/company/reports/disclosure/2013/ues_rep2012.pdf); Report on the functioning of the UES of Russia in 2010. Retrieved from: [http://so-ups.ru/fileadmin/files/company/reports/disclosure/2011/ues\\_rep\\_2010.pdf](http://so-ups.ru/fileadmin/files/company/reports/disclosure/2011/ues_rep_2010.pdf); Report on the functioning of the UES of Russia in 2009. Retrieved from: [http://so-ups.ru/fileadmin/files/company/reports/disclosure/2010/ues\\_rep\\_2009.pdf](http://so-ups.ru/fileadmin/files/company/reports/disclosure/2010/ues_rep_2009.pdf); Electricity generation in  
DR. MIR ABDUL KAYUM JALLAL / DR. DIANA BURKALTSEVA / PH. D. (C) VLADIMIR OSTRIK / PH. D. (C) JULIA PLAKSA  
DR. ALEKSANDR BETSKOV / PH. D. (C) HIZRI KILYASKHANOV / DR. RAISA KONSTANTINOVNA BOZHENKOVA

Having studied the dynamics of electricity production in the Russian Federation, we found that the largest share is occupied by thermal power plants, which is due to the presence of hydrocarbon energy resources. It is also possible to observe a steady increase in electricity production using nuclear power plants and power plants of industrial enterprises. It is worth noting the fact that the balance (production-consumption) has remained positive since 2008, in other words, electricity production exceeds consumption, which makes it possible to stay in the energy security zone, as well as export surplus produced energy.

Table 1 presents an analysis of indicators of electricity consumption and the number of users on the Internet for 2005-2017. In Russian federation. Where there is clearly a high dependence between the number of Internet users and the production of electricity in the Russian Federation. This circumstance determines the need for an analysis of the actual and ultimate indicators of energy security in Russia.

Index	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Consumption electricity	94,10	98,00	100,30	98,97	94,28	98,90	100,01	101,60	100,98	101,39	100,83	102,69	103,99
number of users on the Internet (million people)	22,3	26,1	35,7	38,8	41,8	62,0	70,6	75,4	82,1	98,8	106,1	106,9	109,6

Table 1

Analysis of indicators of electricity consumption and the number of users on the Internet for 2005-2017. In Russian federation

An integral part of the analysis of the state of economic security is the assessment of energy security. Table 2 shows the actual and ultimate indicators of energy security in Russia.

Indicator, unit of measurement	Boundary values	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Power consumption of GDP, kg conv. n./10	D: 0,4;0,3; 0,2;0,1 ;	0,439	0,365	0,3	0,245	0,254	0,234	0,194	0,177	0,162	0,141	0,129	0,124

the RF in 2005. Retrieved from: <https://clck.ru/EUHu9>; Dynamics of electricity consumption as an indicator of economic activity. Retrieved from: <http://ac.gov.ru/files/publication/a/7945.pdf> y Analytical bulletin. Electricity: trends and forecasts num 9. Results of 2012. Retrieved from: <http://vid1.rian.ru/ig/ratings/electroenergy9.pdf>

thousand rubles													
The share of the dominant fuel resource in the consumption of fuel and energy resources (Natural gas), %	D:40;30;20;10;	52,67%	52,22%	52,57%	51,42%	50,80%	52,12%	52,08%	50,56%	50,06%	49,34%	48,72%	48,55%
Share of gas imports in the total volume of its imports, %	D:30;25;20;15;	31,67%	27,85%	29,66%	26,45%	32,31%	18,56%	32,17%	11,47%	32,09%	31,33%	31,78%	37,45%
The share of oil imports in the total volume of its imports, %	D:50;35;25;20;	12,10%	11,07%	13,45%	10,17%	8,84%	5,68%	2,45%	2,75%	4,05%	9,81%	12,77%	4,00%
Share of own sources in the balance of fuel and energy resources, %	S:50;60;70;90;	98,29%	98,23%	98,29%	97,97%	98,15%	98,44%	98,36%	98,76%	98,35%	98,23%	98,21%	98,50%



Energy self-sufficiency: The ratio of the volume of production (extraction) of primary energy to the gross consumption of fuel and energy resources, %	not less than 30; minimum 16	40,78 %	40,59 %	40,15 %	39,87 %	38,46 %	38,70 %	37,98 %	37,88 %	36,06 %	35,00 %	34,01 %	33,82 %

Table 2

## Analysis of actual and ultimate indicators of energy security in Russia

Comparison of the actual indicators with their limit values indicates that all indicators are in a safe area. In recent years, the energy intensity of GDP has been decreasing during the study period, being within the acceptable values. This happened, in particular, as a result of the implementation of the Order of the Government of the Russian Federation of December 27, 2010 No. 2446-r (as amended on February 16, 2013) "On approval of the state program" Energy saving and energy efficiency improvement for the period until 2020 "(at the moment, document invalid or canceled)<sup>8</sup>. As well as the main regulatory documents<sup>9</sup>:

- Federal Law of the Russian Federation of 23.11.2009 No. 261-FZ "On energy saving and on increasing energy efficiency, and on amendments to certain legislative acts of the Russian Federation";

- Decree of the President of the Russian Federation dated 04.06.2008 No. 889 "On

<sup>8</sup> Order of the Government of the Russian Federation No. 2446-r (as amended on February 16, 2013) "On approval of the state program" Energy saving and energy efficiency improvement for the period up to 2020 "(at the moment the document has expired or canceled). December 27, 2010.

<sup>9</sup> Federal Law of the Russian Federation No. 261-FZ. "On energy saving and on increasing energy efficiency, and on amendments to certain legislative acts of the Russian Federation". November 23, 2009; Decree of the President of the Russian Federation No. 889. "On some measures to improve the energy and environmental efficiency of the Russian economy". June 4, 2008; Decree of the Government of the Russian Federation No. 1225. "On the requirements for regional and municipal programs in the field of energy conservation and energy efficiency" (with amendments and additions). December 31, 2009 y Order of the Government of the Russian Federation No. 1632-r. Digital economy of the Russian Federation. July 28, 2017.

some measures to improve the energy and environmental efficiency of the Russian economy";

- Decree of the Government of the Russian Federation of December 31, 2009 No. 1225 "On requirements for regional and municipal programs in the field of energy conservation and energy efficiency" (with amendments and additions);

- Order of the Government of the Russian Federation of July 28, 2017 No. 1632-r "Digital Economy of the Russian Federation" Collected Legislation of the Russian Federation 08/07/2017 No. 32 Art. 5138.

The efficiency of the use of energy resources is also growing under the influence of the economic factor - the rise in the price of energy resources, primarily the rise in the price of gas.

## Conclusions

1. Achievement of the necessary and sufficient level of security of the digital economy is possible with the use of regulators of both economic and institutional nature. Undoubtedly, the digital economy must protect itself from internal and external threats on its own with high labor productivity, product quality and production efficiency.

2. The authors have identified energy security as a backbone of the security of the digital economy.

3. The digital economy has a significant impact on all levels of economic activity: micro-, meso-, macro-, mega-levels. Thus, in the process of transformation of the socio-economic system and the transition to a digital way of doing business, the issue of energy security becomes especially acute.

4. Having studied the dynamics of electricity production in the Russian Federation, we found that the largest share is occupied by thermal power plants, which is due to the presence of hydrocarbon energy resources. Also, one can observe a steady growth in electricity production with the help of nuclear power plants, and power plants of industrial enterprises. It is worth noting the fact that the balance (production-consumption) has remained positive since 2008, in other words, electricity production exceeds consumption, which makes it possible to remain in the energy security zone, as well as to send excess energy produced for export.

5. Analysis of indicators of electricity consumption and the number of users on the Internet for 2005-2017. in the Russian Federation revealed a high relationship between the number of Internet users and electricity production in the Russian Federation.

6. Comparison of actual indicators with their limiting values of economic security of Russia indicates that all indicators are in a safe zone. In recent years, the energy intensity of GDP has been decreasing during the study period (2005-2016), being within the acceptable values. This happened primarily due to institutional support.

## Directions for further research

Further research should be aimed at studying the system for ensuring energy security in the context of widespread digitalization, as well as building the architecture of the digital economy as an integral element of the national economy in the process of transforming the socio-economic system.

## Aknowledgment

The study was carried out with the financial support of the Russian Science Foundation within the framework of the scientific project "Interaction of social institutions as the basis of Russia's economic security in the context of globalization".

## Reference

Analytical bulletin. Electricity: trends and forecasts num 9. Results of 2012. Retrieved from: <http://vid1.rian.ru/ig/ratings/electroenergy9.pdf>

Blazhevich, O. G.; Burkaltseva, D. D.; Shalneva, V. V.; Smirnova, E. A.; Guk, O. A.; Kirilchuk, N. A.; Safonova, N. S.; Daudov, I. M. y Gadayeva, K. R. "Municipalities: opportunities to improve financial security". Revista Inclusiones Vol: 6 num Especial (2019): 120-133.

Boden, M.; Cagnin, C.; Carabias, V. y Haegeman, K. Facing the future: time for the EU to meet global challenges. European Commission Joint Research Centre Institute for Prospective Technological Studies European Union. 2010. Retrieved from: [http://www.et2050.eu/docs/2010\\_IPTS\\_Facing\\_the\\_future Pdf](http://www.et2050.eu/docs/2010_IPTS_Facing_the_future_Pdf)

Burkaltseva, D.; Apatova, N.; Nalivaychenko, E.; Boychenko, O.; Yanovskaya, A.; Betskov, A.; Kilyaskhanov, H. y Guk, O. "Features and new opportunities of the republic of Crimea tourism industry". Revista Inclusiones Vol: 7 num Especial (2020): 325-336.

Burkaltseva, D. D.; Blazhevich, O. G.; Gabrielyan, O. A.; Savchenko, L. V.; Skorobogatova, T. N.; Guk, O. A.; Vovk, E. V. y Abubakarov, M. A. "Development of the financial security of the state: neutralization of threats". Revista Inclusiones Vol: 6 num Especial (2019): 294-312.

Burkaltseva, D. D.; Reznikova, O. S.; Betskov, A. V.; Kilyaskhanov, H. S.; Ostriuk, V. Y.; Yakushev, A. y Plaksa, J. V. "Economic security: conflict in the organization". Revista Inclusiones Vol: 7 num 2 (2020): 215-233.

Cornell, P. E. "Energy Security as National Security: Defining Problems Ahead of Solutions". Journal of Energy Security (2009).

Decree of the Government of the Russian Federation No. 1225. "On the requirements for regional and municipal programs in the field of energy conservation and energy efficiency" (with amendments and additions). December 31, 2009.

Decree of the President of the Russian Federation No. 889. "On some measures to improve the energy and environmental efficiency of the Russian economy". June 4, 2008.

Dynamics of electricity consumption as an indicator of economic activity. Retrieved from: <http://ac.gov.ru/files/publication/a/7945.pdf>

Electricity generation in the RF in 2005. Retrieved from: <https://clck.ru/EUhU9>

Federal Law of the Russian Federation No. 261-FZ. "On energy saving and on increasing energy efficiency, and on amendments to certain legislative acts of the Russian Federation". November 23, 2009.

Galimulina, F. F.; Shinkevich, A. I.; Zhukovskaya, I. V.; Komissarova, I. P.; Mayorova, A. N.; Astafyeva, I. A.; Klimova, N. V. y Nabiullina, K. R. "Technology platforms as an efficient tool to modernize Russia's economy". International Journal of Economics and Financial Issues Vol: 6 num 1 (2016): 163-168.

Hoffman, A. R. Energy Poverty and Security. Journal of Energy Security (2009).

Korobeynikova, O. M.; Korobeynikov, D. A.; Popova, L. V.; Savina, O. V. y Kamilova, R. Sh. The current state of the payment infrastructure and development of payment systems in Russia and the Volgograd region. Revista Espacios Vol: 38 num 62 (2017).

Order of the Government of the Russian Federation No. 1632-r. Digital economy of the Russian Federation. July 28, 2017.

Order of the Government of the Russian Federation No. 2446-r (as amended on February 16, 2013) "On approval of the state program" Energy saving and energy efficiency improvement for the period up to 2020 "(at the moment the document has expired or canceled). December 27, 2010.

Prokhozheva, A. A. General theory of national security: textbook. Moscow: RAGS. 2002.

Pshenichnikov, V. V. y Babkin, A. V. "Digital money as a product of the development of information and telecommunication technologies". Quality Management, Transport and Information Security, Information Technologies (2017): 259-265.

Report on the functioning of the UES of Russia in 2009. Retrieved from: [http://so-ups.ru/fileadmin/files/company/reports/disclosure/2010/ues\\_rep\\_2009.pdf](http://so-ups.ru/fileadmin/files/company/reports/disclosure/2010/ues_rep_2009.pdf)

Report on the functioning of the UES of Russia in 2010. Retrieved from: [http://so-ups.ru/fileadmin/files/company/reports/disclosure/2011/ues\\_rep\\_2010.pdf](http://so-ups.ru/fileadmin/files/company/reports/disclosure/2011/ues_rep_2010.pdf)

Report on the functioning of the UES of Russia in 2012. Retrieved from: [https://so-ups.ru/fileadmin/files/company/reports/disclosure/2013/ues\\_rep2012.pdf](https://so-ups.ru/fileadmin/files/company/reports/disclosure/2013/ues_rep2012.pdf)

Report on the functioning of the UES of Russia in 2013. Retrieved from: [http://so-ups.ru/fileadmin/files/company/reports/disclosure/2014/ups\\_rep2013.pdf](http://so-ups.ru/fileadmin/files/company/reports/disclosure/2014/ups_rep2013.pdf)

Report on the functioning of the UES of Russia in 2015. Retrieved from: [http://so-ups.ru/fileadmin/files/company/reports/disclosure/2016/ups\\_rep2015\\_01.pdf](http://so-ups.ru/fileadmin/files/company/reports/disclosure/2016/ups_rep2015_01.pdf)

Report on the functioning of the UES of Russia in 2017. Retrieved from: [http://so-ups.ru/fileadmin/files/company/reports/disclosure/2018/ups\\_rep2017.pdf](http://so-ups.ru/fileadmin/files/company/reports/disclosure/2018/ups_rep2017.pdf)

**Institutional provision of energy security in the context of digitalization of the socio-economic system: ensuring... Pág. 62**

Reutov, V. E.; Burkaltseva, D. D.; Yachmeneva, V. M.; Algina, M. V.; Smirnova, E. A., Tyulin y A. S. "Features of socio-economic systems' transformation processes management". Amazonia Investiga Vol: 8 num 22 (2019): 467 – 474.

Sokolova, I. S.; Busarova, T. A.; Kolganova, N. V. y Shcherbakov, E. M. "Assessment of the economic effect from the introduction of R&D at a science-intensive enterprise". Bulletin of NGIEI Vol: 3 num 82 (2018): 130-142.

The main characteristics of the Russian energy sector. Retrieved from: <https://minenergo.gov.ru/node/532>

Vovchenko, N. G.; Ivanova, O. B.; Kostoglodova, E. D. y Romanova, T. F. "Institutional aspects of provision of sustainability of budget system of the Russian Federation". Asian Social Science Vol: 11 num 20 (2015): 235-243.

Yergin, D. The Quest: Energy, Security, and the Remaking of the Modern World. New York: Penguin Press HC. 2011.

**REVISTA  
INCLUSIONES** M.R.  
REVISTA DE HUMANIDADES  
Y CIENCIAS SOCIALES

**CUADERNOS DE SOFÍA  
EDITORIAL**

Las opiniones, análisis y conclusiones del autor son de su responsabilidad y no necesariamente reflejan el pensamiento de **Revista Inclusiones**.

La reproducción parcial y/o total de este artículo debe hacerse con permiso de **Revista Inclusiones**.