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## DEVELOPMENTS IN THE GREEK ELECTRICITY MARKET

**Most of the Greek islands in the Aegean Sea are not interconnected with the electricity grid of the mainland and have local autonomous systems. There are 32 such autonomous island systems with a peak load demand ranging from 100kW to 700MW. Most of them are small isolated systems, while the biggest systems are those of Crete and Rhodes.**

Following a long period of consultations with the Greek electricity market stakeholders (from mid-2010 to mid-2013) the Greek Regulatory Authority for Energy (RAE), under delegation of Article 130 of Statute 4001/2011, issued the Operation Code for the Non-Interconnected Islands [Operation Code (Decision of RAE no 39/2014)], which came into force on 11.2.2014. It has been drafted on the basis of an initial draft issued by the Public Power Company (PPC), the respective guidelines provided by RAE and the comments and proposals of other electricity market participants. Drafting the Operation Code has indeed been a quite challenging task for RAE, given that the Greek autonomous island systems have several unique characteristics which have exempted them from the rules of the European 3rd Energy Package.

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100kW to 700MW. Most of them are small isolated systems, while the biggest systems are those of the islands of Crete and Rhodes. Oil is almost exclusively the fuel used for electricity production in them and PPC is the sole electricity generator using conventional sources. Nonetheless, in several islands the penetration of renewable energy sources (RES) is very high, covering up to 20% of the local load demand. Although the Greek RES market has been going through a difficult period due to liquidity problems and recent statutory reductions in feed-in tariffs, the challenge to increase this penetration to all island systems remains very much in place. Be that as it may, the feed-in tariff system regarding the electricity generators from RES compromises the prospects for the liberalisation of the electricity market in the non-interconnected islands.

There are more reasons that make the non-interconnected system peculiar: the Greek islands are typically summer peaking systems due to tourism, as a result of which the ratio between minimum and maximum load is high and electricity producers must



have significant generation capacity reserves. Moreover, the increased cost for electricity generation in the non-interconnected islands is passed on the end-consumers through Public Service Obligations in the region of €600 million annually.

The recently introduced Operation Code is an attempt to overcome these peculiarities by opening the market of the autonomous island systems to electricity producers and suppliers on a non-discriminative basis. To this end, it provides for a transitional period of five years.

The main provisions of the Operation Code are the following:

(a) The Greek Electricity Distribution Network Operator (DEDDIE), a subsidiary of PPC, acts as Market Operator of the Non-Interconnected Islands. DEDDIE shall exercise its powers through the Energy Control Centres as soon as the Manual related to their operation is issued and the necessary infrastructure is available. The Operation Code provides for the establishment of Local Energy Control Centres, each being responsible for the operation of an autonomous island system. The Central Energy Control Centre will be seated at the headquarters of DEDDIE, shall monitor the operation of the Local Energy Control Centres and shall be responsible for the functioning of the central electronic system. Within the central electronic system DEDDIE shall hold special registers for electricity producers, generating units and market participants representing the demand of

electricity in each autonomous island system (i.e. autoproducers, electricity generators through RES and hybrid plants absorbing power for their installations as well as power suppliers). It is DEDDIE's duty to conclude contracts for the producers'/suppliers' participation in the electricity market of the non-interconnected islands. Such model contracts are included in the Appendix of the Operation Code.

(b) DEDDIE is responsible for the daily energy planning regarding the delivery of electricity to the grid from the producers and the allocation of electricity to autoproducers, electricity generators through RES and hybrid plants absorbing power for their installations as well as to electricity suppliers. This planning is made in each autonomous island system separately and is updated every twelve hours on the basis of the respective declarations of the market participants. DEDDIE has the power to impose pecuniary sanctions on the market participants for any failure to observe the rules of the Operation Code regarding the daily energy planning.

(c) Within the daily energy planning it is explicitly provided that the electricity produced by RES, cogenerating units, hybrid stations and solar thermal power plants shall be given priority. Hence, DEDDIE is obliged to purchase all such electricity.

(d) For the optimisation of the operation of the systems, quality indices are adopted by the Operation Code for the

quality of the services rendered, the maintenance of the systems and the penetration of the RES. Such indices will be annually calculated by RAE, pursuant to the Market Operation Manual that will be issued, and following the information provided by DEDDIE. Furthermore, with the purpose of the optimisation of the system efficiency, the elimination of power production from conventional sources and the adoption of new technologies in the electricity generation, the Operation Code establishes the obligation of DEDDIE to develop respective applied research programmes on a regular basis.

(e) A further incentive towards the optimisation of the electricity generating units is the establishment of benchmarking rules for the remuneration of the producers via conventional generating units for the energy generation as well as the availability of the generating units.

(f) DEDDIE shall hold all accounts necessary for the operation of the market including any debit/credit related to each market participant. Furthermore, it shall hold special accounts for the settlement of the payments regarding the RES and Public Service Obligations. The clearance of these accounts takes place on monthly and yearly rate.

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\* Yannis Kelemenis, Partner, and Evangelos Tsachas, Associate - Kelemenis & Co. Law Firm ([www.kelemenis.com](http://www.kelemenis.com))