

## **INTELLIGENT NETWORKS, SMART GRIDS CONCEPT, CRUCIAL TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT**

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**Rezumat.** În acest articol este prezentat conceptul de smart grids, tehnologie deosebit de importantă pentru o dezvoltare durabilă. În contextul globalizării, lumea întreaga trăiește într-un mediu de securitate tot mai complex, cu schimbări rapide, unele evidente, altele mai puțin evidente, cu implicații pe termen scurt, mediu sau lung, la nivel internațional, național, local și până la fiecare cetățean. Toate țările, în cadrul unei economii mondiale globalizate se confruntă cu probleme energetice în condițiile schimbărilor climatice care s-au acutizat în secolul al XX-lea.

**Abstract.** In this article is presented the concept of smart grids, a very important technology for sustainable development. In the context of globalization of the world lives in an increasingly complex security environment, with rapid changes, some obvious, others less obvious implications in the short, medium or long term, international, national, local and up to every citizen. All countries in the globalized world economy is facing energy problems in terms of climate change have intensified in the twentieth century.

**Keywords:** intelligent networks, EU Directive, smart grids, concept, technology

### **1. Introduction**

In terms of primary energy consumption structure in the world, according to forecasts made by the International Energy Agency (IEA) in 2030, up about 29% is covered by coal, gas and oil 6%, 9% of energy produced in power plants 66% nuclear and renewable energy sources (RES) including: wind, solar, biomass, geothermal, fuel cells, hydro and cogeneration plant. In the European Union (EU) promotes the achievement of Strategic Technology Plan (PTS), an energy policy that will lead to increased energy efficiency, accelerate renewable energy production, development of Smart Grid technologies in order to achieve energy security, competitiveness and sustainable development. Considering climate change European Commission (EC) proposed:

- emissions of greenhouse gases by 20% by 2020 compared to 1990 years;
- increasing share of renewable energy from about 11% in 2010 to 20% in 2020;
- reduce global primary energy consumption by 20% in 2020-the introduction of new technologies and increase energy efficiency.

In order to achieve the EU Directive, a very important role will be implementing the intelligent networks.

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