

Use of Big and geo-spatial data for sustainable energy projects

Transition to sustainable energy consumption requires action on different scales: from installation of equipment in individual buildings to development of infrastructure on district, city and regional levels. Some energy solutions are complementary (e.g., a building can be equipped with different types of energy efficient equipment from lighting and household appliances to heating, ventilation and air conditioning systems), while other solutions are alternative (e.g., a building can be heated by an individual heating system or connected to a district heating network). In practice, implementation of energy efficiency and renewable energy solutions involves multitude of stakeholders, from energy consumers, installers, facility managers to energy providers, utilities, energy programme administrators and the government authorities. In this context, effective coordination between the stakeholders regarding the choice and implementation of technological solutions at different scales is essential for successful achievement of energy and climate policy targets. High quality data is one of the central elements of this coordination.

Currently, many countries and cities start to use Big and geo-spatial data, and the related data management and analysis methods, for implementation of sustainable energy projects. International experience exchange on the use of Big and geo-spatial data, and on application of related data management and analysis methods, is of special interest as the respective IT solutions can be easily transferred among different locations. In addition, the insights from the case studies can be used as a basis for development of legal and organizational practices in other locations.

The workshop will unite experts from private sector, academia and international organizations working in the field of sustainable energy and applying geographic information systems (GIS) and Big data methods in their projects.

Case studies for different locations in UNECE region will be presented, covering a large variety of topic, including estimation of renewable energy generation and energy efficiency potentials on regional level, data management and energy planning practices in cities, applications for energy management systems in buildings.

During the panel sessions, the participants will be invited to discuss the challenges of use of GIS and Big data for sustainable energy projects. The focus will be given on current organizational and legal practices, success stories and existing barriers, including the impacts of market liberalization on data sharing, issues of arbitration between personal data protection and open access policies, and challenges of stakeholder involvement and coordination.