

## Newsletter IEA Bioenergy Task 37: 05/2018

IEA and Task publications

### GREEN GAS

To mitigate climate change, it is essential to develop integrated and sustainable decarbonized renewable energy systems. Heat and transport together, account for about 80% of final energy consumption. Significant progress has been made in renewable electricity to mitigate climate change but decarbonization of transport fuel is problematic. Gaseous renewable energy carriers can have a considerable impact on decarbonizing transport. The report of Task 37 analyzes the roadmaps developed in some European countries showing that the future production of green gas may account for 41PJ in Ireland, 77PJ in the Netherlands, 280PJ in the UK, 1260PJ in Italy and over 100PJ in Denmark. This represents approximately 26%, 24%, 8%, 44% and 75% of current natural gas demand in these countries. The technologies investigated in this report include anaerobic digestion, gasification-methanation, power to gas and micro-algae biogas upgrading. A number of feedstocks have been considered like energy crops, agricultural residues and wastes, food waste, microalgae, seaweed and woody crops.

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### Market and regulatory issues related to BioCCUS

The fourth IEA Bioenergy Task 41 workshop on Bio-CC(U)S was organized in Brussels January 2018. The topic of the workshop was “Market and regulatory issues” related to Bio-CCUS. The workshop was divided into four consecutive sessions: 1. bio-CCS/BECCS as business cases, including an overview of the importance of bioenergy with CCS in the recently published IEA Bioenergy Roadmap; 2. Policy perspectives; 3. Industrial experience and industrial potential of Bio-CCS, including waste-to-energy, forest industry, biogas production, and microalgae production and 4. Panel discussion led by Adam Brown from IEA. A report gives a brief summary of the workshop.

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### Water Energy Nexus

The IEA World Energy Outlook team has recently published a report on the close correlation of water and energy. Energy needs water, water needs energy; and these linkages have enormous significance for economic growth, life and well-being. Water is essential for all phases of energy production, from fossil fuels to biofuels and power plants including water distribution, wastewater treatment and desalination. The energy sector is responsible for 10% of global water withdrawals. IEA Bioenergy Task 43 is working for many years on the topic, often together with GBEP.

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### IEA's first Global Energy and CO2 Report

Global energy demand grew by 2.1% in 2017, according to IEA preliminary estimates, more than twice the growth rate in 2016. Global energy demand in 2017 reached an estimated 14,050 million tonnes of oil equivalent (Mtoe), compared with 10,035 Mtoe in 2000. Natural gas demand increased the most, reaching a record share of 22% in total energy demand. Renewables also grew strongly, making up around a quarter of global energy demand growth. Global energy-related CO<sub>2</sub>

emissions rose by 1.4% in 2017, an increase of 460 million tonnes (Mt), and reached a historic high of 32.5 Gt. Last year's growth came after three years of flat emissions and contrasts with the sharp reduction needed to meet the goals of the Paris Agreement on climate change. The increase in carbon emissions, equivalent to the emissions of 170 million additional cars, was the result of robust global economic growth of 3.7%, lower fossil-fuel prices and weaker energy efficiency efforts.

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### **Key World Energy Statistics 2017**

2017 marks the 20th edition of IEA's Key World Energy Statistics – the annual booklet of IEA's most used statistics. This milestone's edition has been enriched with more information on energy efficiency and renewable energies, more geographic data and also more of the fundamental data required to fully understand energy security. Key World Energy Statistics contains timely, clearly presented data on the supply, transformation and consumption of all major energy sources for the main regions of the world, providing everyone with an interest in energy key statistics on more than 150 countries and regions including energy indicators, energy balances, prices, RDD and CO2 emissions as well as energy forecasts.

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