

Chapter 3

The Environment of Energy Goods

ABSTRACT

Energy goods are for engineering, technologies, and machines what consciousness is for men. Energy is indestructible; it may only change in form or become absorbed by other material system. Engineering – work of the high, not lowest status, activity that involves designing, constructing, modifying, and operating technical systems, is aimed at resolving defined problems, is economically and ecologically acceptable, and uses available scientific and technical knowledge. Entropy – measure of processing, release, and transformation of energy carriers (gr.: en – energy, tropos – processing, transformation). Work of the lowest status is the one that is intensively entropic. One falling tree causes more noise than the whole forest when it grows.

3.1. INTRODUCTORY REMARKS

Despite numerous difficulties, the electrical energy market is undergoing successive changes, bringing it closer to functioning on competitive terms. At the turn of 2008/2009, global economic crises and changing (increasing) power prices have further exacerbated problems with liberalising energy trading. Electrical energy has been a market product and a subject of unlimited trade for almost two years, whilst the conditions of its supply remained unchanged. However, despite the fact that since 1st July 2007, in the European Union, every customer has in theory the right to choose his supplier, there are still very few

customers benefiting from the TPA rule. This has created, and is still creating, new operating conditions for every energy trader and naturally every end-customer.

Particularly important for the development of the Polish energy market from 2011 are the expected changes of the Law and their consequences for the market participants, including customers and energy traders. Among the most important planned changes are the amendments to the Energy Law and the new version of the “Polish Energy Policy till 2030”. Another key aim of the Energy Fair organising committee is the discussion of issues relating to the new (proposed more extensive) tasks laid upon The President of Polish Energy Regulatory Office (URE), issues concerning the role and extent of given areas of energy trading,

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competitiveness and energy efficiency of the Polish energy sector:

Bio-Energy

- Bio-mass heating system: pellets, wood chip, firewood, Stirling Motors Bio-fuels
- Block Heat and Power Plant, MHKW for gas use, co-generation
- Measuring and automatic control
- (Turnkey) Bio-gas plant Bio-gasaufbereitung und -reinigung
- Liquid Bio-fuels, measuring and automatic control
- Stirling-Motors

Integral Architecture

- Timber Construction
- Low Energy Building
- Ecology
- Passive/Active House

Energy Efficient Construction

- Green Rooftops
- Facade
- Windows/Doors/Vitrification
- Ecological building materials
- Products for Insulation Gaps free and Airtight Construction
- Crop Spraying
- Sound and Heat Insulation
- Thermography
- Wall and Roof Construction

Building Services

- Building Automation
- Innovation Heating Technology
- Ventilation Equipment
- Wall-/Floor and Overhead Heating
- Residential Ventilation with Heat Recovery

Sustainable Water Circulation

- Rainwater Utilisation and Storage
- Water Softening Plant
- Filters

Energy Services

- Education and Training
- Operation Model
- Contracting
- Energy Supply Business
- Energy and Emission Trading
- Energy Distribution and Storage
- Facility Management
- District Heating Network
- Financing and Promotion
- Research and Development
- Network Access
- Ancillary Services
- Planning and Engineering Company
- Software Solutions
- Insurance
- Heat Insulated piping

Heat Pump Lane

Heat pumps make up the largest portion of renewable energies in the heating and cooling of buildings, with a conversion rate of up to 80% of stored solar heat from the soil and environment. That is why it is no wonder that their sales have been continually on the rise with more than 156,000 heat pump systems in operation in Austria, (one of the leading manufacturing countries). By 2020, 75% of all new buildings in Austria and 20% of all renovated standing buildings will be equipped with a heat pump. In this section of the problem area, manufacturers and distributors will show solutions presenting their products and services in the following areas:

- Brine to Water Heat Pumps
- Air to Water Heat Pumps
- Water to Water Heat Pumps

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