

WOOD PELLETS – THE BIOENERGY FEEDSTOCK SOLUTION?

Global market, players and trade to 2015



BACKGROUND

Wood pellets are a densified form of biomass typically produced from forest industry residues. The production and demand for wood pellets have increased considerably in recent years, driven partly by the renewable energy targets set by the EU.

- Wood pellets are one of the fastest growing source of renewable energy in the world, replacing fossil fuels.
- Wood pellets have a number of advantages over not only other types of biomass such as wood chips, but also over wind and solar power.
- The number of new wood pellet plants all over the world is growing rapidly in line with high demand and with investments coming mainly from emerging renewable energy companies. Among the main players are Vapo in Europe, Green Circle Bio Energy in the US, and Pinnacle Pellets in Canada.
- Wood pellets are becoming the newest global commodity with prices posted on the European Energy Derivatives Exchange N.V. (ENDEX).
- They are also seen as a supply chain solution for accessing surplus biomass.

The key issues in the wood pellet markets are:

1. What is the cost effectiveness of pellets versus other forms of biomass?
2. What level of potential wood pellet production can be achieved?
3. Is it more efficient to ship biomass in the form of pellets compared to other assortments?
4. What benefit will torrefied pellets offer?
5. What will price levels be in future?

CONTENTS

The key elements of the study are:

- **Executive summary**
- **Introduction to wood pellets**
 - Product description
 - Wood pellet manufacturing - key technology developments
 - Raw material overview
 - Quality standards
- **The global wood pellet markets**
 - Market drivers and inhibitors
 - Market segments: large scale industrial, small scale industrial/commercial, domestic
 - Review of demand and supply by the indicated geographical split and end-use segments – 2000-2015
 - Trade flows
- **Industry and the supply chain structure**
 - Key players and competitive landscape
 - Structural developments
 - Supply chain considerations and structure
 - Logistical competitiveness of wood pellets
- **Price trends**
- **Overview and outlook for torrefied pellets**
- **Discussion and conclusions**



CONTENTS

The geographic market coverage is global with the following breakdown:

- Europe

- Western Europe

- Austria
 - Belgium
 - Denmark
 - Finland
 - France
 - Germany
 - Italy
 - Portugal
 - Spain
 - Sweden
 - United Kingdom
 - other Western Europe

- Central and Eastern Europe

- The Baltics
 - Poland
 - Russia
 - Ukraine & Belarus
 - other Eastern Europe

- North America

- Canada
 - United States

- South America

- Argentina
 - Brazil
 - Chile

- Asia

- China
 - Japan
 - other Asia

- Oceania

- Australia
 - New Zealand

- Africa

- South Africa

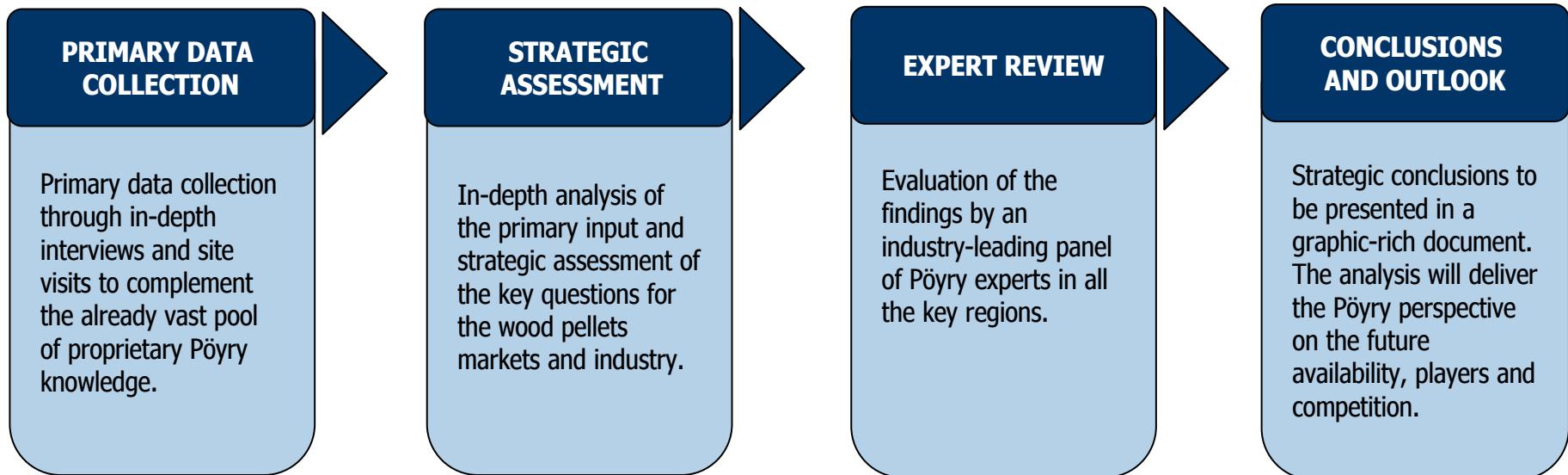
- Rest of the World



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METHODOLOGY

This study will be the first-ever presentation of a global, comprehensive, in-depth and strategic review of the wood pellet market and industry. Pöyry is in a unique position to deliver a study that will be of the highest quality to answer our clients' needs.



CASE STUDIES

Pöyry have delivered consultancy projects for a number of leading global companies in the forest industry, financial and energy sectors, offering our expertise in materials and feedstocks, supply chain, technology selection, engineering, and investment feasibility.

Recent and typical engagements include:

- European pellet business: present status, outlook and key business drivers
- Due diligence of a potential pellet business acquisition in North America
- Evaluation of investment opportunities in the pellet business in Russia



- Analysis of European pellet markets and distribution for a South American pellet producer
- Several feasibility and pre-feasibility studies for potential pellet producers and financial institutions
- Analysis of business opportunities to utilise forest industry residues for pellet production
- Implementation of a pellet factory investment in Scandinavia (turnkey delivery)
- Evaluation of the wood pellet co-firing potential in electricity generation plants fuelled by coal or peat in Ireland



- Analysis of the consumption potential of wood pellets by end-use sectors in Finland
- Analysis of the wood pellet paying capability of coal-fired power plants located in the Netherlands, Belgium and the UK

Why Pöyry?

Our expertise covers the entire chain from raw material types suitable for pellet production to technology, markets, and other business aspects. In addition to conventional raw materials used for pellet production, we analyse the suitability of non-traditional biomass. Furthermore, we work with the products and processes related to the pellet business, e.g. the sawn wood and wood-based panel industries and the energy sector. Our extensive international experience, in-depth industry knowledge and long-term practical experience are the cornerstones of our services.

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