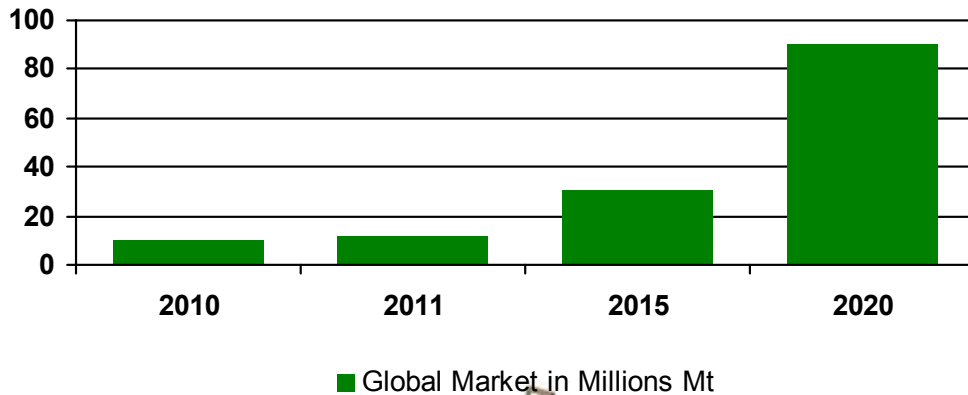


Exchange-traded Biomass Products

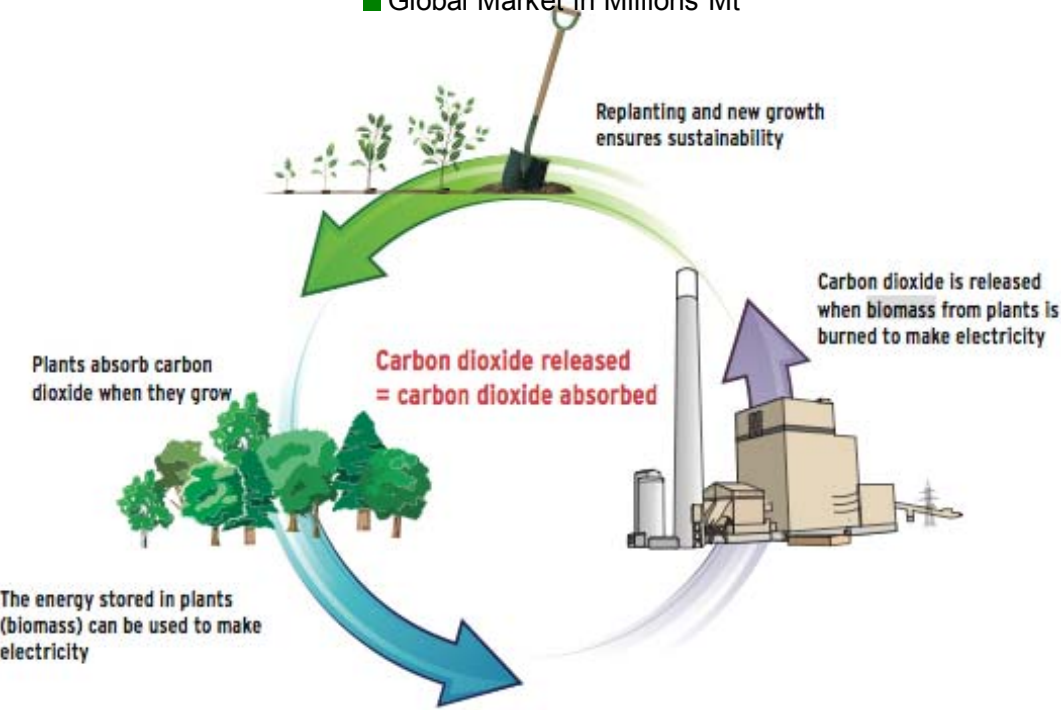
APX-ENDEX Derivatives B.V.

-  Historical overview
-  Steps taken and to do
-  Results Market Survey
-  Feedback & Comments

Historical Overview – wood pellets



- Used as renewable substitute for coal in power generation (co-firing)
- Used for dedicated use in heat generation and power generation (small plants)
- Cheapest renewable energy source
- Available 24/7
- Main production in USA, Russia, Brasil (starting) and Africa
- Main consumption by European Utilities



Historical overview

- 🌐 **November 2008:** APX-ENDEX launched Industrial Wood Pellet index

- 🌐 **2009:**
 - extension of # pricing panel members and # of contracts in price index (3 months, 3 quarters, 3 years)
 - price index published by several data vendors;
 - presentations on international congresses & conferences;

- 🌐 **2010:**
 - announced cooperation with Port of Rotterdam, confirmed by Letter of Intent;
 - Joint feasibility study to investigate possibilities of exchange-traded biomass products → market analysis & business case;
 - based on positive outcome on growth potential and need for exchange trading, APX-ENDEX and Port of Rotterdam decided to develop biomass markets.

- 🌐 **November 2011 :** launch of the first biomass exchange-traded contracts !

Historical overview – price index

Prices Wood Pellets CIF ARA



-  Historical overview
-  Steps taken and to do
-  Results Market Survey
-  Feedback & Comments

Steps taken and to do

- Market Rules ✓
 - Product Specifications ✓
 - Trading System ✓
 - Trading Members ✓
 - Clearing & Settlement
- Informs all participants on how market works
 - Provides the correct and clear conditions for trading
 - Provides the specifications of the traded commodities
 - Current trading rules adjusted
 - The Netherlands Authority for Financial Markets (AFM) have approved the market rules
 - Trading members couldn't act until rules are approved and finalized



Steps taken and to do

- Market Rules ✓
- Product Specifications ✓
- Trading System ✓
- Trading Members ✓
- Clearing & Settlement
- Biomass is difficult to standardize; nature provides us with a huge variety of wood with an equal number of characteristics.
- Trading on an exchange only for standardized contracts
- Market needs to agree on technical specifications, sustainability matters and standard trade agreements
- Standardization meetings held by active market participants to come to single specification for trading
- APX-ENDEX adopts the market standard, so specifications in the rules can change in the future.



Steps taken and to do

- Market Rules ✓
- Product Specifications ✓
- Trading System ✓
- Trading Members ✓
- Clearing & Settlement
- Trayport Globalvision chosen
- Most European utilities already use Trayport software
- APX-ENDEX able to supply Front-End-Client to other trading members
- APX-ENDEX able to offer support in mapping, connections and other IT-related matters



Trading system - continued

apxendex DEMO SCREEN

Trader: <None>

Time: 09:56

Date: 13-09-2011

Status: Connected

Address: demo.endex.nl

Main Page

INDUSTRIAL WOOD PELLETS				
	Qty	Bid	Ask	Qty
Oct-11	20	129.98	129.99	50
	20	129.97		
Nov-11	5	133.00	135.00	10
	10	132.00		
Dec-11				
Q4-11	25	132.00		
Q1-12			134.00	1
Q2-12				
Cal-12			136.00	10
Cal-13				
Cal-14				

Order means:
Member wants to BUY 20 lots (i.e. 20,000 Mton) of Wood Pellets at € 129,98 per ton for delivery in October 2011.

Order means:
Member wants to SELL 10 lots (i.e. 10,000 Mton) of Wood Pellets at € 135,00 per ton for delivery in November 2011

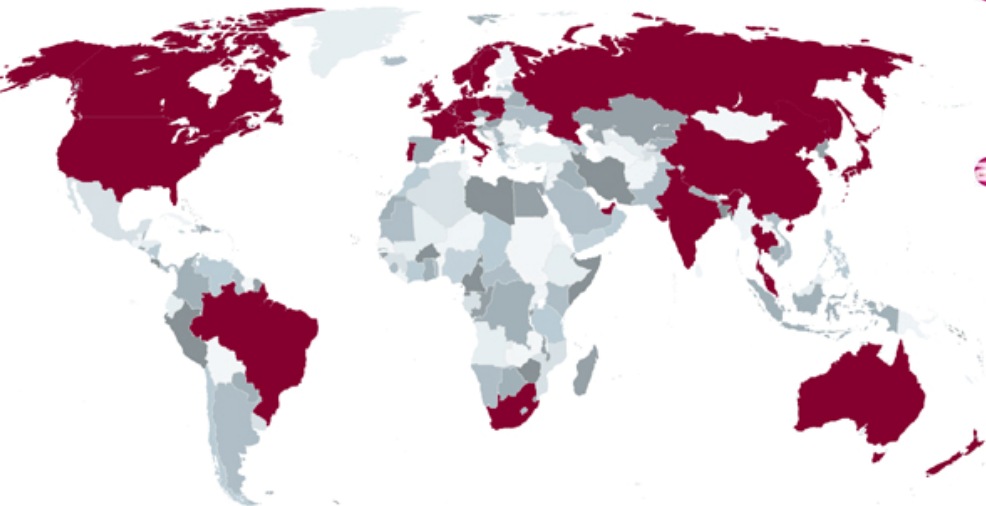
Order means:
Member wants to BUY 25 lots (i.e. 25,000 Mton) for each of the months in Q4 (Oct, Nov, Dec) of Wood Pellets at € 132,00 per ton. So 3 monthly shipments of 25,000 Mtons

Order means:
Not red → not tradeable

Order means:
Member wants to SELL 10 lots of Wood Pellets for each of the months in 2012 at € 132,00 per ton. So 12 monthly shipments of 10,000Mtons

Steps taken and to do

- Market Rules ✓
 - Product Specifications ✓
 - Trading System ✓
 - Trading Members ✓
 - Clearing & Settlement
- Wood Pellets more a global commodity
 - >30 companies from Europe, USA, Canada, Russia and Brazil showed interest in trading in Wood Pellets
 - Company type ranges from pellet producer, energy utilities, trading companies, brokerage firms, banks and private equity funds
 - Existing members can expand to include the wood pellets market: sign-up done < 4 weeks
 - New members need to sign new membership: sign-up done < 8 weeks



Steps taken and to do

- Market Rules ✓
- Product Specifications ✓
- Trading System ✓
- Trading Members ✓
- Clearing & Settlement
 - Conceptual design discussed with clearing house and clearing banks
 - Selecting best clearing solution after market consultation (Q4 2012)
 - As long as there is no market consensus on Master Trade Agreement and Sustainability Schemes, cash settled futures will be the preferred option for developing clearing services
 - Physical delivery component possibly integrated in clearing services at a later stage and pending market developments
 - Current trading is non-cleared (i.e. anonymous trading on screen; post-trade counterparties arrange for physical settlement on a bilateral basis)

-  Historical overview
-  Steps taken and to do
-  **Results Market Survey**
-  Feedback & Comments

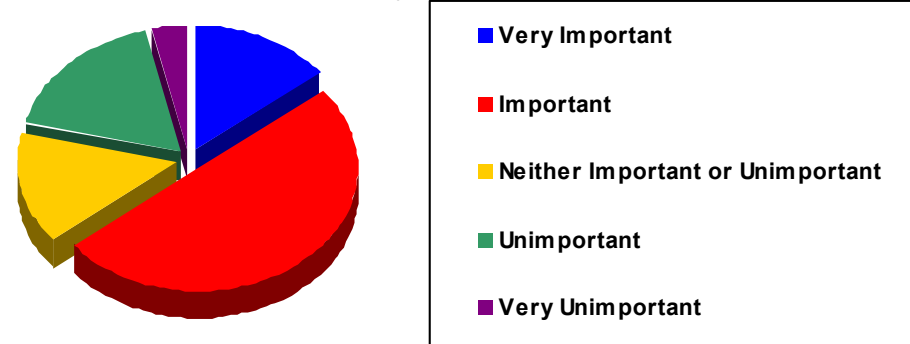
Results Market Survey

- ⊕ Performed during summer period
- ⊕ 92 panellists invited
- ⊕ > 30% filled out the survey



- ⊕ To further enhance the trading possibilities in the non-cleared wood pellet market of APX-ENDEX;
- ⊕ To improve the wood pellet pricing index where possible;
- ⊕ To use the results to set up the cleared wood pellet market

Financially settled contract needed?



Which index is preferred in use?

Response	% of responses	
A combination of Argus and APX-ENDEX		36 %
Argus CIF NW Europe index		32 %
APX- ENDEX industrial wood pellet index		20 %
Other (see below)		13 %

Results Market Survey

Response	% of responses
UK as a delivery area	
Scandinavian ports	
Hamburg or other German ports	
<p><u>Legend:</u> Dark green: very important; Light green: important; Orange: neither important or unimportant; Red: unimportant; Purple: very unimportant</p>	

Which ports important?

Which other biomass important?

Response	% of responses
Wood chips	
Torrefied Pellets	
PKS	
Biofuels/Bioliquids	
<p><u>Legend:</u> Dark green: very important; Light green: important; Orange: neither important or unimportant; Red: unimportant; Purple: very unimportant</p>	

-  Historical overview
-  Steps taken and to do
-  Results Market Survey
-  Feedback & Comments

Feedback & Comments



Questions and comments can be directed to your account manager or the project contacts:

- Commercial
 - Paul Groes
Tel +31 (0)629 738398
Email: p.groes@apxendex.com
- Product Development
 - Sipke Veer
Tel +31 (0)20 305 5111
Email: s.veer@apxendex.com

Amsterdam

Australia Building
Hoogoorddreef 7
1101 BA Amsterdam
The Netherlands
T +31 20 305 4000
F +31 20 305 4001

London

6th Floor
21 Southampton Row
London WC1B 5HA
United Kingdom
T +44 20 7841 5600
F +44 20 7841 5601

Brussels

Boulevard de
L'Impératrice 66
1000 Brussels
Belgium
T +32 2546 7278
F +32 2546 7110

Nottingham

Ergo Building, Mere Way
Ruddington Fields
Nottingham NG11 6JS
United Kingdom
T +44 115 921 7421
F +44 115 921 7420