Kunststoff Information

PIE Price Trend Analysis

LDPE for Film Applications – March 2016

Contents

1. Current recommendations

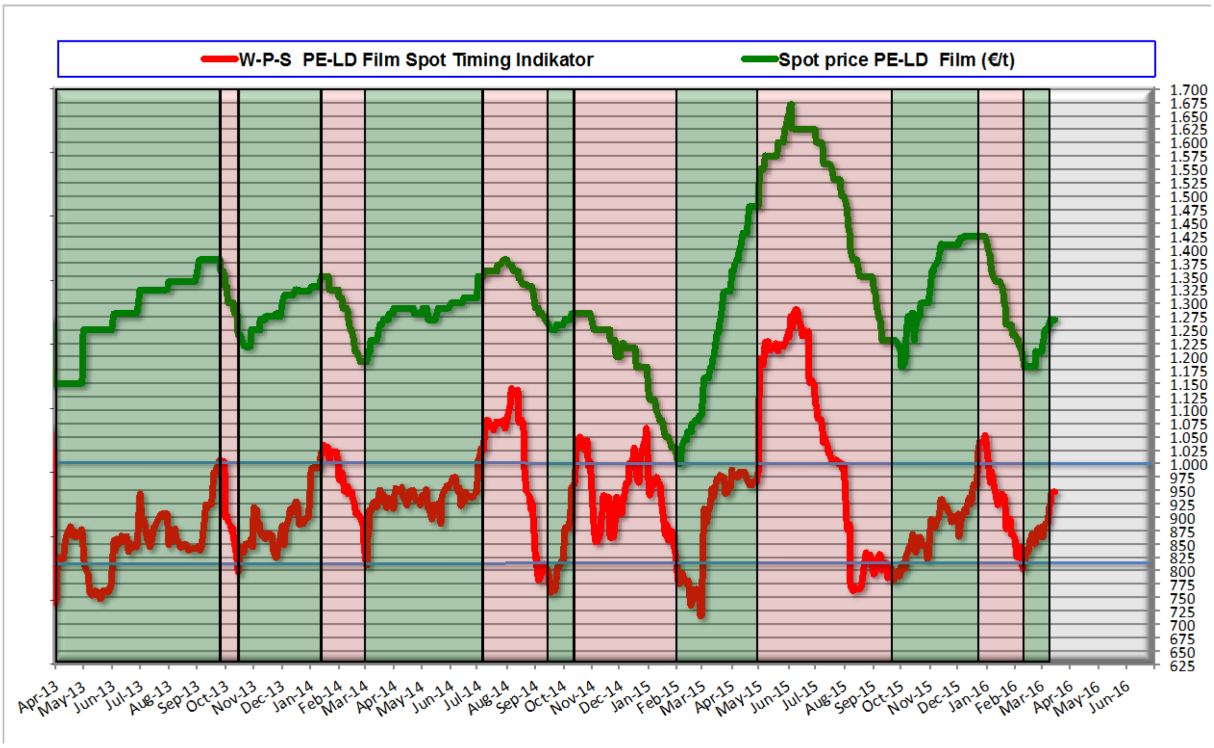
Recommendation:	BUY
Trend:	increase from the second half of March / further rise in April

Highlights

Oil:	pointing up
Naphtha:	pointing up
Ethylene:	Spot price range at EUR 730-750/t, April monthly contract price increasing
Cracker:	Monomer margins decreasing, available capacity: 90% (down 3% month-on-month), some maintenance shutdowns, production problems or lower capacity utilisation
Polymer plants:	Steep fall in polymer margins, capacity utilisation at 80% (down 4% month-on-month)
LDPE:	Spot prices set to continue the increase throughout the month

2. Spot market indicator

W-P-S timing indicator for LDPE film grade spot prices



Availability of LDPE has tightened as a result of maintenance turnarounds and short inventory levels, both at producers and on the open market. Demand in March remains at a healthy level, supporting the gains in LDPE prices. Spot prices currently stand at EUR 1,250-1,300/t.

Alongside an expected increase in the ethylene reference contract for April, other data contained in the indicator point to further rises in LDPE spot and contract notations.

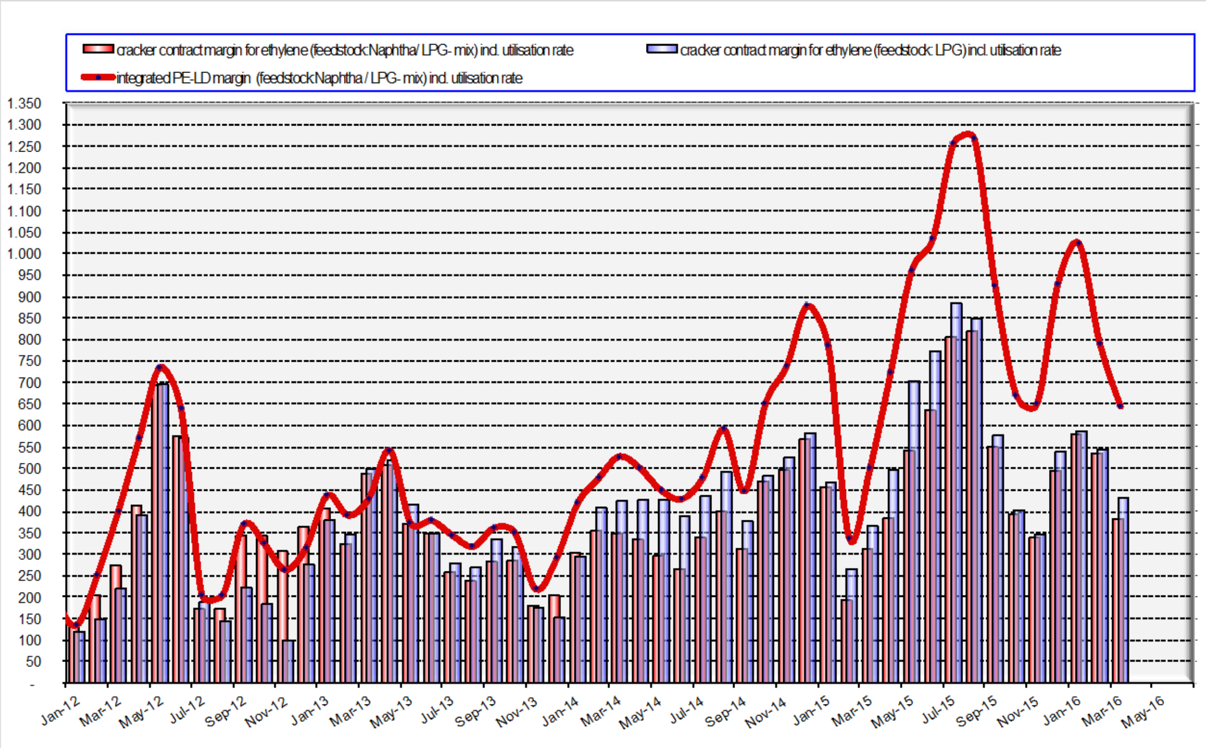
The indicator has climbed further during the course of March and confirms the advice to buy given in mid-February.

Further purchases for stock are recommended in the second half of March.

We recommend you keep track of the latest developments.

3. Trend development indicator

Trend developments among integrated C2 margins in Europe



The integrated cracker margins (red/blue bars) in the value chain from naphtha to ethylene have fallen by around EUR 110/t since mid-February. The corrections in the March contracts for ethylene and benzene and the euro-based increase in the cost of naphtha exerted considerable pressure on the result.

The integrated polymer margin in the value chain naphtha/LPG to LDPE (red curve) has dropped by EUR 140/t. The integrated margin, taking into account the feedstock mix (naphtha and LPG) and capacity utilisation, currently stands at around EUR 640/t (previous month: EUR 790/t).

Basic availability among the western European naphtha crackers has declined slightly. In mid-March, capacity utilisation stood at 90% (February: 93%). In March, LBI took its 530,000 t/y ethylene cracker in southern France down for maintenance. In total, 10 European crackers are not producing at all or only to a limited extent.

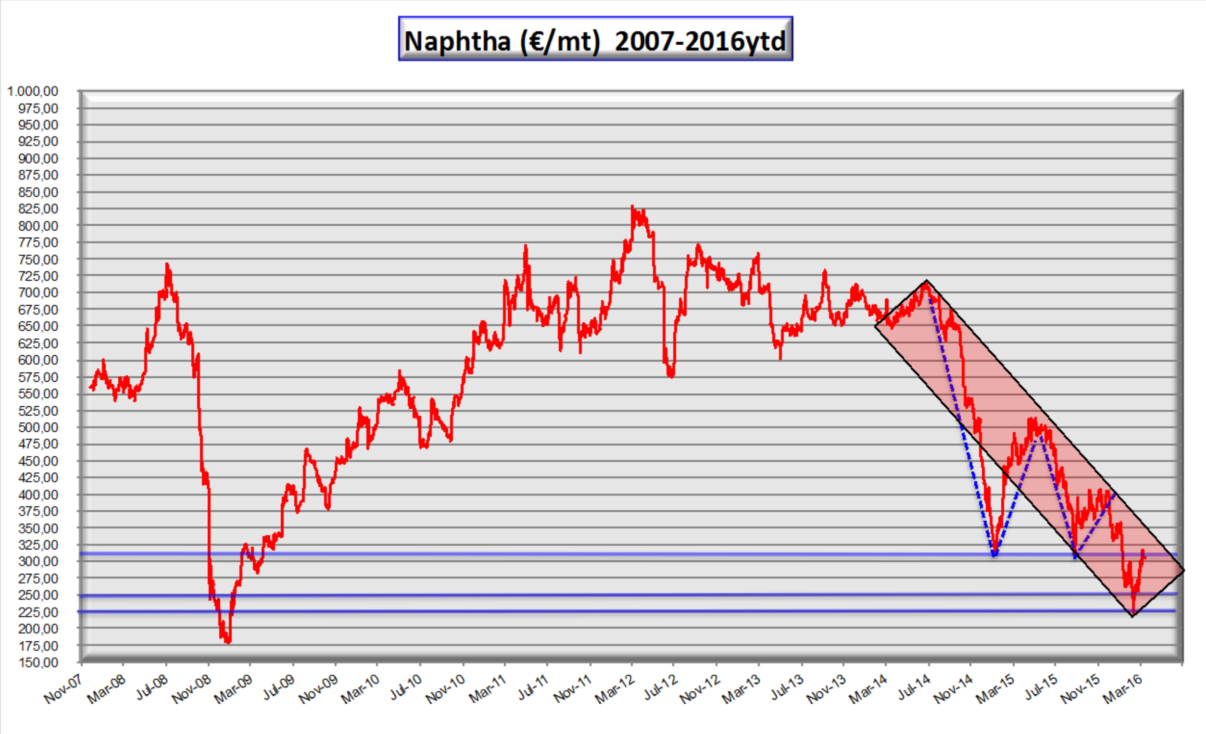
Nominal capacity among LDPE facilities has fallen to around 82%, compared with 84% in February. One or two plants are experiencing minor problems and some producers have intentionally curtailed production. Two facilities are down for maintenance works expected to last about two months (Source: www.polyglobe.net).

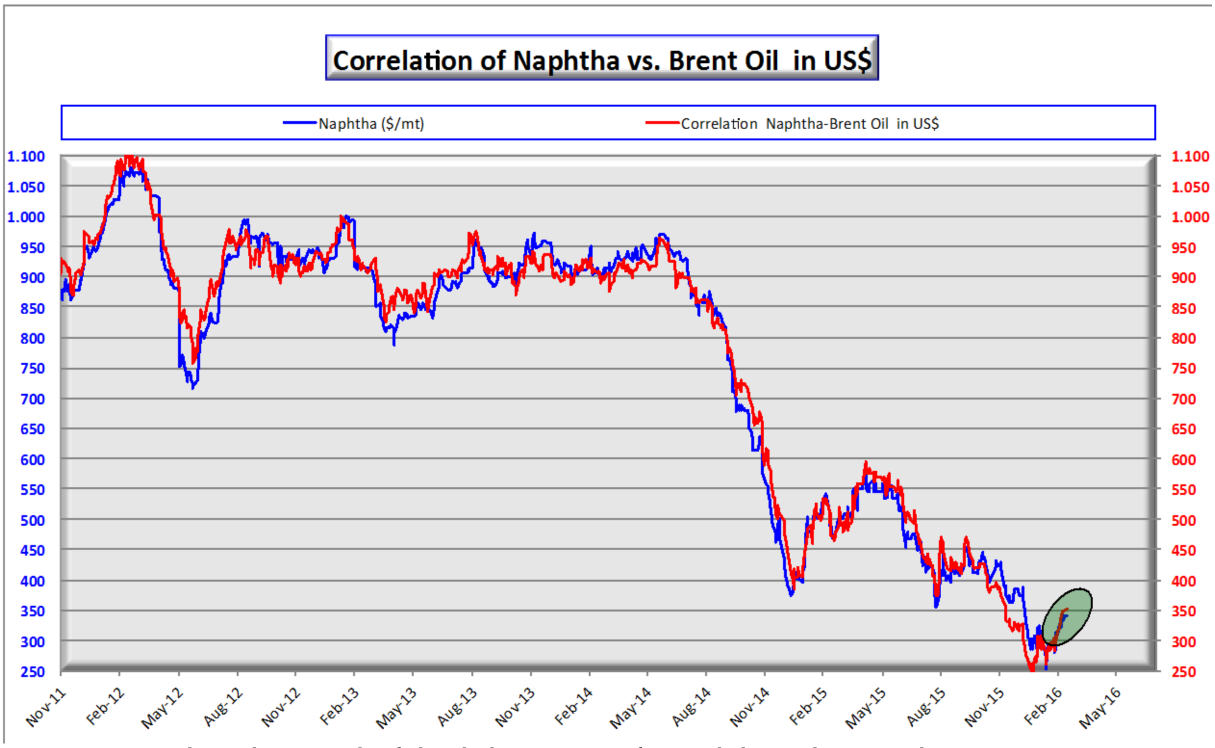
We recommend you keep track of the latest developments in www.polyglobe.net

Note:
The values displayed here are based on model calculations that take account of the current EUR-based feedstock cost developments and the revenues of the most important cracker and polymer products on both a monthly and spot price level. The calculations also incorporate the weekly utilisation rates of select European crackers and polymer plants. The values do not refer to specific facilities or production methods, but instead reflect the overall margin development. High margins tend to result in an oversupply of polymer, while margins that fail to cover all costs usually result in plant shutdowns, tightness and price increases for both monomers and polymers.

4. Market and price analysis

Demand from cracker operators for naphtha is stable and the export business is picking up. Naphtha notations have recovered well since mid-February, and, at EUR 305/t, are just above an important support line. The downward trend that began in June 2015 has, however, not yet been reversed (see the area shown in red in Chart 1). The correlation analysis with the oil price shows a balanced situation (see the area shown in green in Chart 2).

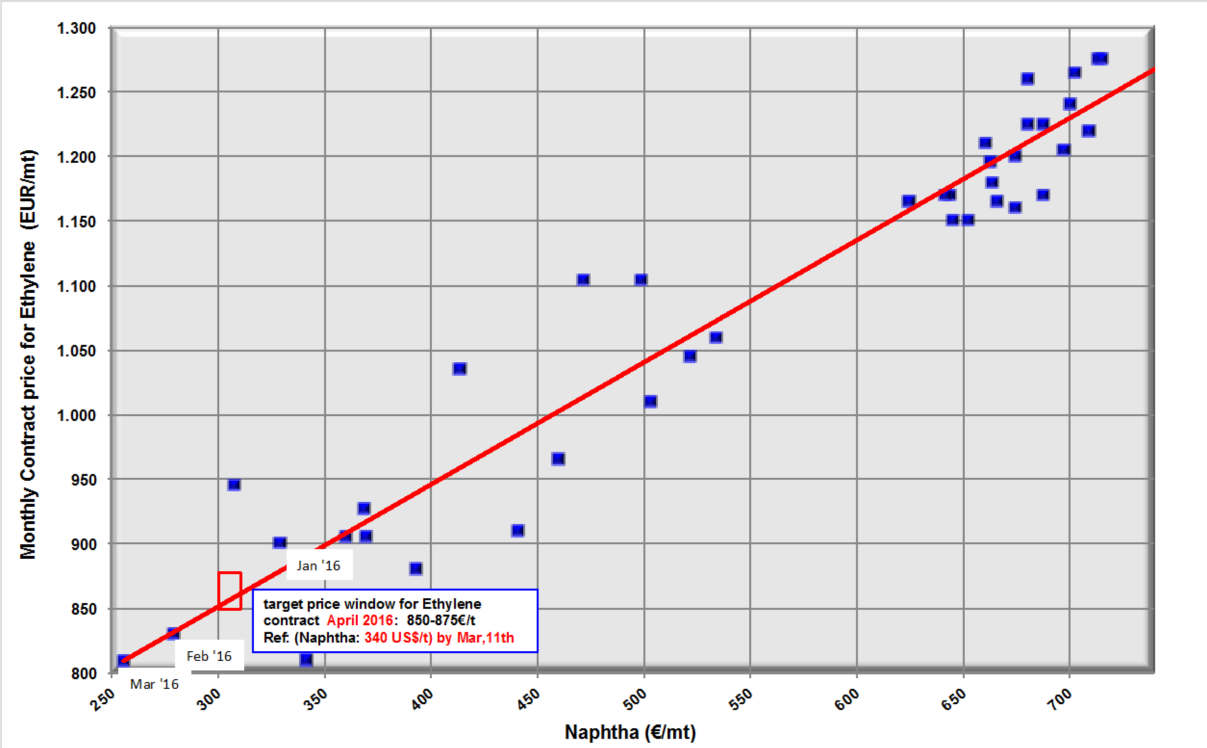




We recommend you keep track of the daily notations for naphtha and Brent oil

5. Context

Correlation "naphtha to ethylene contract prices"



The above chart represents the monthly ethylene contracts of the last three years against the respective weighted naphtha price. The ethylene contract notation shows a correlation with the naphtha price.

Expectations for April:

Naphtha prices have added as much as EUR 45/t since the March agreement for ethylene. Demand for ethylene from polymer producers is very good. Ethylene spot volumes are tight. Compared to the nominal contract notations, the price reductions (around 8%) are therefore much lower than the long-year average.

As things stand, April's C2 notation will likely rise to a range of EUR 850-870/t. LDPE prices will rise by slightly more than the ethylene contract.

Capacity utilisation among western European LDPE plants is limited as a result of maintenance turnarounds and production problems. In eastern and southern Europe, production problems or deliberate output restrictions mean several producers are also limited in their availability to supply. There is no longer any risk of producers having surplus stocks, and demand for LDPE is strong.

6. How to interpret the "spot market indicator" chart

The green curve displays the daily spot prices of the product that is analysed. The data is based on a selection of western European offers, most of them made by producers.

The red curve shows the daily movement of the product-specific Wolf-Polymere-Solutions (W-P-S) indicator, which oscillates around am upper and lower support line (light blue). The indicator takes account of a number of factors impacting price development, which it then displays mathematically.

If the indicator falls below the lower support line, it heralds an upcoming recovery in prices or accordingly confirms an ongoing recovery in spot and contract notations. While in the early phase the number of spot offers tends to be quite large, as time goes on, bottlenecks at crackers and polymer plants tend to appear. This period is displayed by means of a vertical green column in the chart background. During this green phase, processors should buy volumes and build up their stocks to avoid ensuing price increases and the possibility of supply bottlenecks for urgently needed products.

If the W-P-S indicator rises above the upper support line, this signals that notations will fall in the short- to medium-term, or alternatively confirms the existence of an ongoing phase of declining prices. This period is displayed by means of a vertical red column in the chart background. During this red phase, processors should buy only those volumes they absolutely need and delay additional purchases to the following week or month. The number and volume of spot offers tends to rise at this time, and producers usually operate their plants at high capacity utilization rates. This phase tends to remain until the lower support line is touched or the curve falls below it.