Deutsche Bank

4 August 2005

# MEMC Electronic Materials

Reuters: **WFR.N** Bloomberg: **WFR UN** Exchange: **NYSE** Ticker: **WFR.N**

## Long term story very much intact

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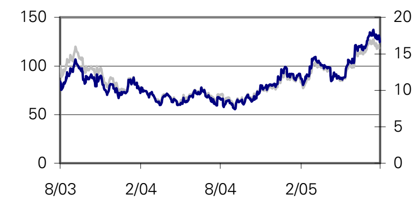
**Company Review**

**Buy**

| | |
|---|---|
| Price at 4 Aug 2005 (USD) | **16.65** |
| Price target | **19.00** |
| 52-week range | **18.29-7.39** |

**Price/price relative**




| Performance(%) | 1m | 3m | 12m |
|---|---|---|---|
| Absolute | *5.2* | *42.3* | *86.5* |
| S&P 500 | *4.2* | *5.9* | *13.3* |

**Stock data**

| | |
|---|---|
| Market Cap (USDm) | **3,488.4** |
| Shares outstanding (m) | **209.5** |
| Volume | **1,177,500** |
| S&P 500 | **1,245.04** |

### Fundamentals converging positively

We spent Thursday marketing with MEMC Electronics CEO Nabeel Gareeb and CFO Tom Linnen. WFR has been a relative outperformer in capital appreciation, but retains a comparative valuation discount. This is consistent with a successful turnaround story. However, we believe the gradual mix shift to 300mm wafers, the company's improved market position and operations, and an emerging polysilicon supply imbalance should drive continued outperformance. We anticipate upside to 2006 numbers as positive fundamentals converge.

### Fundamentals plus operational performance

MEMC quarterly revenues have outperformed wafer starts for two years now. We believe near term guidance is consistent with wafer starts and is possibly conservative. We expect an on-going mix shift, improving semiconductor industry fundamentals (i.e unit growth) compounded by polysilicon supply shortage that could manifest in wafer shortages in late-2005/early-2006 to drive pricing power and present MEMC with a comparative cost and operating advantage. We reiterate that we believe pricing power is a 2006 phenomenon, and should not be expected in 2005.

### Valuation: maintain Buy rating, $19 price target

At $16.65 WFR trades at 12.8x our 2006 EPS estimate of $1.30, a discount to peers. As a commodity supplier offset by strong operational performance and positively converging company and industry fundamentals, we believe a modest discount could be justified, and maintain our price target of ~$19 or 15x our C2006 EPS estimate. We believe that an industry leading margin structure and operating profitability should help lift what has been a persistent valuation discount.

### Risks

Risk factors include, but are not limited to, (1) a high degree of industry cyclicality, (2) competitive pressures and market share shifts, (3) delayed adoption of new technologies, (4) operational execution missteps, (5) rapid technology changes and product cycles, and (6) general economic risk.

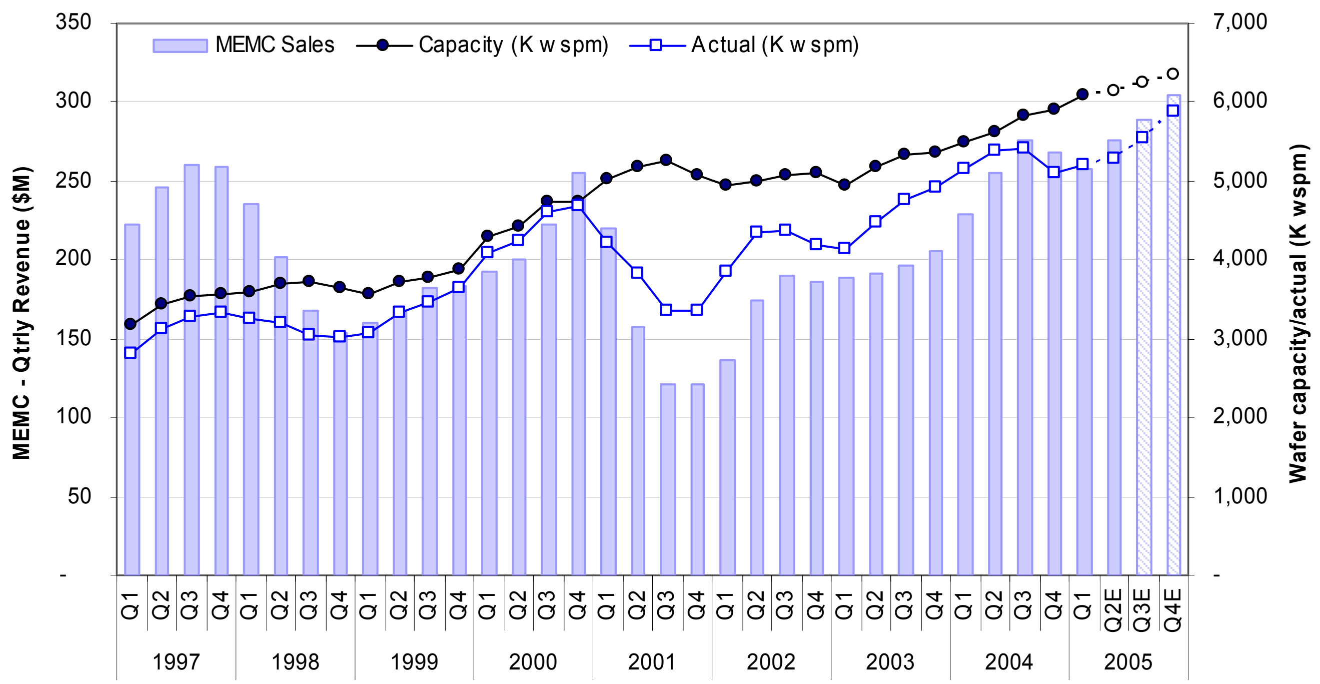
**Forecasts and ratios**

| Year End Dec 31 | 2004A | **2005E** | 2006E |
|---|---|---|---|
| 1Q EPS (USD) | 0.16 | **0.23** | 0.30 |
| 2Q EPS (USD) | 0.20 | **0.26** | 0.31 |
| 3Q EPS (USD) | 0.27 | **0.29** | 0.34 |
| 4Q EPS (USD) | 0.25 | **0.31** | 0.36 |
| FY EPS (USD) | 0.89 | **1.09** | 1.30 |
| P/E (x) | 10.6 | **15.3** | 12.8 |
| Revenue (USDm) | 1,028.0 | **1,126.6** | 1,286.9 |

*Source: Deutsche Bank*

**MEMC's quarterly performance has outperformed wafer starts over several quarters**
MEMC's business is largely tied to semiconductor industry wafer starts. Figure 1 details MEMC's quarterly revenue performance relative to industry capacity in wafer starts per month (wspm), actual wafer starts, and consequently utilization. We address historical data from 1997, and project through the end of 2005.

**Figure 1: MEMC's quarterly revenue versus wafer starts (total capacity and actual wafer starts)**




*Source: Company reports, SICAS capacity and utilization data, and Deutsche Bank estimates*

We note the following based upon historical data:

- **Quarterly revenue and wafers starts correlate well:** MEMC's quarterly revenues have correlated well to actual wafer starts, particularly at inflection points, through cycles.
- **Quarterly revenues have outperformed:** MEMC's quarterly revenues have outperformed relative to actual wafer starts since mid 2003 (wafer starts resumed quarterly growth in early 2003), both during upswings (2003/2004 and 2005) and downswings (2004). We believe this outperformance (relative to actual wafer starts) is attributable to several factors, including:
  - **Market share gains:** we believe MEMC has gained incremental market share, and now owns the #3 position, having overtaken Wacker Siltronic.
  - **Favorable mix**: the semiconductor industry continued to build-out 300mm wafer processing capacity, and leading edge capacity enjoyed higher utilization relative to older capacity, shifting the mix favorably towards 300mm wafer starts.

**F3Q05 (Sep) revenue guidance is consistent, but there could be upside to longer term projections:** we note that MEMC guided F3Q05 (Sep) revenue to be up 3% to 5% sequentially, largely consistent with expectations for increasing wafer starts. We believe that MEMC's quarterly revenue can modestly outperform industry wafer starts growth rates due to the continued product mix shift toward 300mm wafers, incremental share gains from weaker competitor(s) and positioning in Taiwan (through its Taisil facility, MEMC will be the first 300mm supplier manufacturing in Taiwan by year end), and potential pricing leverage emerging in 2006.

- **What about chasing business?** we believe MEMC could deliver (or could have delivered) additional revenue, albeit at lower margins, should the company decide to pursue more test/monitor wafer business. However, we believe the company is less apt to do so as it would likely rather forego lower margin business with the expectation that it can capture higher margin, prime wafer business as certain competitor(s) fulfill the less desirable business. We believe this would be incremental on both sides, and rather than mark a substantial change in potential revenue, is simply a smarter business tactic to drive earnings leverage for those that can execute on it.

**Pricing dynamic:** both secular trends and shorter term (i.e. quarters) market dynamics determine the pricing environment. Many seem to expect, or even to have expected, near term pricing strength, rather than typical ASP declines. We believe that several factors will contribute to pricing strength beginning largely in 2006, and that the absence of any such pricing strength today does not indicate any weakening in fundamentals. Key pricing dynamic contributors include:

- **Product mix shift:** a product mix shift from 200mm to 300mm (and gradually to 300mm SOI wafers) is a primary secular trend that will drive pricing strength and margin improvement over the long term. This is a primary long term driver.
  - **SOI – a long term benefit for those who can play:** MEMC indicated that for every $1 invested in 300mm production, another $1 would be required to implement SOI. It is a case in which vertical integration is advantageous. The market is currently small (~$200M), but with substantial growth (~30% CAGR). Companies able to afford the investment will benefit as SOI is adopted over several years. The challenge is cost efficient SOI production. We believe MEMC is presently well positioned to address this market as it evolves.
- **200mm for sub-90nm production:** wafer suppliers with the technology and balance sheets (for investment) to address the more stringent requirements of sub-90nm technology on 200mm wafers should be able to realize incremental share gains and upside. We believe some chipmakers will drive 200mm tool sets below 90nm to extend the useful life of equipment; we believe this will be driven by select chipmakers (i.e. companies like Intel, Samsung, and Toshiba), and will likely be limited to specific products and process flows. This is a longer term trend that will unfold over the next couple/few years. This could drive incremental strength.
- **Semiconductor industry fundamentals improving:** when the semiconductor industry begins to recover, as it did over the past couple months, it is unrealistic to think that pricing power can return to the wafer manufacturers quickly. Conditions of scarcity must emerge to precipitate pricing power. The absence of pricing power now is hardly a surprise, and should not be interpreted as a negative.
- **Polysilicon shortage looming:** polysilicon supply has stubbornly remained at 100% of industry capacity, and wafer manufacturing utilization is presently at 85% to 90%, with the anticipation it will rise in 2H05. Historically, spot shortages of wafers tend to occur when utilization exceeds 95%. We expect spot wafer shortages (possibly beginning in C4Q05 or early 2006) to precipitate more substantial actions by chipmakers, beginning with aggressive re-negotiations of wafer supply contracts. MEMC internally produces polysilicon (and even silane – gas used to produce polysilicon) for all its wafer production needs (another case in which vertical integration has become advantageous). We believe this could drive meaningful upside to numbers in 2006.
- **Contract re-negotiations:** with rising wafer demand, slowly increasing polysilicon supply, and wafer supply contracts expiring in the near term, we would anticipate spot wafer shortages to drive new pricing and supply agreements in which companies like MEMC can exercise a measure of pricing power. We believe this should begin to occur in 2H05, with effectivity in 1H06. A significant percentage of contracts are coming up for

re-negotiations in the latter part of a calendar year; we anticipate that should spot wafer shortages materialize, MEMC will have substantial negotiating leverage to favorably address pricing terms for 2006. We note that one large chipmaker has already negotiated a 2006 supply agreement; despite what we believe are the absence of price increases in this contract, we believe this was appropriate to lock in a longer term supply agreement with a key customer that could lead to improved future business. As a result of polysilicon shortages, broader contract re-negotiations could lock in pricing strength for 2006 and add meaningful upside to estimates. (We note that ~40% of MEMC's contracts are quarterly, ~40% semi-annually, and ~20% annually.)

**When does the party end?** Of the factors listed above, the first three are secular industry trends that we believe are largely accounted for in expectations. The fourth is a pending industry disruption, and the fifth is an expected resultant action. The disruption creates a window of opportunity for captive polysilicon wafer producers (i.e. MEMC), the duration of which is difficult to define.

- **Polysilicon supply:** present polysilicon production increase forecasts of ~4% to 8% per year over the next couple years tracks well below aggregate demand forecasts for wafers and solar panel (greater than 40% per year) needs. Although we anticipate that actual polysilicon production capacity will increase beyond present forecasts, we expect shortages that will likely drive both pricing power and comparative cost advantages for MEMC. We believe that MEMC retains >10% of total polysilicon production, and could increase capacity by ~40% over the next couple years. Other major polysilicon suppliers are (listed in order of size) Hemlock (JV between Dow, Shin-Etsu, and Mitsubishi), Tokuyama, AsiMi (a division of Komatsu). and Wacker Chemie. We believe polysilicon capacity at the end of 2004 was roughly 30,000 metric tons per year, with approximately 55% used for wafers and 45% used for solar panels.

- **Equilibrium any time soon?** third party commentary has estimated that a polysilicon shortage could correct anytime between two and seven years. We do not know. However, noting that it takes roughly 18 to 24 months to significantly increase capacity at an existing facility, and longer to build a greenfield facility, we believe a beneficial dynamic for MEMC should persist for at least the next couple years.

# Appendix 1

## Important Disclosures

Additional information available upon request

| Disclosure checklist | | | |
|---|---|---|---|
| **Company** | **Ticker** | **Recent price** | **Disclosure** |
| MEMC Electronic Materials | WFR.N | 16.64 (USD) 3 Aug 05 | 7,13 |

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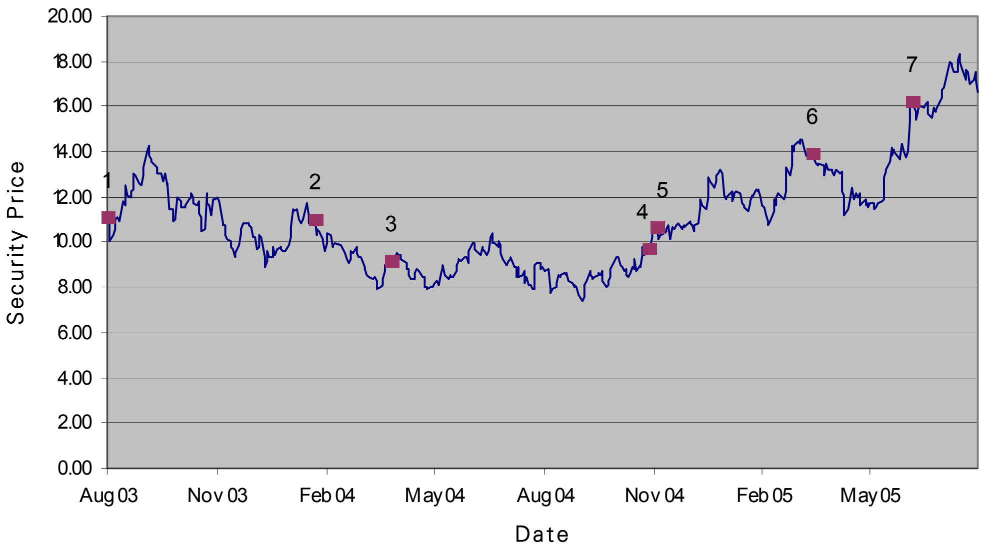
## Historical recommendations and target price: MEMC Electronic Materials (WFR.N)

*(as of 8/4/2005)*




Previous Recommendations

Strong Buy
Buy
Market Perform
Underperform
Not Rated
Suspended Rating

Current Recommendations

Buy
Hold
Sell
Not Rated
Suspended Rating

*New Recommendation Structure as of September 9, 2002

1. 8/6/2003: Buy, Target Price Change USD15.00
2. 1/27/2004: Buy, Target Price Change USD14.00
3. 3/31/2004: No Recommendation, USD14.00
4. 11/2/2004: Hold, Target Price Change USD10.00
5. 11/8/2004: Buy, Target Price Change USD14.00
6. 3/18/2005: Buy, Target Price Change USD16.00
7. 6/10/2005: Buy, Target Price Change USD19.00

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**Buy:** Total return expected to appreciate 10% or more over a 12-month period

**Hold:** Total return expected to be between 10% to –10% over a 12-month period

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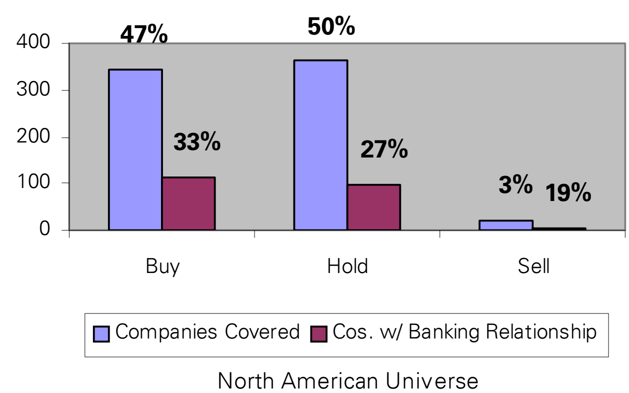

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