HSA Horwath



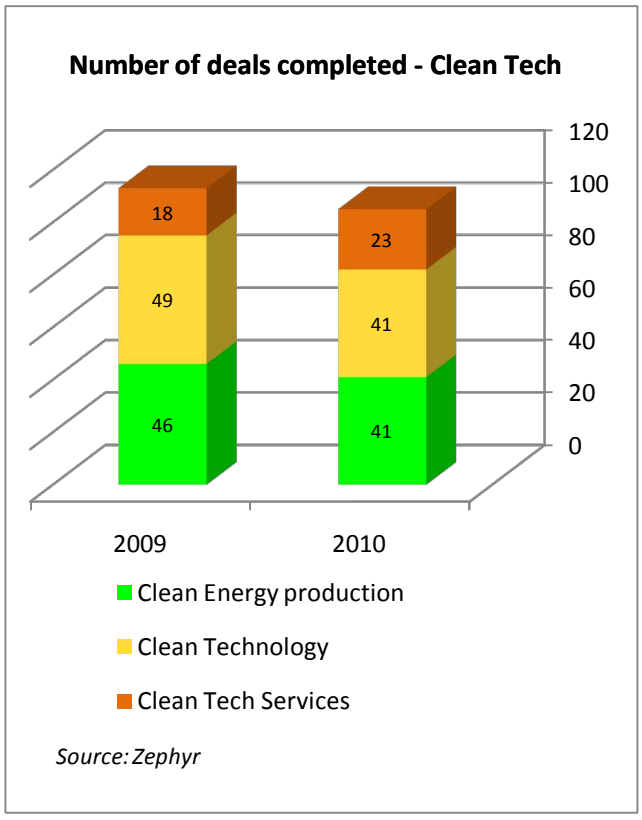
**1-2011**

# Cleantech Monitor

## Germany ▪ Switzerland ▪ Austria

### The CleanTech M&A landscape in Germany, Switzerland and Austria in 2010

After 113 deals in 2009 only 105 deals were completed in the region in 2010. 80 (2009: 84) of these deals were finalized with a target in Germany, 13 (2009: 23) in Switzerland and 12 (2009: 6) in Austria. Compared to 2009, the number of transactions declined by 7% in the region in 2010. Austria was the only country in the region which became more active in 2010 compared to the prior year.




In comparison to 2009 the number of deals declined in the segment Clean Energy production by 11 % and in the segment Clean Technology by 16% in 2010.

On the contrary, the number of completed deals increased in the segment Clean Tech Services by 28 % to 23 deals in 2010.

If a comparison is done by deal value it should be noted that deal values were published only for a small percentage of completed deals, namely for 35 out of 105 deals in 2010 and for 30 out of 113 deals in 2009.

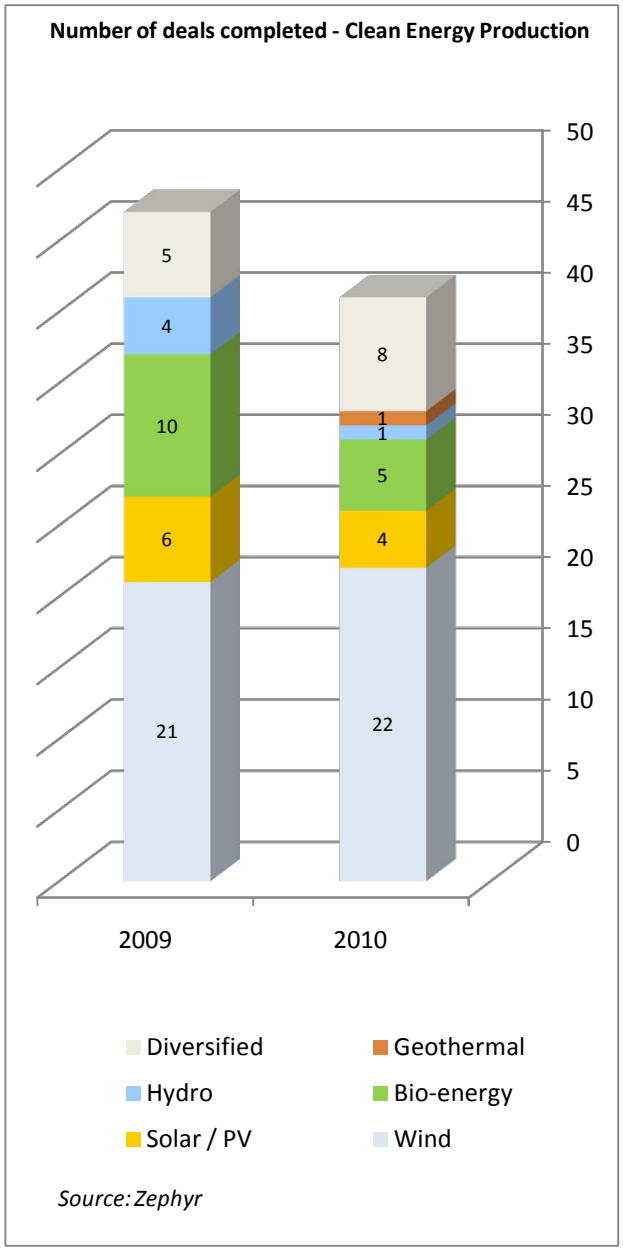
Based on the published deal values approximately € 1.5bn were invested in the CleanTech sector in the region in 2010. That was 17% less than in 2009 (€ 1.8bn).

However, the deal values disclosed in 2009 were influenced by one very large transaction, namely Österreichische Elektrizitätswirtschafts AG (Austrian Electricity Management AG) paid € 1 bn for 100% of the shares in E.ON AG's 13 hydro power plants in Bavaria, Germany. The second largest transaction was a share increase in REpower Systems AG by SE Drive Technik GmbH amounting to € 270 million. All other transactions were below the € 100 million mark, of which two deals were in the € 50-100 million and 14 deals in the € 10-50 million range.

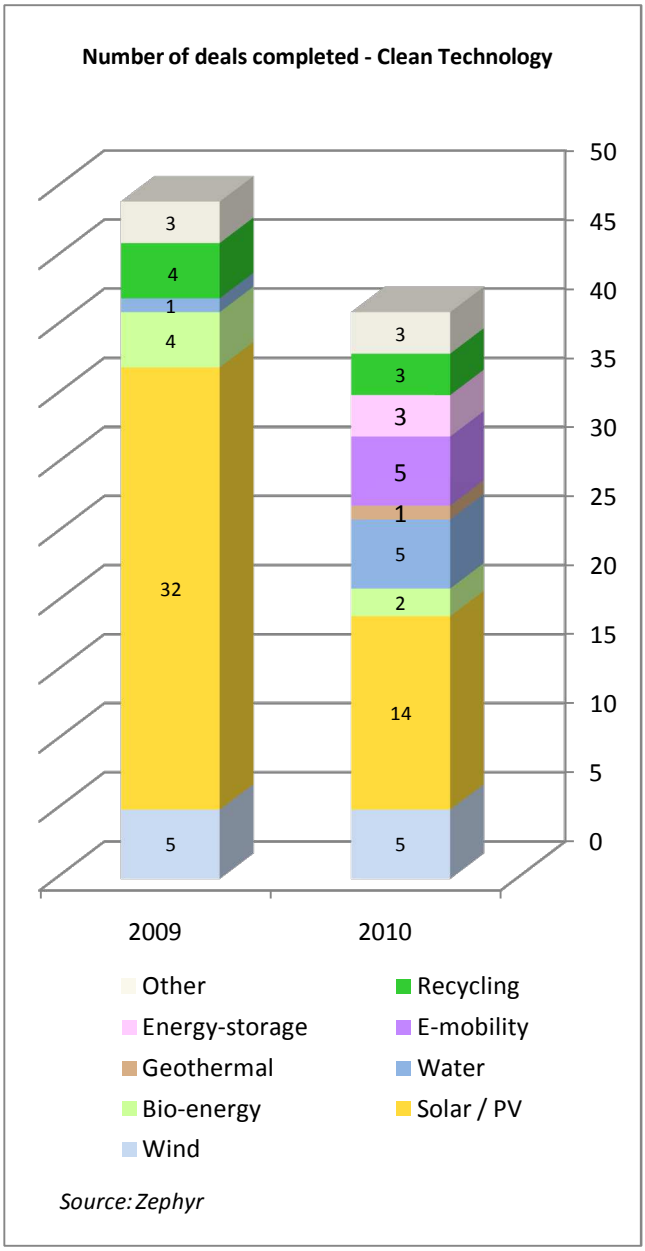
In 2010 the biggest transaction for which a deal value was disclosed was the € 240 million acquisition of 100% of the shares in Etimex Solar GmbH, Germany, by Solucia Inc. (USA). Four more transactions were above the € 100 million mark, five deals in the € 50-100 million and seven deals in the € 10-50 million range. This shows that there were more larger mid-sized deals in the market in 2010 compared to 2009.

## Inside This Issue:

***Clean Energy Production***




***Clean Technology***




Within the segment Clean Energy Production the sub-segment Wind remained the biggest and grew from 21 completed deals in 2009 to 22 completed deals in 2010.

The sub-segment Diversified grew from five to eight completed deals and the sub-segment Geothermal from zero to one completed deal. All other sub-segments shrank in 2010. The sub-segment Diversified contains transactions in which the target company is active in several Cleantech areas.

By deal value the segment Clean Energy Production fell from € 1,087 million to € 455 million in 2010. The largest sub-segment was Diversified amounting to a deal value of € 190 million in 2010. The increase was mainly caused by one large deal.

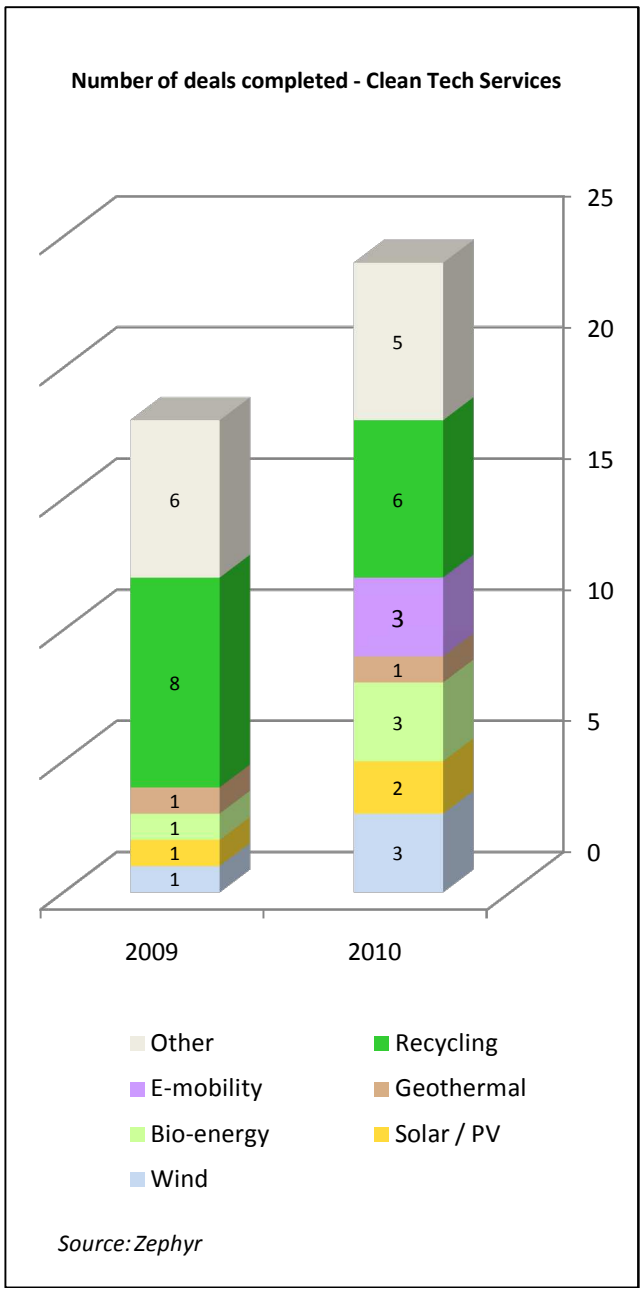
Within the segment Clean Technology the sub-segment Solar / PV showed a sharp decline in the number of deals completed in 2010 compared to 2009. The number of deals declined from 32 to 14 deals (-56 %).

In comparison to 2009 the number of deals in the sub-segment Bio-energy also decreased sharply (-50%) to 2 deals in 2010.

In contrast, the number of deals rose in the sub-segments Water (+4), E-mobility (+5) and Energy-storage (+3) in 2010.

By deal value the segment Clean Technology grew from € 652 million to € 876 million in 2010. It became the largest segment within Clean Tech. The largest sub-segment was Solar / PV amounting to a deal value of € 459 million in 2010 (2009: € 250 million).

### *Clean Tech Services*




In comparison to the previous year the number of deals increased in almost all sub-segments of the Clean Tech Services segment, except for recycling, in 2010. The biggest increase by number of deals was in the sub-segment E-mobility.

The sub-segment "Other" which declined by one deal contains above all deals with energy and environmental engineering services companies.

By deal value the segment Clean Tech Services grew from € 90 million to € 184 million in 2010. The largest sub-segment was "Other" amounting to a deal value of € 170 million in 2010 (2009: € 15 million). The increase resulted above all from one large transaction.

### *Most active investors*

In 2010, the M&A activity was distributed more evenly among a larger investor base. We identified eight investors who completed at least two cleantech deals in 2010. Some of them invested solely in technology and services whereas others focused on energy production.

In 2009 the most active investors were Energie Baden-Wuerttemberg AG (5 deals), Robert Bosch GmbH (5 deals), Stadtwerke München GmbH (5 deals) as well as Investor Pulse-Asset Management GmbH (3 deals). Compared to 2010 two of the most active investors in 2009 belonged to the utilities industry.

### *Outlook for 2011*

PV installations were approx. 7,500 MW in Germany in 2010. This was a new record high, but this rate will not be sustainable. As a consequence of this development, an extra cut of the feed-in tariffs which will become effective on 1 July 2011 was agreed between the solar industry and the minister for the environment. The extra cut can be up to 15% depending on the production capacity which will go online between March and May 2011. For 2011 industry experts estimate that Germany as the largest market will shrink by 30-40% to 5,000 MW. Beside Germany, the other two big markets in Europe, Italy and Spain, are expected to shrink due to capacity caps in 2011, too. At a recent M&A workshop which focused on the solar industry, most experts agreed that the continued reduction in feed-in tariffs in combination with still rising production capacities in PV modules will cause a further margin squeeze which eventually will result in a consolidation process in the industry. Beside some smaller transactions the majority of the experts agreed that large consolidation driven transactions will probably not be seen before 2012.

As wind underperformed, based on production capacity installed, which was mainly caused by project financing related issues, the more favourable conditions should lead to more project related transactions in 2011. A consolidation trend in the wind industry cannot be identified at the moment.

With regard to biomass and biofuels, an increase in production capacity by ca. 12% to 2,560 MW (i.e. 80 installations) is expected for biomass in 2011, whereas the outlook for biofuels continues, especially in the light of the current controversial discussion about E10 fuels in Germany, rather negative. The biofuel industry has been struggling with the change in the legal environment and the existing overcapacity for some time now. The consolidation process will most likely continue in 2011.

As the government has shifted its focus on e-mobility, smart grids, storage and efficiency related topics and will as a consequence provide more money for R&D, this development in combination with a more optimistic investment and more favourable financing climate should result in an increase in the number of technology related M&A activities in the cleantech sector, especially by Venture Capital companies, in 2011.

## Summary of the smart renewables conference 2011

On 22 - 23 February 2011, representatives from politics, the conventional and the renewable energy industry gathered for two days in Berlin to discuss Germany's future road to 80% renewable power supply by 2050.

On the first day the discussion was about the marketability and market integration of renewable energy. One of the questions which was discussed very controversially was about how long the feed-in privilege for renewable energy can be maintained. The large capacity increase in PV power generation (approx. 7,500 MW in 2010) caused an increase of the EEG surcharge from € 2.05 Cent/kWh in 2010 to € 3.53 Cent/kWh in 2011. That is an increase by more than 70%. In total consumers will pay approx. € 13.5bn for the EEG surcharge in 2011 (2010: € 8.2bn). Though PV power accounts only for ca. 12% of the renewable power production (i.e. 2% of total power production), it gets 50% of the EEG surcharge. Some experts argued that these sharp price increases will undermine the acceptability of renewable energy in the population in the medium term. Another argument was that there is already today, depending on weather conditions, an oversupply of wind power during off-peak hours and this should be reflected in the feed-in tariff paid in these situations. Others argued that the market integration of renewables should be done by applying capacity management rules. Overall, there was no common point of view what will be the best approach to integrate the renewable into the existing market regime.

The second day covered the topics grid expansion, storage capacity, smart grids and smart metering, demand side management and the effect the ever increasing share of renewables in Germany has on neighbouring countries.

The following critical points emerged from the discussion:

- A better legal framework is needed for implementing smart grids and smart metering.
- Investment conditions have to be improved for grid operators and the conventional power producers.
- The current planning and approval process for grid expansion and building new storage capacity (e.g. mainly hydro power plants) is far too slow to keep up with the installation of new renewable power capacity. Grid expansion is at least five years behind schedule and will become a bottleneck.
- The acceptability for grid expansion and building new storage capacity has to be drastically improved in the population in Germany.
- The storage capacity needed by 2050 to bridge a 10 day wind calm period will be more than 300 times of today's available capacity. At present nobody knows how this gap can be closed at acceptable cost.
- New storage technology at acceptable cost is urgently needed.
- Due do Germany's topography, the country's potential for additional storage capacity (e.g. hydro and compressed air) is very limited. To establish additional storage capacity in Norway and Switzerland could be helpful, but will not fully resolve the problem.
- There will be a lack of conventional power production capacity due to the closure of nuclear power plants and the lack of new conventional power plants by 2020. The ever declining capacity utilization of fossil fuel power plants due to the feed-in privilege for renewables and the unfavourable investment conditions for conventional power producers at present have put many projects on hold.
- Without grid expansion and a massive increase in storage capacity power supply will become instable when the share of renewable power will reach 25-30 % of total power production. This will be the case somewhere between 2015 and 2020.
- The higher share of renewable power in Germany is not a national, but a European topic. The European power distribution infrastructure has to be expanded and adjusted to the changing conditions.

Conclusion

The current speed of adding new renewable power production capacity may not be sustainable. Instable power supply and high prices caused by the ever increasing share of renewable power could backfire and result in a lower acceptance of the renewables in the population. In addition, if the problem of speeding up grid expansion and building new storage capacity is not resolved fast, a capacity cap and the fall of the feed-in privilege for renewable power could become unavoidable. This could result in a bad surprise for renewable energy investors. The energy market in Germany faces challenging times in the years to come.

## Repowering in Germany – opportunities and challenges

The government estimates that there is upgrade potential for many onshore sites through repowering. To stimulate repowering a repowering incentive of an additional € 0,5 Cent / kWh was incorporated in § 30 EEG (Renewable Energy Act). The prerequisites are that wind turbines which will be replaced have run for at least 10 years and that the capacity of the new wind turbine is at least twice but does not exceed five times the capacity of the replaced one. It is also allowed to erect the new wind turbine at another location within the same or a bordering county. This raises the questions what's the repowering potential with regard to the wind turbines being operated at present and is the current environment favourable for repowering in Germany?

According to the latest figures published by the German Wind Energy Institute (DEWI) 21,607 wind turbines with an installed capacity of 27,215 MW were operated at year end 2010. This is only a slight increase compared to year end 2009, when 21,164 wind turbines with a capacity of 25,777 MW were running. Based on statistics published by the German Wind Energy Association (BWE) 9,359 wind turbines with an installed capacity of 6,104 MW will be old enough by 2012 to qualify for repowering projects.

According to a study of the BWE the capacity of onshore wind production could be tripled if repowering were applied to existing sites. The BWE estimates that up to 60bn Euro could be invested in repowering projects alone until 2020. That is approximately 60% of the investment market for wind energy.

In theory the repowering of existing wind farms offers economies of scale and thus higher returns can be realized. In reality the availability of wind farms for repowering has been very limited so far. According to the latest BWE statistics new installations from repowering were just 183 MW compared to 1,551 MW of total new installations in 2010. 116 wind mills with a capacity of 56 MW were replaced by 80 windmills with a capacity of 183 MW. The BWE estimates that the annual repowering market has a potential of 1,000 MW in Germany alone, but actual figures show that only a fraction of the market potential was tapped in 2010. One reason may be that many wind farms are structured as a closed end fund with hundreds of investors. As the returns of wind parks have not always met investors' expectations, they may be unwilling to agree to an early fund closure and to accept a lower return. To mediate between so many different interests could prove to be difficult. Another reason could be the tax law as a loss carry forward would be lost in the case that an investor sells his shares before losses have been completely offset with profits of the closed end fund. An obstacle is also the strong resistance of the population in many rural areas against wind farms in general and ever bigger wind turbines in particular.

And there are also legal obstacles to repowering. The zoning plan which was originally issued may not cover bigger wind turbines as it contains height and spacing restrictions and has therefore to be amended. In addition, a special permit is needed for wind turbines exceeding a height of 50 meters. And there may be environmental and the protection of species related issues which have to be resolved. All these issues cannot be tackled successfully without support from the responsible authorities on community and state level.

This shows that a lot of obstacles have to be overcome before a repowering project can be realized. If repowering is to take off in Germany in the future, the basic conditions for the approval process have to become first of all more flexible and investor friendly.

## Upcoming events

**15 – 19 March 2011**
*ISH 2011*
The world's leading trade fair for bathroom design, building, energy, air-conditioning technology and renewable energies
Frankfurt, Germany
www.ish.messefrankfurt.com

**17 – 20 March 2011**
*New Energy Husum 2011*
The world's leading trade fair for small wind mills
Husum, Germany
www.messehusum.de

**4 – 8 April 2011**
*Hanover Fair*
Covers 13 international trade fairs, among them the fairs:
- Energy (renewable and conventional power generation, transmission and distribution) and
- Wind (wind generation technology, components and services)

Hanover, Germany
www.hannovermesse.de

**6 – 10 June 2011**
*European Biomass Conference and Exhibition*
Berlin, Germany
www.conference-biomass.com

**8 – 10 June 2011**
*Inter Solar Europe*
The solar industry's leading trade fair
Munich, Germany
www.intersolar.de

**14 July 2011**
*5th Munich Cleantech Conference*
Munich, Germany
www.munichnetwork.com

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