Buy	Initial Coverage
PT EUR 30.00	(old: n.a.)
Price	EUR 23.58
Bloomberg	4DS GR
Reuters	4DSG
Sector	Renewables



Change	201	I1E	201	I2E	<b>20</b> 1	3E
	old	Δ%	old	Δ%	old	Δ%
Sales	46.2	-	22.7	-	61.5	-
EBIT	8.2	-	8.5	-	12.4	-
EPS	1.00	-	0.84	-	1.06	-

Analysis:	Warburg Research
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# The only pure play in a promising sector

Market leader with a strong track record: Daldrup is the technology and quality leader in deep geothermal drilling. The company emerged from the field of well drilling and has access to innovative products (licencing rights for the Kalina Cycle Process). Daldrup will leverage its unique track record of 20 deep geothermal drillings to enter the power generation business, as the company will operate own geothermal power plants. With this step, Daldrup will develop from a drilling service company with a volatile business to a power producer with attractive and predictable cash flows.

Geothermics combines Renewable Energies' most appealing advantages: geothermics is the only Renewable Energy, which combines base load capability with the independency from input costs. In contrast to wind turbines or PV, power generation in geothermal plants is controllable, not dependent on the weather and characterised by a utilisation of close to 100%. It therefore fulfils the increasing political requirement for base load capability, as the volatile power production of wind turbines or PV is an increasing threat for the grid stability in Germany. Furthermore, geothermal energy is neither dependent on the development of feedstock costs as, for example, biomass nor criticised for the competition to the food industry.

Regulatory improvements should trigger a boom for geothermics: due to the above mentioned advantages of geothermics, the revised EEG will reward geothermics with a notable improvement of feed-in tariffs. We expect, that many projects, which were not economically feasible under the old EEG will now be realised on the grounds of the modified regulatory regime. The current pipeline should then amount to roughly 80 geothermal power projects in Germany. Drilling rigs are clearly the bottleneck of the industry and rising prices for drilling services are extremely likely.

Power generation division will improve business model: Daldrup's new power and heat generation activities will not only lead to a more predictable business model, but margins will also notably rise and the company's risk profile will substantially improve. The negative impact from high capital requirements for entering the power generation business will be reduced as Daldrup will involve external partners, basically financial investors, and local partners with a strategic interest into the single projects. But Daldrup's current core business is also developing extremely favourable. Due to its order backlog of EUR 90m, the company's capacities are fully utilised until late in 2012. The sale of turnkey projects for geothermal power production could be another rewarding activity in the future. Although the company has already concrete plans to enter this business, we do not have included this in our earnings model, which consequently comes on top of our estimates.

Only pure play in geothermics: as described, the latest political developments have generated a very favourable environment for geothermics. While investors have numerous opportunities to build up an exposure in the PV, wind energy or biomass sector, Daldrup is the only option to invest purely into this promising industry. Current valuation multiples do not yet reflect the benefits of the power generation division and consequently appear rather expensive. In contrast to this, our DCF-based PT of EUR 30 reflects a fair view over the full investment cycle and indicates an attractive upside of 32%. We initiate the coverage of Daldrup with a Buy recommendation.

Fiscal year ending: 31.12.	2007	2008	2009	2010	2011E	2012E	2013E
Sales	28.2	27.0	24.1	57.9	46.2	22.7	61.5
Change Sales yoy	n.a.	-4.2 %	-10.9 %	140.6 %	-20.1 %	-51.0 %	171.1 %
Gross profit	13.7	13.4	15.4	15.1	25.2	25.8	35.1
Gross margin	48.5 %	49.7 %	64.0 %	26.2 %	54.6 %	113.9 %	57.1 %
EBITDA	4.6	6.7	7.3	7.8	12.3	14.5	22.6
EBITDA-margin	16.4 %	24.6 %	30.3 %	13.5 %	26.7 %	63.8 %	36.8 %
EBIT	4.3	5.4	4.6	3.8	8.2	8.5	12.4
EBIT-margin	15.3 %	19.8 %	19.3 %	6.6 %	17.8 %	37.4 %	20.2 %
Net income	1.7	4.0	3.8	2.6	5.5	4.6	5.8
EPS	0.31	0.74	0.70	0.49	1.00	0.84	1.06
Free Cash Flow per share	-0.75	0.90	-0.75	0.63	-2.53	-7.08	-6.35
Dividend	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividend Yield	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EV/Sales	4.7	4.9	5.5	2.3	3.2	8.1	3.6
EV/EBITDA	28.6	19.9	18.1	16.9	11.8	12.8	9.7
EV/EBIT	30.6	24.7	28.5	34.5	17.8	21.8	17.6
PER	76.0	31.9	33.7	48.1	23.6	28.1	22.2
ROCE	17.6 %	16.0 %	8.6 %	5.6 %	10.3 %	7.6 %	8.1 %
Adj. Free Cash Flow Yield	1.8 %	5.0 %	5.5 %	6.0 %	8.4 %	7.8 %	10.3 %

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- Strong strategic position in an attractive market
- Geothermal power production will benefit from improving regulations
- Power and heat generation activities will lead to more predictable cash flows
- Attractive risk profile and appealing upside potential

# Technology and quality leader

Due to its particular know-how and experience as well as its high reputation, Daldrup is the technology and quality leader in deep geothermal drilling. Daldrup has completed 20 drills with depths of more than 2000m. As market barriers are high and availability of deep drilling capacities and qualified staff is low, Daldrup will profit from the growing demand. Looking ahead, Daldrup plans to start its own geothermal power production. Thus, by cooperating with private and public utilities and investors, Daldrup has already begun to develop its own projects. For this purpose, Daldrup owns and operates 11 claims in the South German German Molasse Basin and one claim in the Upper Rhine Rift. The first project in Taufkirchen is expected to start producing electricity at the end of 2012. This integration along the value chain will enable Daldrup to generate mid to long-term stable profits from power and heat production.

#### Energy source with set of unique advantages

Due to rising energy demand and shrinking raw materials as well as rising energy costs, renewable energy sources grow in importance. Among those renewable energies, geothermal energy is a (theoretically) inexhaustible source of energy with unique characteristics. Unlike wind or PV plants, geothermal plants offer the opportunity of combined electricity and heat production as well as the capacity to contribute to ensuring base load and grid stability. While biomass is the only renewable energy source that also has those advantages, geothermal energy is not impacted by fuel price developments. Due to this combination of advantages, geothermal energy should be an integral part of the future energy mix. Additionally, the decentralised production of geothermal energy would reduce the need for large scale grid extensions. After the installation, electricity production is CO2 neutral.

#### Government subsidies pave the way for geothermal energy

As feed-in tariffs for deep geothermal energy have not been sufficient in the past, the number of projects was too low to generate cost reductions. Now, with the change in political thinking, the situation should change. The increase in feed-in tariffs along with the extension of the Market Incentive Programme is expected to be a strong catalyst for the further development of geothermics. This measure will likely trigger a wave of 80 geothermal plant installations (380MW) by 2020. Through its two divisions, Daldrup will benefit from the increasing demand in deep drilling services and from constant returns in power and heat sales.

# Own power plants will lead to more predictable business

The entry into the power generation business will substantially change, i.e. certainly improve Daldrup's business model.

With the growing importance of the power generation business, the predictability of the company's cash flow will rise substantially. Additionally, margins should improve significantly due to the high attractiveness of geothermal power generation. High investments for these projects and significant capital requirements are the shady side of this development.

#### Improving regulations and a tight market will drive prices

The improving regulatory environment and the fact that the number of drilling rigs is the limiting factor in this market should lead to a favourable price development for Daldrup's drilling services. Additionally, we have assumed investments in a further deep drilling rig in 2012 which will further trigger top line growth in Daldrup's current core segment. All in all we assume a 2010-16 CAGR for the company's top line of 17%.

#### High capital requirements partially taken by partners

The biggest impetus for Daldrup's earnings development arises from the new power generation division. On top of the projects already identified our earnings model includes six further geothermal power generation projects, which should at least partially result from the company's 11 claims. We expect the last of these projects to be realised by 2020. We assume investments of roughly EUR 11m per MW but take the value of the partially developed claims into account. Overall, we expect investments of EUR 339 m by 2020, of which Daldrup's part should amount to roughly EUR 238m.

All in all, Daldrup should be able to generate roughly 200GWh per year by 2020, which is comparable to a total geothermal production in Germany of 50GWh in 2010. The high profitability of this business will also drive the company's margins to new levels. For 2016 we expect an EBIT margin (based on the total operating performance) of 22.7% after only 9.3% in 2010.

#### Power generation unit will improve margins

For the power generation division, we expect an EBIT margin of nearly 25% in 2016, after this business unit will deliver EBIT losses in its first two years (2012 and 2013), as ramp up costs still surpass earnings contributions caused by the low utilisation at the beginning of the operation period.

# Our PT of EUR 30 delivers an upside of 32%

Our valuation of Daldrup & Söhne is based on a DCF model, as only a dynamic valuation approach is able to reflect the structural changes of Daldrup's business model.

#### **Explicit estimates until 2020**

Due to the high predictability of Daldrup's new business, our DCF model relies on explicit estimates for the company's P&L, balance sheet and cash flow statement even until 2020. Starting with 2021 the model is based on estimates for key value drivers (such as sales growth, EBIT margins or working capital quotas).

Our DCF assumptions reflect the volatility of the company's drilling services and the absence of a track record in the power generation business on the one hand as well as the extremely attractive risk profile of the generation business on the other hand. Under these assumptions, our fair DCF value per share amounts to EUR 30.32. Our PT of EUR 30 currently offers an attractive upside of 32%.

# Change in energy policy will remain dominant topic

Newsflow is expected to remain positive, as the change in energy policy will remain the dominant topic. Additionally, the legislative package should pass the Upper House (Bundesrat) on July 8.

Due to the rising demand, Daldrup has reached the limits of its capacity. There are two ways for the company to expand its capacities: investment in drilling rigs and acquisitions. Assuming low availability of qualified personnel, acquisitions would be the favoured option.

- Technology and quality leader with a convincing track record
- Geothermics combines renewables' most important advantages
- Regulatory improvements are expected to boost geothermics
- High barriers to entry have led to a favourable competitive environment

# Technology and quality leader

Daldrup is the technology and quality leader in deep geothermal drilling. The company emerged from the field of well drilling and has developed particular know-how in special foundation engineering combined with deep drilling. That enables the company to offer drilling services with an industry leading level of precision especially in difficult geological conditions. Daldrup has conducted 20 deep geothermal drills and has long lasting experience in this field. Furthermore, the company has developed an excellent network and high reputation. As deep drilling capacities and qualified staff represent a bottleneck, Daldrup will profit from the growing demand which will be triggered by the improving regulatory environment for geothermal power production.

#### Daldrup starts own geothermal power production

Daldrup's traditional business is divided into four areas:

- Geothermics: planning and implementation of geothermic drilling
- Exploratory and test drilling for raw material deposits and building ground
- Well drilling for drinking water, service water, mineral and medicinal water and thermal brine
- Technical environmental services and special foundation engineering

Going forward, Daldrup's business will be based on two pillars:

- Contractor of drilling services (traditional business)
- Independent Power Producer (IPP operation of geothermal plants/power and heat sale)

By extending its business model, the Daldrup Group covers all stages of the value chain of a deep geothermal project and thus increases its real net output ratio. A major advantage of this measure will be lower volatility and higher visibility and predictability of returns due to anti-cyclical power sales.



Source: Daldrup, Warburg Research

#### Geothermal project development/Power sales

By cooperating with private and public utilities and investors, Daldrup plans to develop its own geothermal projects (participation in power plant operation) and generate mid to long-term stable profits from power and heat production.

Through its subsidiaries Geysir Europe and Exorka (as a general contractor), the

company acquires and develops claims and lump-sum turn-key projects. Currently, Daldrup develops 11 claims, 10 of these in the South German Molasse Basin and one in the Upper Rhine Rift. Given the fact that suitable locations for (profitable) geothermal electricity production are rather rare, Daldrup also seeks to secure claims outside Germany. Currently, via three project companies, Daldrup is trying to acquire claims in Italy.

#### Daldrup's current core markets

#### Daldrup's core markets



Source: Daldrup, Warburg Research

The claims are developed into project companies which are partly financed by Daldrup's partners. In general, Daldrup will aim for a majority stake. Particularly with regard to its first projects, Daldrup may accept stakes of only >25% due to the challenging capital requirements. Daldrup currently owns 11 claims and is in the process of developing geothermal power plants on three of them: Taufkirchen (drilling phase), Neuried (planning phase) and Geretsried (planning phase). The first project in Taufkirchen is expected to start producing electricity at the end of 2012. With regard to the midterm target of becoming a medium-sized utility company, Daldrup plans to start up one plant per year by 2020.

#### Raise in feed-in tariff drives further growth

The change in political thinking and the repeated raise in feed-in tariffs are expected to be strong catalysts for the further development of geothermics. This measure will likely trigger a wave of 80 geothermal plant installations in Germany by 2020. The cost saving potential will start to materialise and bring geothermal electricity production costs closer to market level. Daldrup, through its two divisions, will benefit from the increasing demand in deep drilling services and from constant returns in power sales.

# Primary trends provide solid basis for growth

#### Rising energy demand and shrinking raw materials

Considering the growing energy demand, the limited availability of fossil fuels, the targeted reduction of CO2 emissions and the shutdown of nuclear power plants in Germany, more and more significance is being placed on regenerative energy sources. Geothermics is regarded as one of the most dynamic sub-markets. The European Geothermal Energy Council (EGEC) estimates an annual average growth rate of eleven percent for geothermal heat generation alone by 2020. While near-surface drilling is sufficient to supply private households with heating and hot water, for example, deep drilling down to depths of 5,000 metres where temperatures reach up to 170°C is required for heat and electricity generating on a larger scale. Due to rising demand, drilling capacities will be scarce and drilling costs will rise.

#### **Rising energy costs and CO2 reduction**

Apart from Geothermics, Daldrup is also active in other strong growth markets. High energy costs and dependency on raw material imports, for example, have had the result that more and more new exploration projects and field development drilling for oil and gas are being undertaken in Germany and Europe. The high prices for minerals and metals are also creating an attractive market for other exploratory drilling projects. There is also a lot of growth in the market for acquiring mine gas from disused mines which is sponsored by the EEC. The exploration and securing of disused mines in the Ruhr and Saarland regions of Germany constitutes another sustainable source of potential sales.

#### Water resources

Water is another global trend. In order to meet the drinking water requirements of the 8.5 billion people who will be living on our planet by 2025 according to estimates, roughly 8 million new groundwater wells will have to be dug. Today, more than 40 percent of the population of Africa – 300 million people – do not have access to clean water. In its millennium development goals, the UN is planning tangible improvements in this area with the result that investments in water technology are set to increase all over the world for this reason alone. But there is a water shortage in Europe too, where the groundwater level is already dropping in 60 percent of all cities, thus necessitating deeper wells.

# A highly attractive market environment

Daldrup is involved in a very favourable market environment which provides opportunities for accelerated growth: the recent discussions about climate change, the development of raw material prices and the favourable regulation environment are stimulating demand for regenerative energy, such as geothermics. The European Geothermal Energy Council (EGEC) estimates that geothermal heat generation alone will increase by eleven percent per annum until the year 2020. It should also be taken into account, however, that the necessity for dealing efficiently with the constantly dwindling resources of crude oil, natural gas, minerals, metals and water is leading to an increased global demand for modern services in the field of onshore drilling. Daldrup can offer a wider and more technologically advanced range of services than any other competitor in this area.

#### An inexhaustible source of energy with unique characteristics

Theoretically, geothermal energy is an inexhaustible source of energy. In Germany, without considering economic and technical aspects, the theoretical-physical potential of geothermal energy amounts to 1200000EJ (Exajoule = 360,000,000TWh, assuming a depth of 10000 meters; 650000EJ = 195,000,000TWh assuming a depth of 7000meters), compared to a primary energy consumption of 14EJ/a = 4,200TWh/a.

Geothermal Pot	ential
----------------	--------

Electricity production		
Theoretical potential	118 EJ	
Technical potential	1,15 EJ	65% of German power consumption (1,8 EJ)
Hydrother mal heat production		
Theoretical potential	1574 EJ	
Technical potential	500 EJ	100 times the German heat consumption (5,5 EJ/a)
Petrothermal heat production		
Theoretical potential	1200 EJ	
Technical potential	3 EJ	

Source: German Bundestag

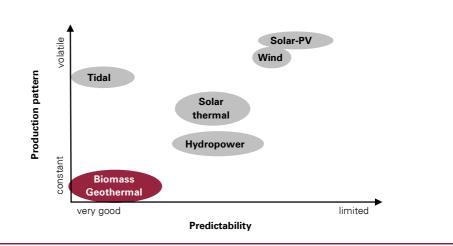
#### Base load capability - no dependency on fuel cost development

As the only Renewable Energy, geothermal power production combines two major advantages:

 The constant availability, i.e. base load ability. Compared with wind or PV plants, geothermal plants offer the opportunity of combined electricity and heat production as well as the capacity to contribute to ensuring base load and grid stability.

2. In comparison with biomass, which is the second Renewable Energy with the ability to provide base load or heat combined with power, geothermics is **not impacted by fuel price developments**. While the attractiveness of a biomass plant can be diluted by increasing costs for biomass, the cost base of geothermics is totally predictable for the entire lifetime of the plant.

#### Production pattern



Source: Piwko, Warburg Research

#### No large-scale grid expansion necessary due to decentralised production

A further advantage of geothermics is the decentralised character. Energy can be produced in small decentralised plants (5MW), which gives local governments and industrial customers investment opportunities. As a consequence, the use of geothermal energy would reduce the need of large scale grid extension.

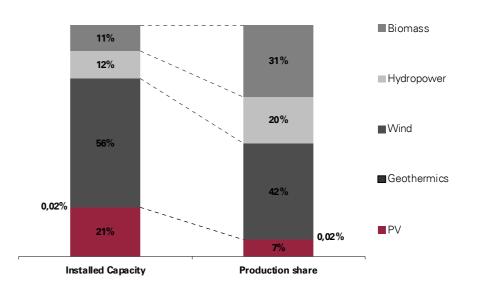
#### CO2 neutral/Reduced carbon footprint

After the installation, electricity production is CO2 neutral. Taking the installation into account, the CO2 equivalent is comparable with biomass plants and better than PV systems.

#### Status quo and outlook

Currently, geothermal energy is increasingly becoming a 'hot topic' in political discussions on future energy supply. In the face of the rising fossil fuel costs, the long-term reliable availability of geothermal energy, combined with its flexible range of applications, such as heating, cooling and electricity generation, means that increasing numbers of plants are being installed worldwide. The graph below illustrates, however, that geothermal power production is currently lagging behind other forms of renewable energies like wind, PV or biomass. In the light of the described advantages of geothermics, we expect this to change in the very near future.

#### Installation and production shares



Source: BDEW, Warburg Research

According to the EEG progress report, the Federal Ministry of the Environment, Nature Conservation and Nuclear Safety assumes that due to the increased feed-in tariffs 80 projects (380MW installed capacity) will be realised by 2020. According to the geothermal industry position paper (GtV and WFG), where higher feed in tariffs are required, even 120 plants with a capacity of 4.6TWh are feasible by 2025.

Installed Capacity and produced energy											
	Installed 2005	Produced 2005	Installed 2010	Produced 2010	Forecast 2015						
Germany	0,2	1,5	6,6	50	15						
Italy	791	5340	843	5520	920						
Turkey	20	105	82	490	200						
Iceland	202	1483	575	4597	800						
World	8933	55 70 9	10715	67246	18500						

Source: Bertani 2010

In the long term, the petrothermal technology could benefit from cost reduction potential. A resulting breakthrough in this technology would open up immense opportunities for geothermal energy, as hot water aquifers then would not be required. Thus, significantly more regions would be suitable for deep geothermal energy plants. For this scenario, the power generation potential could amount to 60% of current power consumption.

Geothermics Long term outlook												
	2005	2006	2007	20 08	2009	2010	2015	2020	2025	2030	2040	2050
Installed capacity (MW)	0,2	0,2	3,2	6,6	6,6	10	80	300	650	1010	2200	3710
Electricity production (GWh)	0,2	0,4	0,4	17,6	18,8	30	370	1.700	4.100	6.600	14.300	24.100
Source: BMU												

# Geothermal energy – former problems appear to be solved

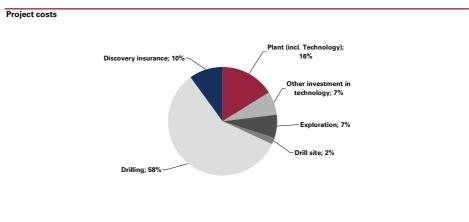
Challenging geological conditions in Germany for deep geothermics

With state of the art technology, an economically viable operation of deep geothermal plants is limited to certain regions (see market section). The reason for this is that hydrothermal geothermics require special geological conditions, such as hot water reservoirs with high flow rates and temperatures. Costs rise with an increasing complexity of the project. However, the number of suitable locations would increase dramatically if petrothermal geothermics technology evolved.

Major risks mentioned in connection with geothermal energy are earthquakes and blowouts. According to experts, the risks of deep geothermics do not exceed the risks of other electricity plants. Specific risks exist only during the drilling process while fracturing a subterranean formation. The most frequent accident in the past, the blowout, can be avoided thanks to new technologies. Still, during the drilling process, minor earthquakes can occur, which however cannot be perceived in most of the cases. Through technological progress and growing wealth of experience, the risk of earthquakes will be reduced to a minimum.

#### High project risks due to specific characteristics of deep geothermal projects

Deep geothermal projects are characterised by high investment costs of about EUR 10m/MW, with an average project size of 5MW resp. EUR 50m. Thereof, drilling costs represent the largest part (50-70%). They vary between 1000 and 2500 EUR /depth meter, depending on various factors. The primary factor is depth. That is, costs rise progressively/exponentially with increasing depth. Other factors include the geological nature of the subsurface and the complexity of the drilling project (deflected/deviated boreholes, diameter etc). According to the EEG progress report, with the majority of assessed geothermal projects, drilling costs exceeded planned costs by an average of 70%.



Source: Geothermiekompetenz.de, Warburg Research

The initial investment costs were too high to conduct deep geothermal projects profitably in the past. Even with the feed-in tariffs stipulated in the EEG 2009, an economically viable operation is only possible with high temperatures, which again only exist in certain areas. Additionally, the planning risks are high because - despite thorough planning and seismic exploration - there always remains the risk that the temperatures or the flow rate is too low – which cannot be ruled out until the first drill is completed. However, this so called discovery risk can be limited to 1% and can be insured.

Due to the high investment costs and risks especially at the beginning of a project, operators depend largely on equity capital financing. This became even more problematic during the financial crisis and again inhibited the development of geothermal projects.

#### Profitability

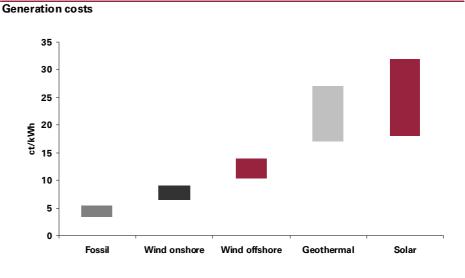
Despite the increase in feed-in tariffs in 2009, the development of geothermal energy has stalled. At the end of 2007, 150 geothermal power projects were planned, of

which just 3 were realised until today. Due to the low number of conducted projects, the immense cost reduction potential could not have been realised. According to the EEG progress report, the cost reduction potential in drilling amounts to up to 30%, in plant technology up to 25%.

Therefore, profitability is critical for the future development of geothermal energy. Average returns of geothermal electricity projects amount to 5-12%. The most important factor for the profitability of a geothermal project is the quality of the location, defined by the following parameters:

- **Investment** (depends primarily on drilling costs/depth): an increase in investment of 10% leads to profitability losses of 10%.
- Flow rate: an increase in the flow rate of 10% leads to an increase in profitability of more than 14%.
- **Temperature (thermal gradient):** an increase in temperature of 7% leads to an increase in profitability of more than 30%.
- **Efficiency:** the average efficiency is 10-15%.
- **Heat production:** an additional sale of heat production increases the profitability.

As a result, electricity production costs of geothermal electricity projects can vary depending on the factors mentioned above.



Source: EEG-Progress Report (2010 data), Warburg Research

# Positive regulatory environment

In the past, the feed-in tariffs for deep geothermal energy have not been sufficient. As mentioned above, the number of projects realised was too low to generate cost reductions through experience curve effects. According to the EEG progress report, with a feed-in tariff of 23ct/kWh, only projects with temperatures above 140 °C are profitable (only 18 projects in the Molasse Basin). With a feed-in tariff of 27ct/kWh however, projects with temperatures above 125°C are profitable (39 in the Molasse Basin, which represents a sufficient number to exploit cost reduction potential).

#### Increase in feed-in tariffs in EEG amendment 2011

By further increasing the feed-in tariff, the government tries to realise a significant number of deep geothermal projects (also with temperatures below 140 °C) in order to achieve learning effects and cost reductions. The draft bill (Referentenentwurf) for the EEG amendment 2011 includes a repeated increase in basic remuneration and

technology bonus, while the early starter bonus and heat bonus were integrated in the basic remuneration. In total, the tariff was increased from 23ct/kWh to 25ct/kWh. Degression will not start until 2018, but will then amount to 5% per year. The marketing of heat will no longer be a condition for receiving an additional bonus. Without this heat bonus former projects were economically not feasible. From 2012, returns for heat production will be an add-on on top of the regulated feed-in tariffs. A further improvement of the draft bill is the by far more transparent composition of the tariff. As the basic compensation increases, different bonuses will be cancelled. Although the current draft bill is a major progress for geothermics, a position paper from the geothermal energy association demands for higher feed-in tariffs.

Feed-in revenues					
ct/kWh	EEG 2012	EEG 2009	EEG 2004	Industry	
Basic compensation					
up to 5 MW			15,0		
up to 10 MW		16,0	14,0		
up to 20 MW	25,0		8,95	20,0	
over 20 MW	_	10,5	7,16		
Early starter bonus					
Commissioning before 31.12.2015	-	4,0	-	7,0	
Heat bonus					
up to 10 MW	-	3,0	-	3,0	
Technology bonus					
Petrothermal technology	5,0	4,0	-	4,0	

Source: Draft bill for the EEG-amendment, progress report

#### **Extension of the Market Incentive Programme**

As recommended by the EEG progress report, up to 30% of drilling costs could be refunded through the Market Incentive Programme. If this measure was implemented, it would reduce risk and lower the initial investment. We regard this measure as extremely supportive for geothermal projects as especially at the beginning of each project, the risk for stranded investments is relatively high. Hence, the Market Incentive Programme would pave the way for more projects. Furthermore, the KfW supports deep geothermal projects with different subsidies for the drilling, for unexpected additional drilling costs and for the total generation plant.

#### Favourable competitive environment

Intensity of competition is low in the deep geothermal business. There are few direct competitors of Daldrup in Germany, as market barriers to entry are extremely high. Special know-how and qualified personnel are prerequisites in deep drilling business. Large exploration companies have the drilling know-how but do not engage in geothermic drilling as their main focus remains on oil and gas exploration. Additionally, geothermic drilling and the extraction of water require different methods than oil production because of the high flow rates.

Daldrup's major competitors are small or medium-sized companies such as Anger's Söhne, Hekla Energy, ITAG and KCA Deutag (Scotland):

**Anger's Söhne** is a medium-sized drilling well-construction company located in Hessisch Lichtenau, Germany. The company's main focus is the manufacturing of water supply wells, facilities and supply of services for well reconstruction and regeneration.

**Hekla Energy** provides the power generation industry with drilling services including drilling rigs, project management and rental tools. Located in Celle, Germany, Hekla energy was founded in September 2007 and is a wholly owned subsidiary of Iceland

Drilling Ltd. The company operates at an international level. Hekla Energy is also executing deep drilling for natural gas and underground storages with experienced crew and modern drilling rigs.

**ITAG** is a drilling contractor and manufacturing plant with more than 400 employees, founded in 1908. ITAG is still privately owned and located in Celle, Germany. The main products of the machine plant are drilling equipment, ball valves, truck winches and wellhead equipment (equipment for the oil and gas industry).

**KCA DEUTAG**, located in Aberdeen, Scotland, is a wholly-owned subsidiary of Abbot Group. KCA DEUTAG is one of the few contractors with its own facilities and engineering services group, RDS, making it one of the leading providers of greenfield and brownfield rig design engineering for platforms and mobile units. KCA DEUTAG currently manages more than 100 drilling and workover rigs and is responsible for over 30 offshore platforms in the North Sea, Caspian, Angola, and Sakhalin. KCA DEUTAG owns a fleet of more than 60 land rigs.

**e.terras AG** plans, builds and operates turn-key geothermal power plants. The company is based in Munich, Germany and disposes exclusively of the latest power plant technology New Kalina

- Own power plants will lead to a more predictable business
- Drilling Services also with further growth potential
- Capital requirements will increase
- Margins will substantially improve

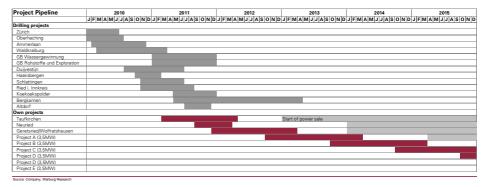
# Drill services will be the dominating division by 2016

Until today drilling services for water procurement, exploration or geothermal projects is Daldrup's dominating business. As described above the company has a unique market position and a convincing track record in this business field. In the future, Daldrup will benefit from these skills by developing own projects for the geothermal power generation. While Daldrup's current business is dominated by the extremely volatile development of the project business, the operation of own geothermal power projects will be characterised by sustainable, visible cash flows.

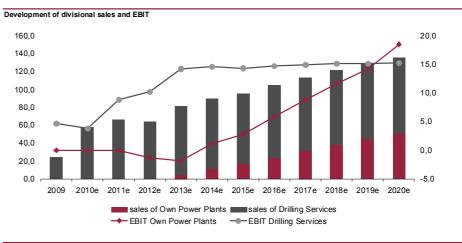
#### Operation of own plants with high predictability of returns

While the predictability of its cash flows is the main advantage of Daldrup's new business division, high investments for these projects will trigger a substantial need for capital. Investments for geothermal power production projects amount to roughly EUR 10m per MW. Consequently Daldrup is seeking for partners who take minority stakes in these projects.

Currently Daldrup is in the process of developing three own projects, Taufkirchen, Geretsried/Wolfratshausen and Neuried. Taufkirchen, with a capacity of 3.9MW will be Daldrup's first project and should start its operation at the end of 2012. Daldrup is currently still holding a 65% stake in this project but is looking for an additional investor to take a 25-30% stake. In the future, Daldrup intents to hold a majority stake in its projects, whereas the size of its stakes will increase from project to project. In this perspective the project in Geretsried/Wolfrathshausen is an exception as the company holds only a 10% stake. Consequently, it is the only project which will be consolidated at equity while all other projects will be fully consolidated.



The graph below illustrates the change of Daldrup's sales and EBIT composition. We expect that the EBIT generated by the operation of own power plants will catch up to the EBIT of the company's drilling services in 2018. Beyond 2018, own power plants should contribute the majority of the group's EBIT.



Source: Daldrup & Söhne; Warburg Research

#### Number of drilling rigs is the limiting factor

Given the strong demand for geothermal projects, the availability of drilling rigs is clearly the bottleneck in the industry. Daldrup's hardware currently allows for a top line of roughly EUR 70m. Given the fact that the tight market as well as 30% subsidies for geothermal projects should have a positive impact on prices, an increase of this top line potential is extremely likely. Additionally, we assume that the attractiveness of the market will trigger further investments at Daldrup. Our earnings model is including the purchase of a further rig for deep drillings (EUR 16m) in 2012. This should allow for additional sales of EUR 20m per year. Thus, our sales estimate in 2016 assumes a utilisation of 90% but does not include any price increase for drilling services, which can be seen as an extremely conservative assumption giving the explained improvement of the business environment.

In terms of margins, we assume an EBIT margin of 12-18% (based on the total output), which is way below 2008 and 2009's levels but substantially higher than in 2010. The moderate improvement of Daldrup's margin within our planning period can be explained by increasing volumes, further learning effects and the degressionn of fixed costs.

Drilling Services										
- P&L (€m)	2007	2008	2009	2010	2011e	2012e	2013e	2014e	2015e	2016e
Total sales	28,2	27,0	24,1	57,9	66,1	63,8	76,5	78,3	79,2	81,1
Internal sales	0, 0	0,0	0,0	0,0	19,9	41,1	19,4	19,5	19,8	20,1
External assets	28,2	27,0	24,1	57,9	46,2	22,7	57,1	58,8	59,4	61,0
у-о-у	0%	0 %	0%	141%	-20%	-51%	152%	3%	196	3%
Change in inventories	-3,0	-1,6	15,5	- 16,8	0,0	0,0	0,0	0,0	0,0	0,0
Capitalised service	0, 0	0,0	0,0	0,0	19,9	41,1	19,4	19,5	19,8	20,1
Total Output	25,2	25,4	39,5	41,1	66,1	63,8	76,5	78,3	79,2	81,1
Material cost	11,5	12,0	24,1	26,0	40,8	37,9	44,8	45,8	46,7	47,8
Gross profit	13,7	13,4	15,4	15,1	25,2	25,8	31,7	32,5	32,5	33,2
Saleries	1, 2	3,1	3,8	5,6	8,9	9,2	9,9	10,2	10,3	10,5
Other income	1,5	3,9	2,3	7,5	7,6	8,3	9,9	10,2	10,3	10,5
Other expenses	9,3	7,6	6,6	9,3	11,6	10,4	12,5	12,8	12,9	13,2
EBITDA	4,6	6,7	7,3	7,8	12,3	14,5	19,3	19,7	19,6	20,0
EBITDA margin	18%	26%	18%	19%	19%	23%	25%	25%	25%	25%
Depreciations	0, 3	1,3	2,7	4,0	4,1	4,6	5,2	5,3	5,3	5,4
EBIT	4,3	5,4	4,6	3,8	8,2	9,8	14,1	14,5	14,2	14,6
EBIT margin	15%	20%	19%	7%	12%	15%	18%	18%	18%	18 %

Source: Daldrup & Söhne; Warburg Research

#### We are assuming a low utilisation when the plants are started up

Although Daldrup expects the Taufkirchen project to start its operation at the end of 2012, we have assumed first sales from this project as late as in 2013. Additionally, the assumed utilisation of just 50% can be regarded as conservative as well. For that reason, 2012's P&L of this division includes only depreciations and therefore a negative EBIT of EUR 2.7m. We do not expect a positive EBIT contribution from the operation of own projects before 2014. This will however surpass the EBIT of Daldrup's drilling services relatively early due to the high profitability of the company's power generation activities.

# Profitability of each plant depends on the individual configuration

The profitability of each project depends on the fact whether Daldrup is able to also sell heat from its projects or only the generated electricity. We assume a normalised EBIT margin for projects with heat sales of slightly above 40% and for those without heat sales of slightly above 30%. The EBITDA margin on the invested capital amounts to roughly 11.5% for a project with heat sales and a bit more of 9% for those without heat sales. As we do not have an indication how many of Daldrup's future projects will be able to enjoy sales from power and heat production.

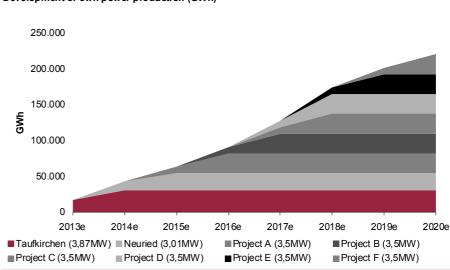
Within our P&L estimates for the operation of own plants, we have assumed that Daldrup will start to operate a new project every year, thereof the first three projects are already identified. We have assumed Taufkirchen to go on stream at the beginning of 2013. Neuried should follow at the beginning of 2014 and Geretsried/Wolfratshausen in the course of 2014. Beginning with 2015, we have included the start of projects not yet identified with a capacity of 3.5MW each year until 2020. Consequently, by 2020 Daldrup will operate 8 own geothermal power plants with a total capacity of roughly 28MW on the basis of our scenario. Beyond 2020, we do not have assumed investments for further projects.

Operation of own power plants												
P&L (€m)	2012e	2013e	2014e	2015e	2016e	2017e	2018e	2019e	2020 e			
Sales from power production	0,0	4,2	10,9	15,9	22,8	29,7	36,4	42,9	49,0			
Sales from heat production	0,0	0,2	0,4	0,6	0,9	1,2	1,4	1,7	2,0			
Sales	0,0	4,4	11,4	16,5	23,7	30,8	37,9	44,6	51,C			
Material cost	0,0	1,0	2,7	4,0	5,8	7,6	9,4	11,3	13,0			
Grossprofit	0,0	3,4	8,7	12,5	17,9	23,2	28,4	33,3	38,0			
Saleries	0,0	0,2	0,6	0,8	1,2	1,5	1,9	2,2	2,5			
EBITDA	0,0	3,1	8,1	11,7	16,7	21,7	26,6	31,2	35,5			
EBITDA margin	0,0%	71,3%	71,1%	70,8%	70,6%	70,4%	70,1%	69,9%	69,6%			
Depreciations	1,4	5,0	6,9	8,9	10,9	12,9	14,9	17,0	17,C			
EBIT	-1,4	-1,9	1,1	2,8	5,8	8,8	11,6	14,2	18,5			
EBIT margin	0,0%	-42,2%	10,1%	17,0%	24,7%	28,6%	30,7%	31.8%	36,3%			

Source: Warburg Research

#### More than 200GWh of power generation by 2020

The graph below illustrates the power production in Daldrup's geothermal power plants. In general, we have assumed roughly 2,600 full load hours in the first year of operation. From the second year of operation, we are assuming 7,884 full load hours, which is equivalent to a utilisation of 90%. In our scenario below, we have only included Daldrup's consolidated projects, while the impact of Geretsried/Wolfrathshausen is only included in the financial income.

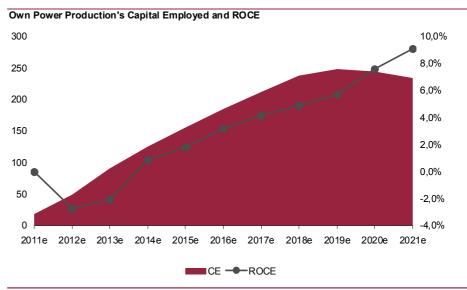


Development of own power production (GWh)

Source: Daldrup & Söhne; Warburg Research

#### **Business with attractive returns**

The entry into the power generation business triggers a substantial requirement for capital. Until 2020, we expect total investments in geothermal power plants to amount to EUR 340m (Daldrup's stake: EUR 239m) of which roughly 70% should be leveraged. The graph below shows the capital employed of the own power plants division (based on investments of roughly EUR 11m per MW and a depreciation period of 20 years) and the ROCE of this division. Due to the fact that we are assuming relatively low utilisations at the beginning of the operation of each plant and that high depreciations will lead to negative EBIT contributions in the first two years, ROCE will be relatively low in the first years. When the plants are up and running our scenario shows a ROCE of slightly above 9%, which can be regarded as a reasonable return in the light of the low the attractive risk profile of the business.

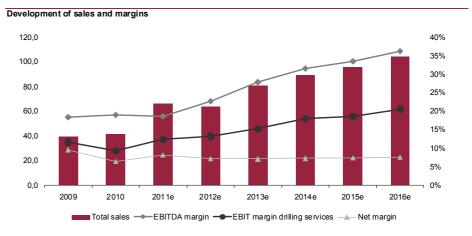


Source: Daldrup & Söhne; Warburg Research

# P&L structure will substantially change

Thanks to the integration of the own plant division, Daldrup's P&L structure will change substantially already until 2016, although the main impact will kick in beyond that

period. Sales will increase with a CAGR of 17% between 2010 and 2016 and margins will also improve substantially in this period of time. Daldrup will experience the highest margin increase at the EBITDA level as high depreciations will slightly burden the profitability at the EBIT level and higher interest expenses due to the increasing debt will impact Daldrup's net margin.



Source: Daldrup & Söhne; Warburg Research

- Static valuation models understate Daldrup's value
- DCF model reflects the structural change of the business model
- Our PT of EUR 30 delivers an upside of 32%

# Free cash flow yield

The adjusted free cash flow yield assumes that investors seek to purchase an asset (here the enterprise value) at such a price that the free cash flow return (free cash flow = net income + depreciations - maintenance capex + taxes - financial result) on the EV exceeds their opportunity costs of 10%.

Daldrup's fair values, based on our FCF yield model amount to EUR 106m on 2011 estimates, EUR 89m on 2012 and EUR 135m on 2013 estimates. These results do not at all reflect the future cash flows from the power generation activities, while burdens from the ramp-up of these activities are already included (increasing debt). We therefore rely on our DCF model to arrive at our fair value of EUR 164m for Daldrup's equity, as a dynamic valuation is able to reflect a fair picture over the full investment cycle. In contrast to that, the validity of static models, like the FCF Yield approach, is only limited to certain periods in time.

Free Cash Flow Yield - Daldru	ıp & Söhne							
Figures in EUR m		2007	2008	2009	2010	2011e	2012e	2013e
Net Income		1.7	4.0	3.8	2.6	5.5	4.6	5.8
+ Depreciation + Amortisation		0.3	1.3	2.7	4.0	4.1	6.0	10.2
- Net Interest Income		0.2	0.8	0.3	-0.4	-0.2	-1.8	-4.0
+ Taxes		0.5	2.0	1.1	1.0	2.5	2.1	2.7
- Maintenance Capex		0.0	0.0	0.0	0.0	0.0	0.0	0.0
+ Others		0.0	0.0	0.0	0.0	0.0	0.0	0.0
= Adjusted Free Cash Flow		2.3	6.6	7.3	8.0	12.3	14.5	22.6
Adjusted Free Cash Flow Yield		1.8%	5.0%	5.5%	6.0%	8.4%	7.8%	10.3%
Hurdle rate		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
= Enterprise Value		132.2	132.2	132.2	132.2	146.0	184.5	219.1
= Fair Enterprise Value		23.1	65.9	72.9	79.8	123.3	144.7	226.0
- Net Debt (Cash)		-3.6	-3.6	-3.6	-3.6	10.2	48.7	83.3
- Pension Liabilities		0.4	0.4	0.4	0.4	0.4	0.4	0.4
- Others		7.0	7.0	7.0	7.0	7.0	7.0	7.0
= Fair Market Capitalisation		19.3	62.1	69.1	76.0	105.7	88.6	135.3
No. of shares (m)		5.4	5.4	5.4	5.4	5.4	5.4	5.4
= Fair value per share (EUR)		3.54	11.40	12.69	13.95	19.41	16.26	24.85
premium (-) / discount (+) in %		-85.0%	-51.7%	-46.2%	-40.8%	-17.7%	-31.0%	5.4%
Sensitivity Fair value per Share (EU	R)							
	13.0%	2.56	8.60	9.60	10.57	14.18	10.13	15.27
	12.0%	2.83	9.38	10.45	11.51	15.64	11.83	17.93
	11.0%	3.16	10.30	11.47	12.62	17.35	13.85	21.08
Hurdle rate	10.0%	3.54	11.40	12.69	13.95	19.41	16.26	24.85
	9.0%	4.02	12.74	14.18	15.58	21.92	19.22	29.46
	8.0%	4.61	14.42	16.04	17.62	25.07	22.91	35.23
	7.0%	5.36	16.58	18.43	20.24	29.11	27.65	42.64

# DCF model

Our valuation of Daldrup is based on our DCF model, which relies on explicit estimates for the company's P&L, balance sheet and cash flow statement until 2016 and on the estimation of key value drivers (such as sales growth, EBIT margins or working capital quotas) starting with 2017. In contrast to static valuation approaches like the comparison of valuation multiples, a dynamic valuation model is able to reflect the structural change of Daldrup's business model.

#### WACC of 9%

In our basic assumptions for the DCF model, we have assumed a Beta of 1.3. This reflects the volatility of the company's drilling services and the non-existing track record in the power generation business on one hand as well as the extremely attractive risk profile of the generation business on the other hand. We are assuming 7.5% for the company's cost of debt, which is in line with latest bond issues by comparable companies. Taking these assumptions into account, we arrive at a WACC of 9.04%, which should adequately reflect the mentioned specific risks of the company. Under these assumptions, our fair DCF value per share amounts to EUR 30.16.

DCF Model - Daldrup	& Söhne													
Figures in EUR m	2011e	2012e	2013e	2014e	2015e	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e
Sales	46.2	22.7	61.5	70.1	75.9	84.6	92.8	102.8	124.2	135.6	145.6	154.3	162.0	168.5
Change	-20.1%	-51.0%	171.1%	14.1%	8.2%	11.5%	9.6%	10.8%	20.8%	9.2%	7.4%	6.0%	5.0%	4.0%
EBIT	8.2	8.5	12.4	16.1	17.8	21.6	25.1	28.5	31.3	36.1	35.9	35.3	34.4	27.0
EBIT-Margin	17.8%	37.4%	20.2%	23.0%	23.5%	25.5%	27.1%	27.7%	25.2%	26.6%	24.7%	22.9%	21.2%	16.0%
Tax rate	31.7%	31.7%	31.7%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
NOPAT	5.6	5.8	8.5	10.5	11.6	14.0	16.3	18.5	20.3	23.4	23.3	23.0	22.4	17.5
Depreciation	4.1	6.0	10.2	12.2	14.2	16.3	18.4	20.5	22.7	22.7	24.8	26.2	27.5	28.6
in % of Sales	8.9%	26.5%	16.6%	17.4%	18.7%	19.2%	19.8%	19.9%	18.3%	16.8%	17.0%	17.0%	17.0%	17.0%
Change in Liquidity from														
- Working Capital	-5.3	1.6	-2.0	-3.7	-1.6	-2.8	-2.3	-2.9	-7.0	-3.0	-2.3	-1.7	-1.3	-0.8
- Capex	-18.0	-50.7	-48.5	-43.6	-40.1	-40.7	-28.3	-1.5	-1.9	-2.0	-2.2	-2.3	-2.4	-2.5
Capex in % of Sales	38.9%	223.7%	78.9%	62.2%	52.9%	48.1%	30.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Other	0.0	0.0	0.0	-0.7	-0.5	-1.2	-1.3	-1.3	-1.4	-1.5	-1.5	-1.6	-1.7	-1.8
Free Cash Flow (WACC-Model)	-13.6	-37.3	-31.8	-25.3	-16.5	-14.4	2.8	33.2	32.7	39.7	42.1	43.5	44.5	41.1

Model parameter				Valuation (mln)			
Debt ratio	25.00%	Beta	1.30	Present values 2024e	2.8		
Costs of Debt	7.5%	WACC	9.04%	Terminal Value	170.8		
Market return	9.00%			Liabilities	-13.6		
Risk free rate	4.25%	Terminal Growth	1.50%	Liquidity	4.2	No. of shares (mln)	5.45
				Equity Value	164.2	Value per share (EUR)	30.16

#### Sensitivity Value per Share (EUR)

Terminal Gro	wth							Delta EBI	margin						
WACC	0.75%	1.00%	1.25%	1.50%	1.75%	2.00%	2.25%	WACC	-1.5 pp	-1.0 pp	-0.5 pp	0.0	+0.5 pp	+1.0 pp	+1.5 pp
10.04%	19.91	20.54	21.20	21.89	22.63	23.42	24.25	10.04%	19.69	20.42	21.16	21.89	22.63	23.36	24.09
9.54%	23.37	24.11	24.90	25.74	26.62	27.57	28.58	9.54%	23.37	24.16	24.95	25.74	26.52	27.31	28.10
9.29%	25.28	26.09	26.95	27.87	28.84	29.89	31.01	9.29%	25.41	26.23	27.05	27.87	28.69	29.51	30.33
9.04%	27.32	28.21	29.15	30.16	31.24	32.39	33.63	9.04%	27.60	28.45	29.31	30.16	31.01	31.87	32.72
8.79%	29.51	30.48	31.52	32.63	33.82	35.10	36.47	8.79%	29.97	30.85	31.74	32.63	33.52	34.41	35.30
8.54%	31.86	32.93	34.07	35.30	36.61	38.03	39.56	8.54%	32.52	33.44	34.37	35.30	36.22	37.15	38.08
8.04%	37.10	38.40	39.80	41.31	42.94	44.70	46.62	8.04%	38.28	39.29	40.30	41.31	42.32	43.33	44.35

Source: Warburg Research

- EEG improvements expected
- M&A activities could trigger further positive newsflow

#### **EEG** improvements expected

Newsflow is expected to remain positive, as the change in energy policy will remain the dominant topic. Additionally, the legislative package should pass the Upper House (Bundesrat) on July 8.

#### M&A activities could trigger further positive newsflow

Due to the rising demand, Daldrup has reached the limits of its capacity. There are two ways for the company to expand its capacities: investment in drilling rigs and acquisitions. Assuming low availability of qualified personnel, acquisitions would be the favoured option.

- Drilling services
- Europe's largest on-shore drilling capacity
- Convincing track record
- Family business
- Geothermal market and technology

# **Drilling services**

Daldrup AG is a specialist for drilling and environmental services. Founded in Ascheberg in 1946, Daldrup is positioned today to service attractive growth markets. The company is active in four business areas:

**Geothermics** is the most important and fastest growing business segment. Here, Daldrup performs drilling services for near-surface geothermics (heat collectors and geothermal probes for heating or cooling) and deep geothermics (deep geothermal probes for heat recovery, as well as hydrothermal and petrothermal systems for electricity generation and heat recovery).

**Water Procurement** is Daldrup's original business. The drilling of wells for the procurement of drinking water, service water, medicinal and mineral water, boiler-feed and cooling water, as well as thermal brine belong to this segment. Wells are dug for water works, the food industry and commercial water consumers. Daldrup has a lot of drilling competence and experience in this area and can offer many different drilling techniques (dry, direct circulation, airlift and hammer drilling processes).

In the **Environment, Development and Services (EDS)** segment, Daldrup takes on a number of tasks: hydraulic clean-up of contaminated sites (dumps, former mining plants, ultimate nuclear waste disposal sites etc.); drilling of gas extraction wells for recovering waste dump gas; provision of groundwater quality measuring points and water cleansing plants, as well as the drawing of water samples; mobile environmental analysis.

The drilling work in the Raw materials and **exploration segment** helps to look for and detect deposits of fossil fuels and mineral raw materials. It includes exploratory and test drilling to discover deposits of fossil fuels (anthracite, oil and gas) and mineral raw materials (rock salt, copper, nickel etc.); set-up of gas extraction wells for recovering mine gas; exploration and securing of disused mining systems.

# Europe's largest on-shore drilling capacity

Daldrup owns more than 40 drilling rigs, amongst them 4 high-tech rigs for deep geothermal projects (2000-6000m). This is Europe's largest on-shore drilling capacity.

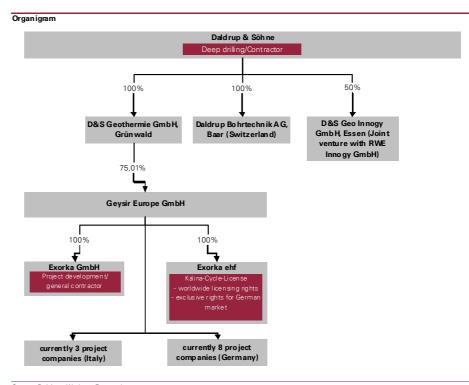
The customers of Daldrup AG are mainly local authorities and other public institutions (especially for deep geothermics), as well as industrial customers (especially for water procurement and raw materials exploration) and private clients (especially for flat well drilling and near-surface geothermics).

# **Convincing track record**

Drilling expertise is the key to utilising geothermic energy. Daldrup has completed 20 drills of more than 2000 meters.

Track record						
Project tit le	Client	Location	Projecttype	Depth	Year	Status
Carbo Kohlensäur e	Carbo Kohlensäure, Wehr	Wehr	Carbonic acid extraction	600 - 1.000 m TVD	1996-2001	completed
Burg	En twick ungsgesell schaft Burg (Spreewald) mbH	Burg	Brine extract ion	1.350 m TVD	1998-2000	completed
Rupertsecken	Geologisches Landesam t Rhe inland-Pfalz	Rupertsecken/ Pfalz	Research drilling	800 m TV D	2000	completed
Grub e Messel	Hessisches Landesamt für Um welt un d Geologie	Messel	Research drilling	483 m TV D	2001	completed
Bad Windsheim	Zweckverband Kurzentrum Bad Windsheim	Bad Win dsheim	Therm al salt water	1.250 m TVD	2004	completed
Minegas 1 und 2	Minegas GmbH	Essen	Mine gas	530 und 580 m TVD	2004-2005	completed
Heer len	Gemeinde Heerlen	Heerlen, Netherlands	Hydrotherma I system	229-700 m TV D	2006-2007	completed
VDB # 1 und VDB # 2	A.G. van den Bosch B.V. (Projekt Nr. 1)	Bleiswijk, Netherlands	Hydrotherma I doub let	2.457 m TVD	2006-2007	completed
Erlenbach 2	Stad twerke Arnsbeng GmbH & Co. KG	Arnsberg, in NRW	Deep geothermal probe	2.835 m TVD	2007-2008	completed
Garching Th 1 und Th2	h 1 und Th 2 AR-Recyding GmbH Garching, Bavaria		Hydrotherma I doub let	2165 m TVD	2008	completed
VDB#3und VDB#4	# 3 und VDB # 4 A.G. van den Bosch B.V. Bleiswijk, Nø (Projekt Nr.2)		Hydrotherma I doub let	2.553 m TVD	2008-2009	completed
Asch heim Th1 und Th2	AFK-Geothermie GmbH	Aschheim, Bavaria	Hydrotherma I doub let	2.630 m TVD	2008-2009	completed
GTB Sonnengarten	Elektrizitätswerk der Stadt Zürich	Zürich, Switze fland	Geoth ermal r esearch drilling	2.708 m TVD	2009	completed
Pijnacker Leon Ammerlaan PLA# 1 und PLA#2	Am meria an Real Estate BV	Pijnacker, Netherlands	Hydrotherma I doub let	2.627 m TVD	2010	completed
Oberhachin g GT1 und GT2	Erwärme Grünwald GmbH	Oberhaching, Bavaria	Hydrotherma I doub let	4.454 m TVD	2010	completed
Waldkraiburg Th1 und Th2	Stad twerke Wald knaiburg GmbH	Waldkraiburg, Bavaria	Hydrotherma I doub let	2854 m TVD	2010	2nd wellin progress
Mehrnbach Th1 und Th2	GRB Geothermie Ried Bohrung GmbH	Riedin Innkneis, Austria	Hydrotherma I doub let	2800 m TVD	2010	1st well in progress
Pijnacker Geothermal PNA-GT-03 und PNA-G T-04	Gebr. Duijvestijn B.V.	Pijnacker, Netherlands	Hydrotherma I doub let	2.268 m TVD	2010	completed
Taufkirchen GT 1 bis GT 4	Exorka Gm bH	Taufkinchen, Bavaria	Hydrotherma I doub let	3.700 m TVD	2011	commissione
GEN 1, GEN 2 und GEN 3	Enex Power Germany GmbH	Geretsried / Wolfratshausen	Hydrotherma I doub let	ca. 5.00 0 m T VD	2011	com missione
Schlattingen GT1 und GT2	Gemüse-und Landbau Han sjörg Grob	Schlattingen, Switzer land	Hydrotherma I doub let	ca. 1.50 0 m T VD	2011	1st well in progress
Koek oekspolder K KP-GT-01 und GT-02)	Aardwarm teclust er 1 KK P BV	ljssel muiden, Netherlands	Hydrotherma I doub let	ca. 2.30 0 m T VD	2011	commissione

Source: Daldrup, Warburg Research



Source: Daldrup, Warburg Research

# **Family business**

The management board consists of the following persons:

#### Josef Daldrup (CEO)

Josef Daldrup, born in 1953, is the major shareholder and responsible for Strategy, Key Accounts and Communication/IR.

#### Peter Maasewerd (CFO)

Peter Maasewerd, born in 1960, is a Graduate Geologist. He is responsible for the business segments Resources & Exploration and EDS as well as for Human Resources, IT and Accounting/Controlling.

#### Andreas Tönies (COO)

Andreas Tönies, born in 1965, is responsible for the business segments Geothermics and Water Supply as well as for Logistics, Technology, Purchasing and Marketing.

# Geothermal market and technology

#### Technology

The geothermal energy available in the Earth's crust originates mainly from radioactive decay processes in the Earth's core or from residual heat from the time of our planet's formation. Some energy from solar radiation is also stored in the Earth's uppermost strata. In many countries, particularly in regions with geologically favourable conditions (i.e. regions in the so-called "Pacific Ring of Fire" and those with volcanic activity and temperatures > 200°C), geothermal energy is already used to generate electricity or used directly in heating networks. In countries such as Germany, Italy, Indonesia, the Philippines, Mexico, the USA and Iceland, the use of geothermal energy has been an integral part of energy strategy for many years.

The German geothermal industry covers all geothermal technologies, from shallow geothermal energy up to hydrothermal and petrothermal deep geothermal energy for heating, cooling and power generation. Depending on drilling depth, there are two main geothermal energy possibilities; deep geothermal energy and shallow or near-surface geothermal energy.

#### Shallow geothermal energy

Shallow geothermal energy is obtained at depths of up to 400 metres. Because the Earth maintains a far more even temperature than air or water does, it is an optimal energy source for cooling and heating buildings. At depths of about 15 m, and depending on geological conditions down to a maximum of 40 m, temperatures in the Earth's uppermost strata are subject to seasonal fluctuations and influenced by solar radiation. Temperatures just above the annual average temperature on the Earth's surface prevail at these levels. From this depth on, the temperature increases in accordance with the geothermal gradient at a rate of approximately 3°C per 100 m of depth. The heat derived from the ground also depends on the qualities of the ground and rock.

Various systems, such as geothermal heat collectors, geothermal heat probes, energy piles and other ground-contact concrete units are used to harness geothermal energy. When used for heating, grounded heat pumps increase the ground temperature to the temperature required in the building, drawing heat from the ground in a circulatory process. The constant temperatures prevailing underground can, however, also be used to directly cool the building by bypassing the heat pumps. If the ground is not providing adequate cooling, heat pumps can be operated in reverse to supply the required cooling capacity.

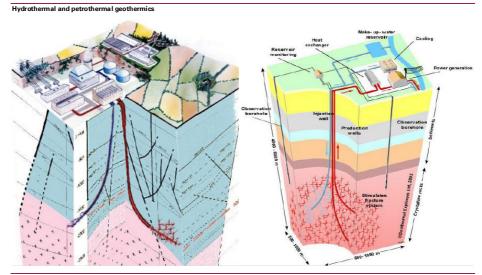
#### Deep geothermal energy

Deep geothermal energy (depths of more than 400m) can be used both to generate electricity in power plants and to feed heat into larger heating networks for industrial production or for heating buildings. Deep geothermal energy is further divided into hydro geothermal energy and petrothermal geothermal energy (EGS, Hot Dry Rock

#### systems).

**Hydro geothermal energy** uses hot water drawn directly from underground reservoirs located at great depths and can be used to generate heat and/or electricity depending on the thermal water's flow rate and temperature.

The use of deep heat reservoirs with few or no water resources is referred to as **petrothermal geothermal energy**. Crystalline and dense sedimentary rock at depths of three to six kilometres with high temperatures (over 150°C) can serve as reservoirs. These are accessed via two or more boreholes drilled deep into solid rock. Hydraulic and chemical stimulation processes (Enhanced Geothermal Systems, EGS) are used to make cracks and fissures in the rock. Cold water is then pumped at high pressure down an injection well into the rock, where it is heated and returns to the surface via a second borehole. This hot water in turn heats a working fluid with a low boiling point (so-called Kalina Cycle and Organic Rankine Cycle, ORC), producing steam for a turbine. Heat can also be fed into district heating networks via a heat exchanger.



Source: Daldrup, Warburg Research

#### Organic Rankine Cycle (ORC)/Kalina Cycle

To produce electricity, steam drives a turbine. In general, for this, temperatures above 175°C are needed. Using the ORC or Kalina Cycle technologies, electricity can be produced with temperatures below 175°C.

The Organic Rankine cycle (ORC) is named for its use of an organic, high molecular mass fluid with a boiling point at a lower temperature than water. The low-temperature heat is converted into useful work that can itself be converted into electricity. The optimal temperature for this process lies between 145-150°C.

Unlike the ORC process, the Kalina cycle uses water and ammonia at various ratios and therefore increase overall thermodynamic efficiency. The Kalina cycle has been shown to increase thermal power output efficiencies by up to 50% in suitable installations. The optimal temperature for this process lies between 125-130°C.

Global Geothermal Ltd. (parent company: Wasabi Energy Ltd.) owns all the worldwide entities licensed to deploy the Kalina Cycle process. Exorka, subsidiary of Daldrup, has the worldwide license to use the Kalina Cycle power plant technology and the exclusive right to use it in Germany.

#### Geothermal market development depends strongly on geological setting

Most of the plants installed are currently used for heat generation. In 2010, around 50,500 MW of thermal capacity was installed in almost 80 countries worldwide. In the area of electricity generation, a geothermal capacity of just below 10,700 MW was installed in a total of 24 countries in 2010. The largest installed capacity was in the

USA, followed by the Philippines, Indonesia, Mexico and Italy. Growing national energy consumption and increasing fossil fuel prices may make the use of geothermal energy more important in future in countries with high geothermal potential. In addition to the particularly high potential for using this form of energy along the 'Ring of Fire' around the Pacific Ocean, there is also considerable potential on the islands on the mid-Atlantic Ridge (e.g. Iceland), and further hot-spots in East Africa and parts of the Middle East.

#### **Geological setting in Germany**

Compared to countries like Iceland or Italy, there are no high enthalpy resources in Germany. Required temperatures for electricity generation are only reached in depths of more than 4000m. Due to this fact, special know-how in deep drilling is necessary to use geothermal resources.



Source: Geothermieprojekte.de, Warburg Research

In Germany, thermal water reaches temperatures of up to 180 °C (North German Basin up to 120 °C, Upper Rhine Rift up to 180 °C, South German Molasse Basin up to 180 °C). The limited thermal water reservoirs are mainly concentrated in three regions, from which two regions are suitable for low enthalpy power production (Upper Rhine Rift, South German Molasse Basin). Other parts of the country are only suitable for petrogeothermal systems.

In Germany, deep geothermal power plants are used to produce heat as well as for combined heat and power generation. So far however, due to the high temperatures required, only three geothermal power plants are operating, two more are in the testing phase and various are in the planning stage. There are currently around 150 geothermal energy exploration fields in Germany. In total, more than 80 deep geothermal projects are in the planning phase.

# Consolidated Profit & Loss Daldrup & Söhne AG

in EUR m	2007	2008	2009	2010	2011E	2012E	2013E
Sales	28.2	27.0	24.1	57.9	46.2	22.7	61.5
Increase / decrease in inventory	-3.0	-1.6	15.5	-16.8	0.0	0.0	0.0
Own work capitalised	0.0	0.0	0.0	0.0	19.9	41.1	19.4
Total sales	25.2	25.4	39.5	41.1	66.1	63.8	80.9
Material Expenses	11.5	12.0	24.1	26.0	40.8	37.9	45.8
Gross profit	13.7	13.4	15.4	15.1	25.2	25.8	35.1
Personnel expenses	1.2	3.1	3.8	5.6	8.9	9.2	10.0
Other operating income	1.5	3.9	2.3	7.5	7.6	8.3	9.9
Other operating expenses	9.3	7.6	6.6	9.3	11.6	10.4	12.5
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	4.6	6.7	7.3	7.8	12.3	14.5	22.6
Depreciation of fixed assets	0.3	1.3	2.7	3.0	4.1	6.0	10.2
EBITA	4.3	5.4	4.6	4.8	8.2	8.5	12.4
Amortisation of intangible fixed assets	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Impairment charges and amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	4.3	5.4	4.6	3.8	8.2	8.5	12.4
Interest income	0.4	0.8	0.2	0.2	0.2	0.2	0.2
Interest expenses	0.1	0.0	0.0	0.4	0.4	2.0	4.2
Financial result	0.2	0.8	0.3	-0.4	-0.2	-1.8	-4.0
Recurring pretax income from cont. operations	4.5	6.1	4.9	3.4	8.0	6.7	8.4
Extraordinary income/loss	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBT	4.5	6.1	4.9	3.4	8.0	6.7	8.4
Taxes total	0.5	2.0	1.1	1.0	2.5	2.1	2.7
Net income from continuing operations	4.0	4.1	3.8	2.5	5.5	4.6	5.8
Income from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income before minorities	1.7	4.0	3.8	2.4	5.5	4.6	5.8
Minority interest	0.0	0.0	0.0	-0.2	0.0	0.0	0.0
Net income	1.7	4.0	3.8	2.6	5.5	4.6	5.8

#### Consolidated Profit & Loss Daldrup & Söhne AG

in % of Sales							
	2007	2008	2009	2010	2011E	2012E	2013E
Sales	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Increase / decrease in inventory	-10.7 %	-5.8 %	64.2 %	-29.0 %	0.0 %	0.0 %	0.0 %
Own work capitalised	0.0 %	0.0 %	0.0 %	0.1 %	42.9 %	181.2 %	31.6 %
Total sales	89.3 %	94.2 %	164.2 %	71.1 %	142.9 %	281.2 %	131.6 %
Material Expenses	40.8 %	44.5 %	100.2 %	44.9 %	88.3 %	167.3 %	74.5 %
Gross profit	48.5 %	49.7 %	64.0 %	26.2 %	54.6 %	113.9 %	57.1 %
Personnel expenses	4.4 %	11.4 %	16.0 %	9.6 %	19.4 %	40.8 %	16.3 %
Other operating income	5.5 %	14.6 %	9.7 %	13.0 %	16.4 %	36.6 %	16.2 %
Other operating expenses	33.1 %	28.3 %	27.4 %	16.0 %	25.0 %	45.8 %	20.3 %
Unfrequent items	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
EBITDA	16.4 %	24.6 %	30.3 %	13.5 %	26.7 %	63.8 %	36.8 %
Depreciation of fixed assets	1.1 %	4.8 %	11.1 %	5.2 %	8.9 %	26.5 %	16.6 %
EBITA	15.3 %	19.8 %	19.3 %	8.3 %	17.8 %	37.4 %	20.2 %
Amortisation of intangible fixed assets	0.0 %	0.0 %	0.0 %	1.7 %	0.0 %	0.0 %	0.0 %
Impairment charges and amortisation of goodwill	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
EBIT	15.3 %	19.8 %	19.3 %	6.6 %	17.8 %	37.4 %	20.2 %
Interest income	1.3 %	3.0 %	1.0 %	0.3 %	0.4 %	0.9 %	0.3 %
Interest expenses	0.5 %	0.2 %	0.0 %	0.8 %	0.9 %	8.7 %	6.8 %
Financial result	0.8 %	2.9 %	1.1 %	-0.7 %	-0.5 %	-7.8 %	-6.5 %
Recurring pretax income from cont. operations	16.1 %	22.7 %	20.4 %	6.0 %	17.3 %	29.5 %	13.7 %
Extraordinary income/loss	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
EBT	16.1 %	22.7 %	20.4 %	6.0 %	17.3 %	29.5 %	13.7 %
Taxes total	1.9 %	7.5 %	4.6 %	1.7 %	5.5 %	9.4 %	4.3 %
Net income from continuing operations	14.3 %	15.2 %	15.8 %	4.3 %	11.8 %	20.2 %	9.4 %
Income from discontinued operations (net of tax)	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Net income before minorities	6.1 %	14.9 %	15.8 %	4.2 %	11.8 %	20.2 %	9.4 %
Minority interest	0.0 %	0.0 %	0.0 %	-0.4 %	0.0 %	0.0 %	0.0 %
Net income	6.1 %	14.9 %	15.8 %	4.6 %	11.8 %	20.2 %	9.4 %

# Balance sheet Daldrup & Söhne AG

in EUR m	2007	2008	2009	2010	2011E	2012E	2013E
Assets							
Intangible assets	0.0	0.0	7.5	8.2	8.2	9.6	11.0
thereof other intangible assets	0.0	0.0	7.5	8.2	8.2	9.6	11.0
thereof Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property, plant and equipment	6.0	26.8	47.2	49.2	63.1	106	143
Financial assets	0.0	0.0	0.8	2.5	2.5	2.5	2.5
Fixed assets	6.1	26.8	55.5	60.0	73.8	119	157
Inventories	3.5	3.9	12.1	6.9	13.2	12.8	16.2
Accounts receivable	5.4	5.8	12.4	21.7	21.7	21.0	22.2
Other Assets	0.0	0.0	0.7	0.1	0.1	0.1	0.1
Liquid assets	19.8	12.2	6.9	4.2	3.0	3.8	4.0
Current assets	28.7	21.9	32.1	32.9	38.0	37.7	42.5
Total assets	34.8	48.7	87.6	92.8	112	156	199
Liabilities and shareholders' equity							
Subscribed capital	5.0	5.4	5.4	5.4	5.4	5.4	5.4
Additional paid-in capital	17.1	30.5	30.5	30.5	30.5	30.5	30.5
Surplus capital	2.1	6.0	19.8	26.8	32.3	36.8	42.6
Other equity components	0.1	0.1	0.1	0.3	0.3	0.3	0.3
Book value	24.2	42.1	55.9	63.0	68.5	73.0	78.8
Minority Interest	0.0	0.0	8.9	7.0	7.0	7.0	7.0
Total equity	24.2	42.1	64.8	70.0	75.5	80.1	85.8
Provision for pensions and similar obligations	0.3	0.3	0.0	0.4	0.4	0.4	0.4
Provisions	7.3	3.5	1.7	2.7	2.7	2.7	2.7
Financial liabilities	0.0	0.0	0.0	0.6	13.2	52.5	87.3
Accounts payable	2.5	2.9	7.4	8.1	9.1	9.6	12.2
Other liabilities	0.8	0.2	13.7	11.5	11.5	11.5	11.5
Liabilities	10.6	6.6	22.9	22.8	36.4	76.2	114
Total liabilities and shareholders' equity	34.8	48.7	87.6	92.8	112	156	199

Sources: Daldrup & Söhne AG (historical data), Warburg Research (forecasts)

#### Balance sheet Daldrup & Söhne AG

in % of Balance Sheet Total	2007	2008	2009	2010	2011E	2012E	2013E
Assets							
Intangible assets	0.0 %	0.0 %	8.5 %	8.9 %	7.3 %	6.2 %	5.5 %
thereof other intangible assets	0.0 %	0.0 %	8.5 %	8.9 %	7.3 %	6.2 %	5.5 %
thereof Goodwill	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Property, plant and equipment	17.4 %	55.1 %	53.9 %	53.0 %	56.4 %	68.1 %	71.9 %
Financial assets	0.0 %	0.0 %	0.9 %	2.7 %	2.3 %	1.6 %	1.3 %
Fixed assets	17.4 %	55.1 %	63.3 %	64.6 %	66.0 %	75.9 %	78.7 %
Inventories	10.1 %	8.0 %	13.8 %	7.4 %	11.8 %	8.2 %	8.1 %
Accounts receivable	15.4 %	11.9 %	14.2 %	23.4 %	19.4 %	13.4 %	11.1 %
Other Assets	0.0 %	0.1 %	0.8 %	0.2 %	0.1 %	0.1 %	0.1 %
Liquid assets	57.0 %	25.0 %	7.9 %	4.5 %	2.7 %	2.4 %	2.0 %
Current assets	82.5 %	45.0 %	36.7 %	35.4 %	34.0 %	24.1 %	21.3 %
Total assets	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Liabilities and shareholders' equity							
Subscribed capital	14.3 %	11.2 %	6.2 %	5.9 %	4.9 %	3.5 %	2.7 %
Additional paid-in capital	49.0 %	62.6 %	34.8 %	32.9 %	27.3 %	19.5 %	15.3 %
Surplus capital	6.0 %	12.4 %	22.6 %	28.9 %	28.8 %	23.6 %	21.4 %
Other equity components	0.3 %	0.3 %	0.2 %	0.3 %	0.2 %	0.2 %	0.1 %
Book value	69.5 %	86.5 %	63.8 %	67.9 %	61.2 %	46.7 %	39.5 %
Minority Interest	0.0 %	0.0 %	10.2 %	7.6 %	6.3 %	4.5 %	3.5 %
Total equity	69.5 %	86.5 %	73.9 %	75.5 %	67.5 %	51.2 %	43.1 %
Provision for pensions and similar obligations	0.8 %	0.6 %	0.0 %	0.4 %	0.4 %	0.3 %	0.2 %
Provisions	21.0 %	7.2 %	2.0 %	2.9 %	2.4 %	1.7 %	1.3 %
Financial liabilities	0.0 %	0.0 %	0.0 %	0.6 %	11.8 %	33.6 %	43.8 %
Accounts payable	7.1 %	5.9 %	8.5 %	8.7 %	8.1 %	6.1 %	6.1 %
Other liabilities	2.3 %	0.4 %	15.7 %	12.4 %	10.3 %	7.3 %	5.8 %
Liabilities	30.4 %	13.5 %	26.1 %	24.6 %	32.5 %	48.8 %	57.0 %
Total liabilities and shareholders' equity	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %

# Figures

# Statement of Cash Flows Daldrup & Söhne

AG							
in EUR m	2007	2008	2009	2010	2011E	2012E	2013E
Net income	1.7	4.0	3.8	2.4	5.5	4.6	5.8
Depreciation of fixed assets	0.3	1.3	2.7	3.0	4.1	6.0	10.2
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Increase/decrease in long-term provisions	0.3	0.0	-0.2	0.4	0.0	0.0	0.0
Other costs affecting income / expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash Flow	2.3	5.3	6.2	6.8	9.6	10.6	15.9
Increase / decrease in inventory	-3.5	-0.4	-8.2	5.3	-6.3	0.4	-3.4
Increase / decrease in accounts receivable	-5.4	-0.4	-6.6	-9.3	0.0	0.7	-1.2
Increase / decrease in accounts payable	2.5	0.4	4.5	0.7	1.0	0.5	2.6
Increase / decrease in other working capital positions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increase / decrease in working capital	-6.4	-0.4	-10.3	-3.3	-5.3	1.6	-2.0
Cash flow from operating activities	-4.1	4.9	-4.1	3.4	4.2	12.2	13.9
CAPEX	0.0	0.0	0.0	0.0	-18.0	-50.7	-48.5
Payments for acquisitions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from investing activities	0.0	0.0	0.0	0.0	-18.0	-50.7	-48.5
Change in financial liabilities	0.0	0.0	0.0	0.6	12.6	39.3	34.8
Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing activities	0.0	0.0	0.0	0.6	12.6	39.3	34.8
Change in liquid funds	-4.1	4.9	-4.1	4.0	-1.2	0.8	0.2
Effects of exchange rate changes on cash	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Liquid assets at end of period	-4.1	24.7	8.0	11.0	3.0	3.8	4.0

Financial Ratios Daldrup & Söhne AG							
	2007	2008	2009	2010	2011E	2012E	2013E
Operational Efficiency							
Total Operating Costs / Sales	72.9 %	69.6 %	133.9 %	57.5 %	116.3 %	217.3 %	94.8 %
Sales per Employee	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EBITDA per Employee	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EBIT-margin	15.3 %	19.8 %	19.3 %	6.6 %	17.8 %	37.4 %	20.2 %
EBITDA / Operating Assets	37.2 %	19.8 %	11.3 %	11.2 %	13.9 %	11.1 %	13.3 %
ROA	28.3 %	15.0 %	6.8 %	4.4 %	7.4 %	3.9 %	3.7 %
Efficiency of Capital Employment							
Plant Turnover	4.7	1.0	0.5	1.2	0.7	0.2	0.4
Operating Assets Turnover	2.3	0.8	0.4	0.8	0.5	0.2	0.4
Capital Employed Turnover	1.2	0.6	0.4	0.8	0.5	0.2	0.4
Return on Capital							
ROCE	17.6 %	16.0 %	8.6 %	5.6 %	10.3 %	7.6 %	8.1 %
EBITDA / Avg. Capital Employed	18.9 %	19.9 %	13.6 %	11.5 %	15.4 %	13.0 %	14.7 %
ROE	7.1 %	9.6 %	5.9 %	3.8 %	7.2 %	5.7 %	6.7 %
Net Profit / Avg. Equity	14.2 %	12.2 %	7.1 %	3.9 %	7.5 %	5.9 %	6.9 %
Recurring Net Profit / Avg. Equity	33.3 %	12.4 %	7.1 %	3.7 %	7.5 %	5.9 %	6.9 %
ROIC	14.4 %	13.4 %	7.3 %	4.7 %	6.0 %	3.4 %	3.3 %
Solvency							
Net Debt	-19.8	-12.2	-6.9	-3.6	10.2	48.7	83.3
Net Gearing	-82.0 %	-28.9 %	-10.7 %	-5.1 %	13.5 %	60.8 %	97.0 %
Book Value of Equity / Book Value of Debt		2370357.4	208898012.9	12429.8 %	573.5 %	152.5 %	98.4 %
	n.a.	%	%				
Current ratio	8.8	7.2	1.5	1.6	1.8	1.7	1.6
Acid Test Ratio	2.4	2.7	0.9	1.1	1.0	1.0	0.9
EBITDA / Interest Paid	31.5	158.5	780.7	17.9	29.9	7.3	5.4
Interest Cover	n.a.	n.a.	n.a.	15.9	37.9	4.8	3.1
Cash Flow				0.4	10.0	00.0	
Free Cash Flow	-4.1 -14.5 %	4.9	-4.1 -17.0 %	3.4 5.9 %	-13.8 -29.7 %	-38.6 170.0 %	-34.6
Free Cash Flow / Sales		18.2 %					-56.2 %
Adj. Free Cash Flow	2.3	6.6	7.3	8.0	12.3	14.5	22.6
Adj. Free Cash Flow / Sales	13.0 % -238.7 %	12.2 % 121.9 %	12.5 %	5.7 %	11.4 % -251.7 %	19.3 % -842.6 %	9.0 % -600.2 %
Free Cash Flow / Net Profit	-238.7 %	5.1 %	-107.5 %	129.9 % 3.5 %	-251.7 %	-842.0 % 5.8 %	-600.2 % 5.0 %
Interest Received / Avg. Cash Interest Paid / Avg. Debt		2361.7 %	2.6 % 1032.8 %	3.5 % 154.9 %	5.4 % 6.0 %	5.8 % 6.0 %	5.0 % 6.0 %
Dividend Payout Ratio	n.a. 0.0 %	2301.7 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Fund Management	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Investment ratio	0.0 %	0.0 %	0.0 %	0.0 %	38.9 %	223.7 %	78.9 %
Maint. Capex / Sales	1.1 %	4.8 %	11.1 %	5.2 %	8.9 %	26.5 %	16.6 %
Capex / Dep	0.0 %	0.0 %	0.0 %	0.0 %	437.3 %	845.6 %	476.2 %
Avg. Working Capital / Sales	22.7 %	24.4 %	49.7 %	32.5 %	50.0 %	110.3 %	41.0 %
Trade Creditors / Trade Debtors	216.2 %	201.8 %	167.6 %	268.2 %	238.5 %	218.8 %	182.0 %
Inventory turnover (days)	45.5	52.5	184	60.8	73.0	73.0	73.0
Receivables collection period (DSOs)	69.4	78.4	188	137	120	120	100
Payables collection period (days)	32.1	38.8	112	51.0	50.0	55.0	55.0
Cash conversion cycle (days)	82.8	92.0	260	147	143	138	118
Valuation							
Dividend Yield	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
P/B	5.3	3.0	2.0	1.8	1.7	1.6	1.5
EV/sales	4.7	4.9	5.5	2.3	3.2	8.1	3.6
EV/EBITDA	28.6	19.9	18.1	16.9	11.8	12.8	9.7
EV/EBIT	30.6	24.7	28.5	34.5	17.8	21.8	17.6
EV/FCF	n.m.	24.7	n.m.	38.5	n.m.	n.m.	n.m.
P/E	76.0	31.9	33.7	48.1	23.6	28.1	22.2
P/CF	55.9	24.1	20.6	18.9	13.4	12.1	8.1

Free Cash Flow Yield - Daldro	up & Söhne							
Figures in EUR m		2007	2008	2009	2010	2011e	2012e	2013
Net Income		1.7	4.0	3.8	2.6	5.5	4.6	5.8
+ Depreciation + Amortisation		0.3	1.3	2.7	4.0	4.1	6.0	10.
- Net Interest Income		0.2	0.8	0.3	-0.4	-0.2	-1.8	-4.
+ Taxes		0.5	2.0	1.1	1.0	2.5	2.1	2.
Maintenance Capex		0.0	0.0	0.0	0.0	0.0	0.0	0.
⊦ Others		0.0	0.0	0.0	0.0	0.0	0.0	0.0
= Adjusted Free Cash Flow		2.3	6.6	7.3	8.0	12.3	14.5	22.
Adjusted Free Cash Flow Yield		1.8%	5.0%	5.5%	6.0%	8.4%	7.8%	10.3%
Hurdle rate		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
= Enterprise Value		132.2	132.2	132.2	132.2	146.0	184.5	219.
= Fair Enterprise Value		23.1	65.9	72.9	79.8	123.3	144.7	226.
- Net Debt (Cash)		-3.6	-3.6	-3.6	-3.6	10.2	48.7	83.3
- Pension Liabilities		0.4	0.4	0.4	0.4	0.4	0.4	0.4
- Others		7.0	7.0	7.0	7.0	7.0	7.0	7.0
= Fair Market Capitalisation		19.3	62.1	69.1	76.0	105.7	88.6	135.:
No. of shares (m)		5.4	5.4	5.4	5.4	5.4	5.4	5.4
= Fair value per share (EUR)		3.54	11.40	12.69	13.95	19.41	16.26	24.8
premium (-) / discount (+) in %		-85.0%	-51.7%	-46.2%	-40.8%	-17.7%	-31.0%	5.4%
Sensitivity Fair value per Share (EL	JR)							
	13.0%	2.56	8.60	9.60	10.57	14.18	10.13	15.2
	12.0%	2.83	9.38	10.45	11.51	15.64	11.83	17.93
	11.0%	3.16	10.30	11.47	12.62	17.35	13.85	21.08
Hurdle rate	10.0%	3.54	11.40	12.69	13.95	19.41	16.26	24.8
	9.0%	4.02	12.74	14.18	15.58	21.92	19.22	29.4
	8.0%	4.61	14.42	16.04	17.62	25.07	22.91	35.2
	7.0%	5.36	16.58	18.43	20.24	29.11	27.65	42.64

# Daldrup & Söhne AG

#### DCF Model - Daldrup & Söhne

DCF Model - Daldrup	a Sonne													
Figures in EUR m	2011e	2012e	2013e	2014e	2015e	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e
Sales	46.2	22.7	61.5	70.1	75.9	84.6	92.8	102.8	124.2	135.6	145.6	154.3	162.0	168.5
Change	-20.1%	-51.0%	171.1%	14.1%	8.2%	11.5%	9.6%	10.8%	20.8%	9.2%	7.4%	6.0%	5.0%	4.0%
EBIT	8.2	8.5	12.4	16.1	17.8	21.6	25.1	28.5	31.3	36.1	35.9	35.3	34.4	27.0
EBIT-Margin	17.8%	37.4%	20.2%	23.0%	23.5%	25.5%	27.1%	27.7%	25.2%	26.6%	24.7%	22.9%	21.2%	16.0%
Tax rate	31.7%	31.7%	31.7%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
NOPAT	5.6	5.8	8.5	10.5	11.6	14.0	16.3	18.5	20.3	23.4	23.3	23.0	22.4	17.5
Depreciation	4.1	6.0	10.2	12.2	14.2	16.3	18.4	20.5	22.7	22.7	24.8	26.2	27.5	28.6
in % of Sales	8.9%	26.5%	16.6%	17.4%	18.7%	19.2%	19.8%	19.9%	18.3%	16.8%	17.0%	17.0%	17.0%	17.0%
Change in Liquidity from														
- Working Capital	-5.3	1.6	-2.0	-3.7	-1.6	-2.8	-2.3	-2.9	-7.0	-3.0	-2.3	-1.7	-1.3	-0.8
- Capex	-18.0	-50.7	-48.5	-43.6	-40.1	-40.7	-28.3	-1.5	-1.9	-2.0	-2.2	-2.3	-2.4	-2.5
Capex in % of Sales	38.9%	223.7%	78.9%	62.2%	52.9%	48.1%	30.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Other	0.0	0.0	0.0	-0.7	-0.5	-1.2	-1.3	-1.3	-1.4	-1.5	-1.5	-1.6	-1.7	-1.8
Free Cash Flow (WACC-Model)	-13.6	-37.3	-31.8	-25.3	-16.5	-14.4	2.8	33.2	32.7	39.7	42.1	43.5	44.5	41.1

# Model parameter Debt ratio 25.00% Beta 1.30 Costs of Debt 7.5% WACC 9.04% Market return 9.00% Risk free rate 4.25% Terminal Growth 1.50%

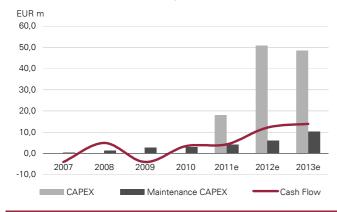
Valuation (mln)			
Present values 2024e	2.8		
Terminal Value	170.8		
Liabilities	-13.6		
Liquidity	4.2	No. of shares (mln)	5.45
Equity Value	164.2	Value per share (EUR)	30.16

#### Sensitivity Value per Share (EUR)

Terminal Gro	wth							Delta EBIT	「 margin						
WACC	0.75%	1.00%	1.25%	1.50%	1.75%	2.00%	2.25%	WACC	-1.5 pp	-1.0 pp	-0.5 pp	0.0	+0.5 pp	+1.0 pp	+1.5 pp
10.04%	19.91	20.54	21.20	21.89	22.63	23.42	24.25	10.04%	19.69	20.42	21.16	21.89	22.63	23.36	24.09
9.54%	23.37	24.11	24.90	25.74	26.62	27.57	28.58	9.54%	23.37	24.16	24.95	25.74	26.52	27.31	28.10
9.29%	25.28	26.09	26.95	27.87	28.84	29.89	31.01	9.29%	25.41	26.23	27.05	27.87	28.69	29.51	30.33
9.04%	27.32	28.21	29.15	30.16	31.24	32.39	33.63	9.04%	27.60	28.45	29.31	30.16	31.01	31.87	32.72
8.79%	29.51	30.48	31.52	32.63	33.82	35.10	36.47	8.79%	29.97	30.85	31.74	32.63	33.52	34.41	35.30
8.54%	31.86	32.93	34.07	35.30	36.61	38.03	39.56	8.54%	32.52	33.44	34.37	35.30	36.22	37.15	38.08
8.04%	37.10	38.40	39.80	41.31	42.94	44.70	46.62	8.04%	38.28	39.29	40.30	41.31	42.32	43.33	44.35

Source: Warburg Research

#### CAPEX and Cash Flow - Daldrup & Söhne

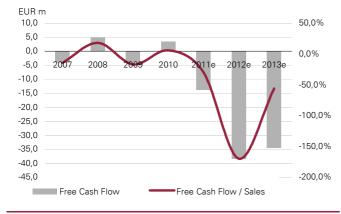


Sources: Daldrup & Söhne (historical data), Warburg Research (forecasts)

Entry of power generation business triggers substantial CAPEX

Operating Cash Flow benefits from booming geothermal market





Sources: Daldrup & Söhne (historical data), Warburg Research (forecasts)

CAPEX program burdens FCF

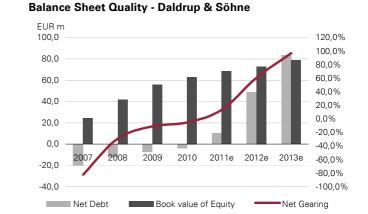
FCF/sales benefit from notably increasing sales as of 2012

#### **Operating Leverage - Daldrup & Söhne**



Sources: Daldrup & Söhne (historical data), Warburg Research (forecasts)

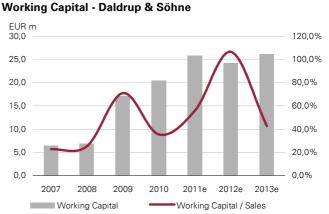
Strongly volatile inventories distort Operating leverage



Sources: Daldrup & Söhne (historical data), Warburg Research (forecasts)

Book value of equity benefits from retention of earnings

CAPEX program leads to substantial increase in net debt position

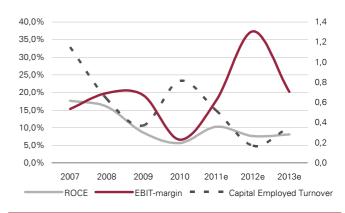


Sources: Daldrup & Söhne (historical data), Warburg Research (forecasts)

Increasing business volume leads to rising WC

WC ratio benefits from power generation segment beyond 2013

#### **ROCE Development - Daldrup & Söhne**



Sources: Daldrup & Söhne (historical data), Warburg Research (forecasts)

Prepatory capex burden ROCE in 2012 and 2013

Margin will substantially improve through own power generation beyond 2013

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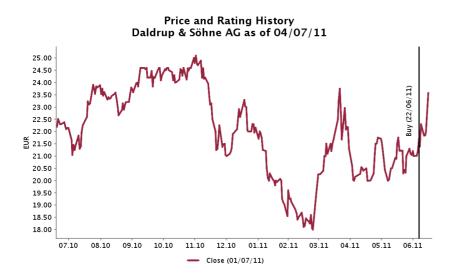
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Buy	118	67%
Hold	52	30%
Sell	5	3%
Rating suspended	1	1%
Total	176	

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Sell	2	1%
Rating suspended	1	1%
Total	144	



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