

Europlasma

Utilities / France

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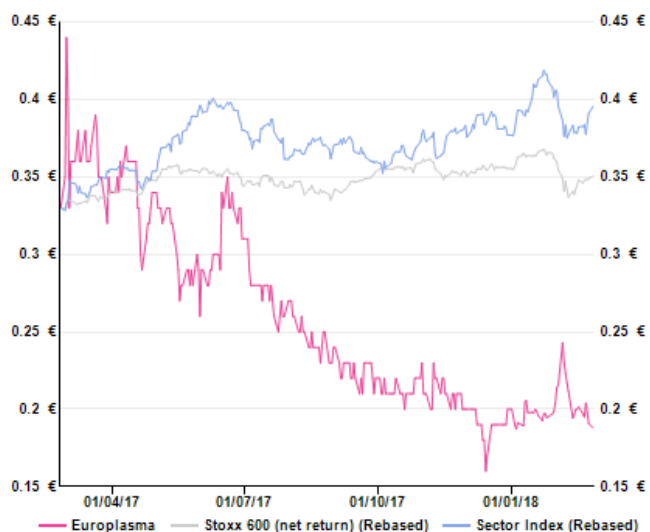
ALPHAValue
CORPORATE SERVICES

Long path to green power

Buy

Upside potential : 86.0%

Target Price (6 months)	0.35
Share Price	€ 0.19
Market Capitalisation €M	28.6
Price Momentum	UNFAVORABLE
Extremes 12Months	0.16 ▶ 0.44
Bloomberg ticker	ALEUP FP



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KEY DATA	12/15A	12/16A	12/17E	12/18E	12/19E
Adjusted P/E (x)	-4.28	-2.81	-2.48	24.4	6.37
Dividend yield (%)	0.00	0.00	0.00	0.00	0.00
EV/EBITDA(R) (x)	-8.26	-5.40	-4.95	6.62	2.88
Adjusted EPS (€)	-0.24	-0.18	-0.11	0.01	0.03
Growth in EPS (%)	n/a	n/a	n/a	n/a	283
Dividend (€)	0.00	0.00	0.00	0.00	0.00
Sales (€th)	14,082	9,733	8,224	43,295	90,182
Operating margin (%)	-104	-173	-191	1.26	8.24
Attributable net profit (€th)	-16,515	-17,273	-14,215	1,544	7,339
ROE (after tax) (%)	-171	3,126	423	70.1	80.4
Gearing (%)	28.3			78.6	7.83

Last forecasts updated on the 01/02/2018

Benchmarks	Values (€)	Upside	Weight
DCF	0.57	201%	35%
NAV/SOTP per share	0.38	101%	20%
EV/Ebitda	Peers	37%	20%
P/E	Peers	7%	10%
Dividend Yield	Peers	-100%	10%
P/Book	Peers	-50%	5%
TARGET PRICE	0.35	86%	100%

Conflicts of interest

Corporate broking	NO
Trading in corporate shares	NO
Analyst ownership	NO
Advising of corporate (strategy, marketing, debt, etc)	NO
Research paid for by corporate	YES
Provision of corporate access paid for by corporate	NO
Link between AlphaValue and a banking entity	NO
Brokerage activity at AlphaValue	NO
Client of AlphaValue Research	NO

Eurolasma (Buy)

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Recent Updates

► Updates

12/02/2018 Fresh and less expensive round of financing

Financing issue

Europlasma launches a fresh round of financing, already allowed for in our forecasts. The cost looks less steep than could have been feared.

Fact

Europlasma collects another €8m of fresh financing. It broadly relies on the same financing mechanics as deployed in a 2016-17 round: issuance of immediately converted convertibles at a discount to the spot market price. This fresh financing is secured under significantly better conditions than the previous one (no warrants, half the discount), strong evidence that the company is marching towards more traditional funding now that its development risks are behind. The cost of this last round of financing is directly set in the conversion terms at 95.3% of the last 10 trading days, with the new shares essentially sold promptly. This means that the seller is always getting c.5% at the expense of the market, i.e. existing shareholders. Although limited, dilution is the price to pay for bridge financing.

Analysis

Europlasma has reached a milestone in 2017 by getting the final acceptance of its client for the delivery of a much-delayed green power generation unit. The cash drain related to delays and further engineering work to extract more performance from the same unit has led the group to resort to successive layers of expensive dilutive financing. The €8m capital raising announced in early February 2018 is of a similar profile (although far less dilutive) but apparently on a tight calendar (last tranche of the raising completed by mid April 2018) and there is an issuer-held option not to go beyond €4m. This is evidence that the group is closer to raising more traditional funding and may mean it is close to being in a cash generative mode.

Indeed the cash drain of 2017 was a combination of furthering developments on the prototype power generation unit and facing disruptions in the normally cash-generative asbestos treatment unit. Both are sorted subjects by early 2018.

Year after year, the management of Europlasma has managed to find fresh financing in very adverse conditions. The remaining stumbling block to Europlasma becoming a green power generation proposition is less about technology and more about the funding of an ideal business model, whereby Europlasma would not build and manage power units for third parties but for itself.

That requires a quantum jump in resources but it is fair to mention that its technology is convincing enough for plant number 2 (dubbed Tiper) to be essentially financed already by debt. The ownership model would impact seriously the definition of Europlasma's business model and presumably its valuation.

Impact

The dilution resulting from the new financing was effectively discounted in a rough way in our last review of Europlasma's earnings outlook. A ball-park order is that the new financing may add 40-50m shares to the existing 153m ones. As it happens, we had allowed for 50m new shares anyway, as well as for the full dilution of C warrants. Such new equity effectively secures the ability of Europlasma to reach its positive cash flow objective so that it may even be that the market may react positively and absorb this new issuance. As a reminder, our fully-diluted target price stands well above current prices. In all, this is encouraging, and in any case better than no financing.

01/02/2018 Allowing for 2017 financing

Change in Target Price

€ 0.35 vs 0.68

-48.0%

► Updates

The sharp drop in the target price is due to an overdue set of adjustments that combines the H1 17 release and the dilution associated with financing, as well as a full resetting of forecasts to allow for various delays.

Change in EPS

2017 : € -0.11 vs 0.02 ns
2018 : € 0.01 vs 0.05 -85.0%

Updates to fragile forecasting models and dilution factors lead to significant corrections. 2017 earnings have also been hurt by capacity constraints at Inertam.

Change in NAV

€ 0.38 vs 0.62 -39.4%

An overdue set of adjustments which combines the H1 17 release and the dilution associated with financing, as well as a full resetting of forecasts to allow for various delays, has an impact on the fragile NAV computations.

Change in DCF

€ 0.57 vs 1.06 -46.7%

An overdue set of adjustments which combines the H1 17 release and the dilution associated with financing, as well as a full resetting of forecasts to allow for various delays, has an impact on the fragile DCF computations.

15/11/2017 Further pain by H1 17 but green energy progress

Earnings/sales releases

Fact

Europlasma posted a €-11m loss over H1 17. This was €2m worse than in H1 16. The top line and EBITDA were both sharply down (see table please)

in €k	30/06/2017	30/06/2016	Change
Revenues	3 624	5 709	-2 085
EBITDA	-6 618	-4 979	-1 639
Net earnings	-11 125	-9 024	-2 101

Analysis

Europlasma's rather disappointing financial showing over H1 is at odds with the fact that the firm has delivered on its most risky venture, green power generation. This amounts to a degree of bad luck.

Essentially Europlasma can be regarded as: a) a strenuous effort to become a green power generator through leading edge waste to power technology, and b) the management of a cash-cow which is the processing of asbestos-based waste products.

The good news of earlier this year was that the green generation power was up and working after three years of ironing out technical glitches. The so-called final acceptance last June came, however, with a caveat that further performance optimisation work was required as requested by the plant's owner and supported by Europlasma which sees a direct benefit as a 35% stake holder. This means the provisioning of €3.45m extra costs which are funded by payments of the plant's owner for a total of €4.78m. This matters as Europlasma has been battling with significant cash consumption and costly equity financing (see next section).

The additional regrettable news of the H1 earnings is that the cash-cow side, asbestos treatment (operated under the name of Inertam), has misfired. The unique oven of Inertam was due for an overhaul in Q1 but the restart has proved difficult in Q2 and made even more painful by stricter regulations about dust emission

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► Updates

controls that led to production stops while new air cleaning systems were being added. The turnover for Inertam has collapsed from €4.9m to €3m with a corresponding cash squeeze as this business is all about saturating capacity to be profitable.

Cash flow drain continues

The operating cash flow is a drain of €-6.6m, of which €-4m comes from power generation and €-0.4m from Inertam, the balance is due to central costs and the engineering business called "Plasma Solutions"

The price to pay has been the phenomenal dilution as Europlasma has been relying on financing in the form of convertibles whose conversion and subsequent selling of resulting equity into the market has depressed the share price massively. Such financing to the tune of €7m has been covering the operating cash needs but not the capital expenditure (€1.9m). Another €2m raised over July 2017 in the shape of a convertible helped balance the cash needs but the H1 balance sheet shows negative equity of €-7m and a net debt of c.€10.5m.

Outlook

We keep on repeating that the worse is behind from the point of view of technical risks. This is the case. Even though further optimisation work is required on the green power unit, the deployment of this solution on two new sites is going as planned with a good chunk of the financing secured for the first one (dubbed Tiper). The second one should not be a problem. On the Inertam front, it appears to be running smoothly again in H2.

Impact

We need to trim seriously our optimistic expectations to allow for: 1) the Inertam hiccup, 2) the lasting cash drain, and 3) the fact that the EPC side of the business which is the only driver of the turnover is delayed to 2018. 2017 pans out as another year "without" from an earnings standpoint. The issue of which is the right business model has not been sorted as well. This is about the extent of the ownership by Europlasma of the generation plants. Controlling such cash flows is attractive but it starts with a proper financing of such an ownership. Our modelling does not allow for that and remains fragile.

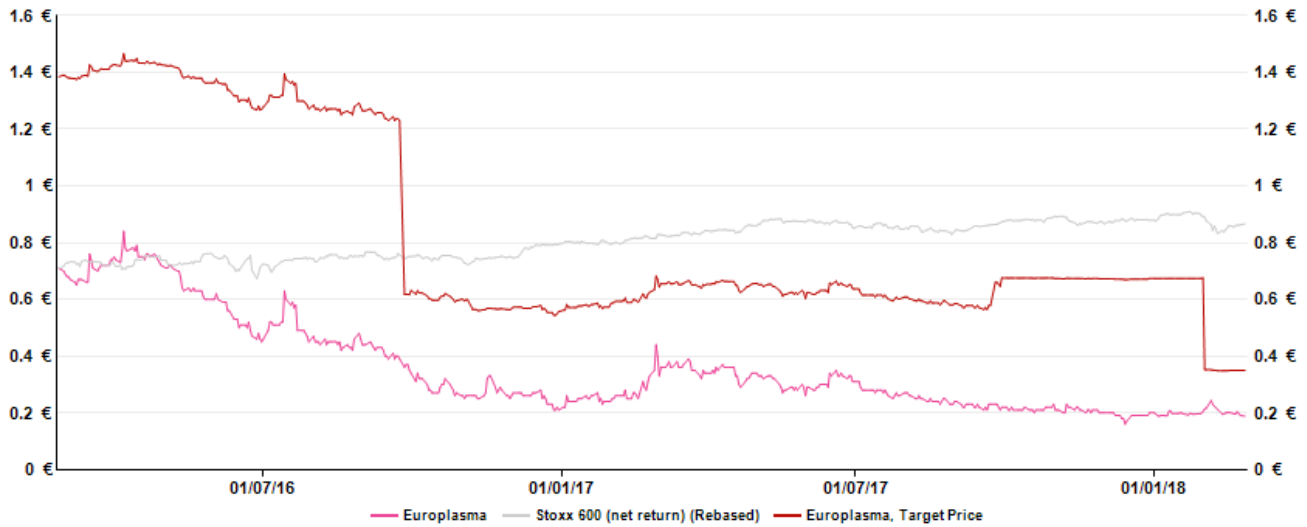
Body of research

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► Target Price & Opinion

Stock Price and Target Price



Earnings Per Share & Opinion



Europlasma : Opinion



► Businesses & Trends

Businesses & Trends

Founded in 1992 to market plasma torch technology, Europlasma offers solutions to major environmental issues: waste management and renewable energy production. Since 2013, the company has narrowed down to three divisions:

- 1) the design and development of plasma torch systems which are usually sold with operational maintenance contracts. The entity rechristened “Europlasma Industries” in 2014 also sells export licences (Japan, South Korea);
- 2) Renewable Energies through the design, construction and operation of power generation solutions from waste and biomass through production sites which it operates but may only partly own. Engineering & Construction is handled by CHO Power. Operation has been handled by CHOPEX from mid 2014; and
- 3) Hazardous Waste (Inertam) is dedicated to handling asbestos and hazardous waste such as low radioactive waste. It operates its own kilns for that purpose, powered by plasma torches. Another unrelated engineering business (Europe Environnement) was divested in 2013.

Painful and lengthy transition to green power

Europlasma’s business model has been in transition since 2011 with a hard push into “green” power generation combining plasma torch and waste/biomass to produce a clean gas which is then converted into electricity. The heart of the Europlasma proposition is the gas cleaning phase that relies on plasma torches. Clean gas means efficient subsequent conversion into power through heavy duty internal combustion engines driving power generators. The thermal and electrical efficiency from waste to power is attractive to financial investors primarily because alternative power sources tend to be subsidised as low carbon producer units (better conversion means less carbon). Europlasma has thus a competitive advantage due to a powerful technological barrier to entry: the plasma torch technology and related patents which improves the quality of the gas generated from waste/biomass. Green power offers considerable growth potential as waste to power schemes appear to be much in demand and heavily subsidised while technological progress brings down costs quickly. Green electricity has been the bold ambition of the group ... with all the painful experiences attached to developing a frontier technology. By 2016, the group is about two years late on its initial schedule. A management change by mid 2014 led to a complete overhaul of growth plans which have been pushed back while the technology hiccups were being sorted. The prototype technology on the Morcenx site appears to be up and working to the extent that it should be transferred to the operating company in which Europlasma is a minority holder.

Up to mid 2014, the unit CHO Power comprised all the activities linked to this new business (engineering, design, building, operations, maintenance). From mid 2014, the segregation of the power plants operations into a new company (CHOPEX) is helpful as EPC and O&M are obviously two very different business models (see next section).

More on the green power scheme:

The CHO Power/Renewable Energies prototype industrial facility built at Morcenx (near Bordeaux) produces clean biomass gas, thanks to the plasma torch. This gas is used in a gas-powered engine to deliver electricity to EDF, the French dominant utility obliged by law to buy green power, in addition to heat delivered to local wood-drying facilities. The nominal global thermal yield is excellent at 75% but, as early as 2013, the prototype plant failed on its gasifier, an on-the-shelf, third-party manufactured but central piece of kit. This effectively brought to a halt the project that should have been running at full capacity by H2 13. The full scale prototype, due to be delivered by summer 2015 then 2016, has been effectively delivered by autumn 2017 with more work proposed to up the performance. This is four years late as it appeared that the running-in of gas-fired engines to churn power was more complex than anticipated. The Europlasma-engineered bits performed as expected but it appears after considerable accumulated pains that funding this bold move on a shoestring was a recipe for disaster. This has had major funding implications with massive recapitalisation (c. €50m) between 2013 and 2017 (see Debt section). Europlasma has few competitors in the waste to energy field. It is worth mentioning that its incremental approach is actually less risky that going for size as Plasco (Ottawa) tried and failed to achieve.

Power is sold to EDF under a 20-year guaranteed-price contract. Pricing depends on the total electrical & thermal output obtained, knowing that each additional percentage point of output above 50% efficiency gives the right to a €1 increase per

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Businesses & Trends

MWh relative to the base tariff of €125/MWh. Hence, for a total yield at 75% already at hand, the facility can sell its electricity for €150/MWh. Europlasma has big plans to expand from the Bordeaux-based pilot project to other sites, with one ready (CHO Tiper, say by mid 2018 for the first brick laying) and another not far (CHO Locminé) with the first steps by possibly 2019. Another three sites have been identified in France, although new French laws relating to energy have changed the obligation to purchase green power to a new but less certain regulation whereby green energy is bought at market price plus a top-up depending on the type of “green”. Europlasma may end up benefiting as it deems that its technology is the only one that can truly convert waste, which is “sold” at a negative price whereas biomass has a true cost and is comparably scarce. Earlier similar plans in the UK, a large market for waste to power conversion, have been on the back-burner as the Europlasma engineering team is clearly stretched.

P. The very nature of power generation means that these projects can be highly leveraged (unless the future power purchasing scheme proves too uncertain) but again the balance sheet of Europlasma is just not strong enough as five projects would mean a c.€250m investment and history has shown that execution risks are material. Between 2011 and 2017 inclusive, Europlasma will have lost a cool €-100m or about 5x its 2017 market cap. (Please read “Funding section”).

Divisional Breakdown Of Revenues

Sector	12/16A	12/17E	12/18E	12/19E	Change 17E/16		Change 18E/17E	
					€th	of % total	€th	of % total
Engineering, Torch (Europlas...	1,650	1,628	2,000	3,000	-22	1%	372	1%
Renewable Energy (CHO-P...	379	102	28,295	73,682	-277	18%	28,193	80%
Toxic Waste Management (In...	7,704	6,494	13,000	13,500	-1,210	80%	6,506	19%
Air & Gaz (Europe Environne...	0.00	0.00	0.00	0.00	0	0%	0	0%
Other	0.00	0.00	0.00	0.00	0	0%	0	0%
Total sales	9,733	8,224	43,295	90,182	-1,509	100%	35,071	100%

Key Exposures

	Revenues	Costs	Equity
Dollar	20.0%	20.0%	0.0%
Emerging currencies	5.0%	0.0%	0.0%
Long-term global warming	25.0%	0.0%	0.0%

Sales By Geography

Europe	90.0%
Asia	10.0%

We address exposures (eg. how much of the turnover is exposed to the \$) rather than sensitivities (say, how much a 5% move in the \$ affects the bottom line). This is to make comparisons easier and provides useful tools when extracting relevant data.

Actually, the subject is rather complex on the ground. The default position is one of an investor managing in €. An investor in £ will obviously not react to a £ based stock trading partly in € as would a € based investor. In addition, certain circumstances can prove difficult to unravel such as for eg. a € based investor confronted to a Swiss company reporting in \$ but with a quote in CHF... Sales exposure is probably straightforward but one has to be careful with deep cyclicals. Costs exposure is a bit less easy to determine (we do not allow for hedges as they can only be postponing the day of reckoning). How much of the equity is exposed to a given subject is rarely straightforward but can be quite telling. In addition, subjects are frequently intertwined. A \$ exposure may encompass all revenues in \$ pegged currencies and an emerging currency exposure is likely to include \$ pegged currencies as well.

Exposure to global warming issues is frequently indirect and may require to stretch a bit imagination.

► Money Making

Money Making

Important: the following views and forecasts are AlphaValue's and may not match ongoing management thinking about the optimum business model. Europlasma is a complex set-up that may or may not be organised differently.

Complex energy business model

Renewable Energy has proved to be far more complex a business than shareholders, financial partners and managers ever anticipated with tremendous costs to date (€70m in losses over five years). Against earlier expectations, 2015, then 2016 and 2017 have again been substantially in the red because of the delays (new engines) in the power generation projects. For breakeven (2018?), Europlasma would have to collect EPC-type margins (see below) which have been delayed by the prototyping phase. The earnings projection is very fragile because it is highly dependent on the way Europlasma will fund its growth and how much of it will be captured by shareholders.

Indeed the new management of Europlasma has been considering a strategic review that may change the initial business model of being a minority holder of power generation SPVs. The leverage associated with SPVs has proved unsuited for risky projects. Assuming the full control of power generation units with less leverage to boot would mean a different, way bigger balance sheet as power generation assets are being added to the fixed plant.

For the time being, AlphaValue's financial modelling for the energy business remains one where Europlasma acts as a minority holder in as many SPVs as there are power plants. Europlasma contracts with the SPVs the building and engineering side (EPC in trade speak) and the operational management side (O&M). So that it has sequentially three levels of revenues: a margin on construction (a 2-year process), a margin on the operation of the plant (a "forever" process) and dividends. Dividends will be magnified by steep leverage as power production is meant to be a predictable business with contracted out-year prices and foreseeable cash flows.

The current AlphaValue projections show significant sales and EBITDA gains over 2018 and 2019 for the energy division which are primarily the reflection of the EPC work accounted for as sales to a third party as Europlasma remains a junior partner. The AlphaValue projections may be amended depending on the choices made by management and key financial partners to fund its growth strategy. Since mid 2016, the CHO unit had five ongoing projects for Morcenx-type plants. The first, Tiper, shall see its first construction steps by the close of 2018. All authorisations have been cleared including the long-term purchase of its output by EDF at attractive prices. The funding has been finalised by the close of 2017. The second one at Locminé is now expecting the clearing of its application by local authorities. The three others are on more distant calendars.

Europlasma's immediate challenge is to turn its pilot power generation plant into a cash machine. The delivery of the pilot plant to its owner at nominal performance happened in mid 2017 after a long series of misfiring broadly linked to too tight a budget. More work has been agreed upon to tweak the yield higher.

Since mid 2017, the challenge has been to turn the working technology into a park of power sites. Europlasma deems that site authorisations should not be a constraint as these projects are supported by local authorities. Less clear since H1 16, sadly, is the ability to contract long-term prices for the green power output.

Waste management is about capacity management

In 2013, Europlasma simplified its legal set up so that other businesses are also simpler to read. This is the case of Inertam, now fully focused on the processing of dangerous waste (asbestos mostly). The potential returns are high due to scarcity of treatment capacities and increasingly tough legislation that aims at destroying asbestos as opposed to burying it. This is potentially a money-spinner with EBITDA margins in the 25-30% region depending on maintenance /capacity usage. Of note, the by-product of asbestos burning is a glass-like material that has heat retention features which makes it attractive for heating systems.

2016 and 2017 were meant to be recovery years with a good utilisation rate and firm prices up to the moment the plant had to be stopped on safety concerns for staff potentially exposed to asbestos leaks and then by maintenance (refurbishing of the refractory lining).

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► Money Making

Torches reinvented as service?

Where Inertam provides a service, Europlasma's parent company, by contrast, is instead an engineer that explores the many uses of the plasma torch. This is a complex field with few competitors providing industrial usage equipment. Interesting co-developments, such as with Kobe Steel concerning fluidified combustion beds, are promising but are long lead-time projects. This part of the business is in effect a form of R&D on request. Management is keen to turn this into immediate revenues through consultancy/engineering work in all industries concerned with ultra-high temperatures.

All in all, the earnings pattern has been one kitchen-sinking type, enormous one-offs from 2013 up to 2017. The firm would have gone under without a continuing stream of recaps from 2014 to 2017 (equity line + convertible). Earnings visibility remains low but this is bound to be a feature of the new group as it depends on the timetable of its financing as well as of regulators to bring to fruition new plants. Earnings are bound to partly recover from 2018 with Inertam back on track and with the engineering phase attached to the new energy plants turning out attractive EPC-type margins.

As a summary to the business model, Europlasma combines the business of hazardous waste processing (services, cash flow now), of engineering (construction, cash flow to come and dependent on the percentage of ownership of projects) and energy production management (services, future cash flows and dividends).

Divisional Operating results

	12/16A	12/17E	12/18E	12/19E	Change 17E/16		Change 18E/17E	
					€th	of % total	€th	of % total
Holding, R&D, Engineering, Torch (Europlasma)	-3,954	-4,168	-3,900	-3,600	-214	-20%	268	2%
Renewable Energy (CHO-POWER)	-9,356	-9,583	3,494	9,952	-227	-21%	13,077	80%
Toxic Waste Management (Inertam)	-3,480	-1,964	950	1,075	1,516	141%	2,914	18%
Air & Gaz (Europe Environnement)	0.00	0.00	0.00	0.00	0	0%	0	0%
Other/cancellations	0.00	0.00	0.00	0.00	0	0%	0	0%
Total	-16,790	-15,715	544	7,427	1,075	100%	16,259	100%

Divisional Operating results margin

	12/16A	12/17E	12/18E	12/19E
Renewable Energy (CHO-POWER)	ns	ns	12.3%	13.5%
Toxic Waste Management (Inertam)	-45.2%	-30.2%	7.31%	7.96%
Air & Gaz (Europe Environnement)				
Total	-173%	-191%	1.26%	8.24%

► Debt

Debt

Europlasma, as it battles with its technology and timetable, has been a perennial fund raiser from 2014 to 2017 included.

The last round of funding, as provided by Bracknor Capital, has been remarkably expensive in dilution terms but that was the price to pay to get the pilot project to the point where it would stop burning cash.

Europlasma's cash needs in 2016 and 2017 have been met via a €15m "flexible" convertible issue with warrants attached for another €15m of equity under very dilutive terms reflecting the timetable pressure that the company has encountered. The convertible was "flexible" to the extent that a unique lender (Bracknor Capital, an investment fund with risk-taking credentials) bought tranches of financing as needed. There was no interest charge but a favourable conversion rate at 90% of the lowest equity value of the ten trading sessions prior to conversion. This amounts to a 10% return at market cost.

Previously issued warrants (see terms on the company website) are essentially out of the money since this massive dilution.

Better financing news stemmed from the sponsoring by the French Agency for greener power (ADEME) of a €12m funding line at 0.99% over six years tied to the Tiper development. Then the European Investment Bank backed the project with a €30m debt funding. Tiper is the first project after the prototype phase that Morcenx represents. As a reminder, Tiper is only minority-controlled by Europlasma so that the issue of Europlasma's own financing has yet to be sorted.

Recent financing history:

On 1 December 2010, Europlasma signed a shareholder pact with a major private equity player specialised in renewable energy. This pact grants an extended first say on projects similar to that of the pilot, known as CHO Morcenx. The principle is that Europlasma is funding 10% of the cost of energy sites (about €5m per project currently, starting from €4m then) and gets 25% of the equity/profit sharing. This figure rises to 35% once operational performance exceeds certain levels. Europlasma successfully launched two capital increases, raising a total of €6.3m on 12 July 2010 to finance part of its share of the construction of the first power facility. The company contracted a €6.2m bank loan (of which €1.2m pledged) over 12 years and at a fixed interest rate (4.4%) to finance the civil engineering works and related building materials for the pilot project at Morcenx.

By 2012, the massive losses recorded in that year led debt to shoot up to €20m from c.€4m. The equity base contracted to €14m from €35m so that the close of 2012 was a painful one in balance sheet terms. 2013 net debt reflected the absence of additional projects but also the deconsolidation of Europe Environnement which had c.€7m net debt, mostly made up of financial leases.

The short-term financing, provided most notably by Credit Suisse Europlasma LLP for c. €5m, has rapidly proved to be too expensive a bridge so that the urgent step was to inject fresh equity. The initial c.€4.4m raised in early 2014 has been complemented by a c. €35.9m increase in November 2014 (including debt conversion) with more to come in the shape of two tranches of warrants if and when they are exercised (€23m and then €18.8m). The dilution linked to these warrants has been allowed for from 2015 for the first A tranche (warrants go ex by the close of 2017) and 2016 for the second one (B warrants) as such resources are needed to pay for Europlasma's share of new power plants. Strike prices are well above summer 2016 share prices but the volatility is high enough to account for this dilution risk.

By late 2015, Europlasma had lined up €15m of extra equity-type financing, of which €5m by means of a convertible of which the coupon is redeemable in shares and €10m by way of an equity line. The equity line was stopped by summer 2016 after the issuance of c.€1.2m as the Bracknor funding is better suited.

In all, the completion of the Bracknor funding and the full dilution stemming from already issued conditional instruments led to a 60% dilution to existing shareholders. The €5m convertible should be redeemed in 2018.

Funding projections are deeply uncertain as the optimum ownership and thus financing structure was not finalised by early 2018 and new debt funding may be segregated by project.

It is worth mentioning that by October 2017 Europlasma issued 152 million new free warrants with 4 needed to buy a new

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► Debt

share at €0.32 up to 30/06/2018 and €0.75 up to 31/12/2021. This is welcomed as it may partly offset the considerable dilution pain experienced in 2016 and 2017.

Funding - Liquidity

		12/16A	12/17E	12/18E	12/19E
EBITDA	€th	-11,708	-9,459	4,944	11,827
Funds from operations (FFO)	€th	-11,575	-6,959	6,944	11,199
Ordinary shareholders' equity	€th	-3,600	-3,120	7,525	10,724
Gross debt	€th	13,500	8,000	7,000	2,000
o/w Less than 1 year - Gross debt	€th	3,000		5,000	
o/w 1 to 5 year - Gross debt	€th	7,900	5,000		
of which Y+2	€th	6,200			
of which Y+3	€th	960			
of which Y+4	€th	700			
o/w Beyond 5 years - Gross debt	€th	2,600	3,000	2,000	2,000
+ Gross Cash	€th	5,000	-2,134	5,311	2,010
= Net debt / (cash)	€th	8,500	10,134	1,689	-9.81

1. 3-year €5m convertible at 6% coupon paid in new shares

Bank borrowings	€th	6,300	2,000	2,000	2,000
Issued bonds	€th	5,000 ⁽¹⁾	5,000 ⁽¹⁾	5,000	
Other financing	€th	2,200	1,000	0.00	0.00
of which commercial paper	€th	1,700			
Gearing (at book value)	%			78.6	7.83
Adj. Net debt/EBITDA(R)	x	-0.73	-1.07	0.34	0.00
Adjusted Gross Debt/EBITDA(R)	x	-1.68	-1.90	3.84	1.44
Adj. gross debt/(Adj. gross debt+Equity)	%	122	121	71.6	61.3
Ebit cover	x	-40.2	-7.86	0.27	3.71
FFO/Gross Debt	%	-58.8	-38.7	36.5	65.9
FFO/Net debt	%	-136	-68.7	411	-114,171
FCF/Adj. gross debt (%)	%	-69.6	-75.7	23.4	45.3
(Gross cash+ "cash" FCF+undrawn)/ST debt	x	-2.90		1.95	
"Cash" FCF/ST debt	x	-4.54		0.89	

► Valuation

Valuation

Important: the following views and forecasts are AlphaValue's and may not match ongoing management thinking about the optimum business model. Europlasma is a complex set up that may or may not be organised differently.

In 2014, Europlasma had two equity issues: one for €4.4m in February and the second in November. Europlasma's second recapitalisation was a vast one with the issue of €27.8m fresh equity out a €36m total (the balance being debt conversion), with two tranches of equity warrants which fell by the wayside in 2017 due to their high strike price. By Q3 16, through the combination of a €1.2m equity line, a €5m convertible and €30m needed one way or the other, the number of shares shoots from 23 million at the beginning of 2014 to about 152 million at the close of 2017 with possibly 38m more if warrants C are fully exercised before the close of 2021.

The key point here is/was that dilution is/was a significant feature of the valuation exercise.

The valuation itself is made more complex by the shift in Europlasma's business profile, as the initial manufacturer of capital goods, plasma torches, has effectively moved into the actual operation of this know-how (green energy production), the capital intensity of which implies complex funding schemes. On top, there are different margin layers as Europlasma's energy business combines the engineering bit and the operating bit.

Let us remind what those businesses entail from a valuation stand point:

Europlasma's torch manufacturing business can be regarded as a capital goods supplier.

Inertam (hazardous waste)'s valuation is also rather simple. It has set up treatment capacity and is being paid to process waste. As it is a scarce resource, its processing margins are strong because prices hold. This amounts to valuing a waste processor with firm prices and regulation-dependent growth prospects.

CHO Power is somewhat more complex because it reflects the transition from an engineering capacity (designing and assembling new plants primarily financed by third parties) to operating them. It could potentially be complemented by capital gains on the selling of power production SPVs. The new business can be seen as a string of holdings in as many concessions for producing electricity and heat, with an unknown surrounding its speed of deployment and the uncertainty about the level of subsidies surrounding green power.

DCF

The DCF-based valuation is a complex exercise as it depends on the ownership (fully integrated or not) of the SPVs. As we allow for minority stakes and thus EPC work booked as revenues, we apply a sales and EBITDA negative growth to avoid designing a money-making machine. On top, the dividends expected from the energy production units as they come on line have to be added on. It is an exercise which obviously leads to fragile conclusions because it depends on the accuracy of the execution, the timing and the strength/commitment of the financial partners. Such dividend income flows are beyond the time scope of most investors but do impact positively a DCF. Also note that the DCF accrues in 2017 the value of the tax loss carry forwards bundled in one year.

Complex NAV

The calculation using the NAV method puts a finger on the difference in nature between current and future activities. The current activities are based on engineering and capital goods multiples. Easy enough. But the O&M side is losing money and depends on the proper execution of the EPC contracts. Less easy. It is worth mentioning that applying the transaction multiple (19x EBITDA) recorded by the Canadian group AlterNRG would value the O&M activities alone at c.€70m while we use €44m for CHO Power (EPC +O&M). This valuation of AlterNRG is due to a successful bid (June 2015) from Chinese privately-held Kaidi. It does confirm that there is a paucity of assets in the waste gasification field ... and that Chinese engineering groups are buyers of know-how in the field.

Then the tricky bit is to put a value on future activities that is the dividends streamed from the equity-owned producing SPVs. This obviously depends on the proper execution of years of engineering and then operations. We have essentially

Europlasma (Buy)

Alternative Energy / France

► Valuation

discounted to today a stream of dividend flows and deducted the capex associated with that flow of future dividends. This can be rounded to €10m as of today. Due to the time factor, it does not take much to reach double this figure if the jigsaw falls neatly into place.

Such valuation intricacies would vanish if the (tiny) group could simplify its business model by going for a full integration of its energy-related ambitions. Obviously its balance sheet would swell in proportion to its energy assets' build-up, but it would be an easier to read investment proposition. We hold the view that markets would probably be happy with a simpler legal set up, i.e. would accept higher multiples than current ones.

Peer metrics

As a comparison with other companies is difficult, we use a combination of various peers currently tracked by AlphaValue: Suez, specialised in environmental services; one engineering and industrial equipment supply companies with Elecnor which have a strong presence in renewable energies/environment (bio-energy, solar energy), primarily in terms of engineering. German GEA provides a peer in the field of EPC work as well.

ERG and Suez, although very imperfect, happen to be much involved in the field of operations of power assets, the former being now a wind power farmer primarily.

Valuation Summary

Benchmarks		Values (€)	Upside	Weight
DCF		0.57	201%	35%
NAV/SOTP per share		0.38	101%	20%
EV/Ebitda	Peers	0.26	37%	20%
P/E	Peers	0.20	7%	10%
Dividend Yield	Peers	0.00	-100%	10%
P/Book	Peers	0.09	-50%	5%
Target Price		0.35	86%	

Comparison based valuation

Computed on 18 month forecasts	P/E (x)	Ev/Ebitda (x)	P/Book (x)	Yield(%)
Peers ratios	18.5	7.77	1.41	3.69
Europlasma's ratios	17.3	5.48	4.80	0.00
Premium	0.00%	0.00%	0.00%	0.00%
Default comparison based valuation (€)	0.20	0.26	0.09	0.00
Gea Group	24.0	13.1	2.45	2.21
Suez	15.2	6.60	0.97	5.71
ERG	24.2	8.77	1.41	2.96
Elecnor	11.1	7.60	1.83	2.20



► DCF

DCF Valuation Per Share

WACC	%	8.68	Avg net debt (cash) at book value	€th	5,911
PV of cashflow FY1-FY11	€th	64,439	Provisions	€th	10,000
FY11CF	€th	11,955	Unrecognised actuarial losses (gains)	€th	0.00
Normalised long-term growth"g"	%	2.00	Financial assets at market price	€th	15,000
Terminal value	€th	179,020	Minorities interests (fair value)	€th	1,000
PV terminal value	€th	77,888	Equity value	€th	140,416
PV terminal value in % of total value	%	54.7	Number of shares	Th	248,518
Total PV	€th	142,327	Implied equity value per share	€	0.57

Assessing The Cost Of Capital

Synthetic default risk free rate	%	3.50	Company debt spread	bp	500
Target equity risk premium	%	5.00	Marginal Company cost of debt	%	8.50
Tax advantage of debt finance (normalised)	%	30.0	Company beta (leveraged)	x	1.16
Average debt maturity	Year	5	Company gearing at market value	%	26.6
Sector asset beta	x	1.00 ⁽²⁾	Company market gearing	%	21.0
Debt beta	x	1.00	Required return on geared equity	%	9.31
Market capitalisation	€th	38,052	Cost of debt	%	5.95
Net debt (cash) at book value	€th	10,134	Cost of ungeared equity	%	8.50
Net debt (cash) at market value	€th	8,794	WACC	%	8.68

2. We use a beta of 1 as the sector beta for energy refers to much bigger and established businesses

DCF Calculation

		12/16A	12/17E	12/18E	12/19E	Growth	12/20E	12/27E
Sales	€th	9,733	8,224	43,295	90,182	2.00%	91,985	105,662
EBITDA	€th	11,708	-9,459	4,944	11,827	3.00%	12,182	14,982
EBITDA Margin	%	-120	-115	11.4	13.1		13.2	14.2
Change in WCR	€th	3,536	-3,175	500	-500	3.00%	-515	-633
Total operating cash flows (pre tax)	€th	-7,542	-	6,444	11,327		11,667	14,349
Corporate tax	€th	-165	3,500	3,000	1,372	3.00%	1,413	1,738
Net tax shield	€th	-119	-600	-600	-600	3.00%	-618	-760
Capital expenditure	€th	-5,585	-3,500	-3,000	-3,000	4.00%	-3,120	-4,106
Capex/Sales	%	-57.4	-42.6	-6.93	-3.33		-3.39	-3.89
Pre financing costs FCF (for DCF purposes)	€th	13,411	12,234	5,844	9,099		9,342	11,221
Various add backs (incl. R&D, etc.) for DCF purposes	€th	500	500 ⁽³⁾	500 ⁽⁴⁾	500 ⁽⁴⁾		500 ⁽⁴⁾	500
Free cash flow adjusted	€th	12,911	11,734	6,344	9,599		9,842	11,721
Discounted free cash flows	€th	12,911	11,734	5,838	8,127		7,668	5,100
Invested capital	€	17.0	20.1	25.3	28.8		30.5	44.0

3. Including c.€20m of tax loss carry forwards. For "out years" DCF computation purposes the tax charge is computed clean of carry forwards but the value of carry forwards is bundled as a one-off in 2017

4. Dividend upflow from CHO Morcenx, net of capex and two similar plants. More are planned. We allow for delays/risks by accruing only 50% of the expected dividends

Eurolasma (Buy)

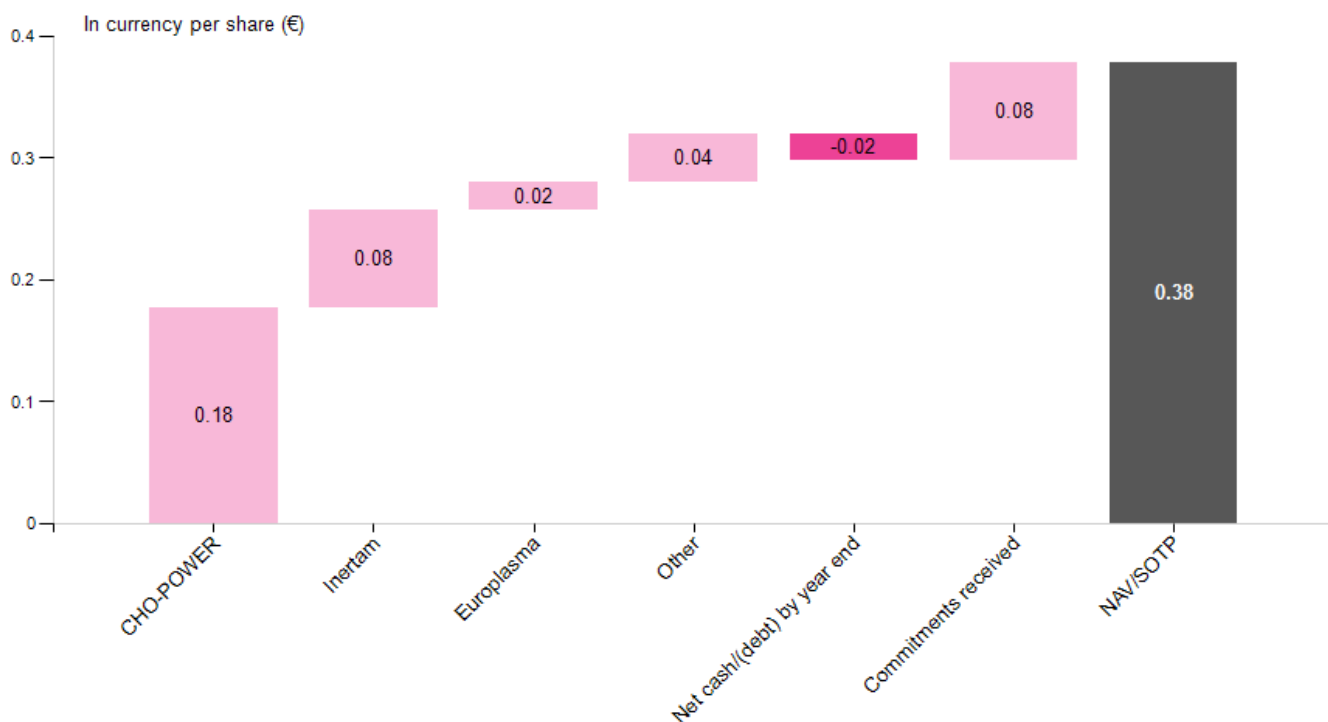
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▶ NAV/SOTP (edit)

NAV/SOTP Calculation

	% owned	Valuation technique	Multiple used	Valuation at 100% (€th)	Stake valuation (€th)	In currency per share (€)	% of gross assets
CHO-POWER	100%	EV/EBIT	11	44,000	44,000 ⁽¹⁾	0.18	55.3%
Inertam	100%	EV/EBIT	20	20,000	20,000 ⁽²⁾	0.08	25.2%
Eurolasma	100%	EV/EBIT	11	5,500	5,500 ⁽³⁾	0.02	6.92%
Other					10,000 ⁽⁴⁾	0.04	12.6%
Total gross assets					79,500	0.32	100%
Net cash/(debt) by year end					-5,311	-0.02	-6.68%
Commitments to pay							
Commitments received					19,800 ⁽⁵⁾	0.08	24.9%
NAV/SOTP					93,989	0.38	118%
Number of shares net of treasury shares - year end (Th)					248,518		
NAV/SOTP per share (€)						0.38	
Current discount to NAV/SOTP (%)						50.3	

1. Multiple in line with that of the 'Power' divisions of the largest capital goods companies.
2. Environmental services multiple
3. The EV/EBIT multiple is 20% below the 2016 weighted average for the capital goods sector
4. Best guess about the option value of yet to be financed new sites plus the value of the stake in the pilot project. It could be five times this amount with financing on hand
5. Tax credits. We indeed assume that all power generation projects are profitable



Europlasma (Buy)

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► Worth Knowing

Worth Knowing

The 2012 start-up of the CHO Morcenx pilot facility validated its industrial process and mastery of the plasma torch-based technology used to clean gas derived from waste gasifying to be burned in combustion engines attached to generators. By 2013, the energy delivery stalled on account of a faulty bought-off-the-shelf gasifier. When the issue was sorted in 2014, it then appeared that the engines had to be beefed up. The learning curve has proved tremendously expensive.

Europlasma clearly evolves in the “green energy” business. In Europe, the steps to support “green energies” by way of subsidies and/or feed-in tariffs have been hesitant and impacted by budget constraints just about everywhere. Although governments should know about the importance of a stable framework for alternative energy projects, it is clear that the French one has lowered visibility by early 2016 when it changed the rules for subsidies that now come as top-ups to market prices.

The French government had selected the gasification technology by name and identified Europlasma as a reference player in France for the Key Technologies 2015 research on the most promising technologies and those likely to create the most value and jobs.

Shareholders

Name	% owned	Of which % voting rights	Of which % free to float
Gottex	4.00%	7.00%	4.00%
Staff Europlasma	1.00%	1.00%	0.00%
Credit Suisse Europlasma SPV LLC	0.00%	0.00%	0.00%
Apparent free float			99.0%

Europlasma (Buy)

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Financials

Valuation Key Data

		12/16A	12/17E	12/18E	12/19E
Adjusted P/E	x	-2.81	-2.48	24.4	6.37
Reported P/E	x	-3.33	-2.86	24.6	5.18
EV/EBITDA(R)	x	-5.40	-4.95	6.62	2.88
P/Book	x	-16.0	-13.0	5.06	3.55
Dividend yield	%	0.00	0.00	0.00	0.00
Free cash flow yield	%	-23.8	-33.5	11.7	20.2
Average stock price	€	0.52	0.27	0.19	0.19

Consolidated P&L

		12/16A	12/17E	12/18E	12/19E
Sales	€th	9,733	8,224	43,295	90,182
Sales growth	%	-30.9	-15.5	426	108
Sales per employee	€th	88.5	74.8	376	752
Organic change in sales	%				
Purchases and external costs (incl. IT)	€th				
Staff costs	€th	-8,607	-8,607	-8,998	-9,390
Operating lease payments	€th				
Cost of sales/COGS (indicative)	€th				
EBITDA	€th	-11,708	-9,459	4,944	11,827
EBITDA(R)	€th	-11,708	-9,459	4,944	11,827
EBITDA(R) margin	%	-120	-115	11.4	13.1
EBITDA(R) per employee	€th	-106	-86.0	43.0	98.6
Depreciation	€th	-4,230	-5,656	-4,400	-4,400
Depreciations/Sales	%	43.5	68.8	10.2	4.88
Amortisation	€th	0.00	-600	0.00	0.00
Additions to provisions	€th	0.00	0.00	0.00	0.00
Reduction of provisions	€th	0.00	0.00	0.00	0.00
Underlying operating profit	€th	-15,938	-15,715	544	7,427
Underlying operating margin	%	-164	-191	1.26	8.24
Other income/expense (cash)	€th	-122	0.00	0.00	0.00
Other inc./ exp. (non cash; incl. assets revaluation)	€th				
Earnings from joint venture(s)	€th				
Impairment charges/goodwill amortisation	€th	-652	0.00		
Operating profit (EBIT)	€th	-16,712	-15,715	544	7,427
Interest expenses	€th	-838	-2,000	-2,000	-2,000
of which effectively paid cash interest expenses	€th	-332	-2,000	-2,000	-2,000
Financial income	€th	0.00	0.00	0.00	0.00
Other financial income (expense)	€th	442	0.00	0.00	0.00
Net financial expenses	€th	-396	-2,000	-2,000	-2,000
of which related to pensions	€th		0.00	0.00	0.00
Pre-tax profit before exceptional items	€th	-17,108	-17,715	-1,456	5,427
Exceptional items and other (before taxes)	€th				
of which cash (cost) from exceptionals	€th				
Current tax	€th	-165	0.00 ⁽⁵⁾	0.00	-1,628
Impact of tax loss carry forward	€th	0.00	3,500	3,000	3,000
Deferred tax	€th			0.00	
Corporate tax	€th	-165	3,500	3,000	1,372
Tax rate	%	-1.00	19.8	ns	-25.3
Net margin	%	-177	-173	3.57	7.54
Equity associates	€th	0.00 ⁽⁶⁾	0.00 ⁽⁶⁾	0.00 ⁽⁶⁾	540
Actual dividends received from equity holdings	€th		⁽⁵⁾		
Minority interests	€th	0.00	0.00	0.00	0.00
Actual dividends paid out to minorities	€th				
Income from discontinued operations	€th				
Attributable net profit	€th	-17,273	-14,215	1,544	7,339
Impairment charges/goodwill amortisation	€th	652	0.00	0.00	0.00
Other adjustments	€th		⁽⁷⁾		

5. See "other adjustments"

6. The equity stake in power plants is expected to be 45% with a €1.2m post-tax operating cash flow /plant. The second plant is unlikely to operate before 2019

7. Offset to allow for the fact that Europlasma will not pay taxes in 2017. See note in DCF 2017.

Europlasma (Buy)

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► Financials

Adjusted attributable net profit	€th	-16,621	-14,215	1,544	7,339
Interest expense savings	€th				
Fully diluted adjusted attr. net profit	€th	-16,621	-14,215	1,544	7,339
NOPAT	€th	-11,157	-11,000	381	5,739

Cashflow Statement

		12/16A	12/17E	12/18E	12/19E
EBITDA	€th	-11,708	-9,459	4,944	11,827
Change in WCR	€th	3,536	-3,175	500	-500
<i>of which (increases)/decr. in receivables</i>	€th	2,322	-4,162	-1,000	-1,000
<i>of which (increases)/decr. in inventories</i>	€th	10.0	-1,228	-500	-1,000
<i>of which increases/(decr.) in payables</i>	€th	259	1,656	1,000	1,000
<i>of which increases/(decr.) in other curr. liab.</i>	€th	945	559	1,000	500
Actual dividends received from equity holdings	€th	0.00	0.00	0.00	0.00
Paid taxes	€th	-335	3,500	3,000	1,372
Exceptional items	€th				
Other operating cash flows	€th	800	1,000	1,000	
Total operating cash flows	€th	-7,707	-8,134	9,444	12,699
Capital expenditure	€th	-5,585	-3,500	-3,000	-3,000
<i>Capex as a % of depreciation & amort.</i>	%	132	55.9	68.2	68.2
Net investments in shares	€th	0.00 ⁽⁸⁾	0.00	-5,000	-5,000
Other investment flows	€th	-280	-1,000	-1,000	-1,000
Total investment flows	€th	-5,865	-4,500	-9,000	-9,000
Net interest expense	€th	-396	-2,000	-2,000	-2,000
<i>of which cash interest expense</i>	€th	-332	-2,000	-2,000	-2,000
Dividends (parent company)	€th				
Dividends to minorities interests	€th	0.00	0.00	0.00	0.00
New shareholders' equity	€th	10,900 ⁽⁹⁾	13,000 ⁽¹⁰⁾	10,000	0.00
<i>of which (acquisition) release of treasury shares</i>	€th		⁽¹⁰⁾		
(Increase)/decrease in net debt position	€th	-1,455	-5,500	-1,000	-5,000
Other financial flows	€th	-400			
Total financial flows	€th	8,713	5,500	7,000	-7,000
Change in cash position	€th	-4,859	-7,134	7,444	-3,301
Change in net debt position	€th	-3,404	-1,634	8,444	1,699
Free cash flow (pre div.)	€th	-13,688	-13,634	4,444	7,699
Operating cash flow (clean)	€th	-7,707	-8,134	9,444	12,699
<i>Reinvestment rate (capex/tangible fixed assets)</i>	%	42.4	26.9	21.4	20.0

8. Europlasma's equity interest in new power plants. We assume that Europlasma does not go for majority control. Each power plant amounts to a €50m capex that is 40% equity funded. Europlasma buys a 25% stake thus worth €5m

9. €10m equity line + rights issue of €20m

10. Assumption that A warrants are exercised at €0.8

Eurolasma (Buy)

Alternative Energy / France

Financials

Balance Sheet

		12/16A	12/17E	12/18E	12/19E
Goodwill	€th	664	700	1,000	1,000
Other intangible assets	€th	247	314	314	314
Total intangible	€th	911	1,014	1,314	1,314
Tangible fixed assets	€th	13,186	13,000	14,000	15,000
Financial fixed assets (part of group strategy)	€th	3,538	3,600	8,000	10,000
Other financial assets (investment purpose mainly)	€th	5,401	6,000	6,000	6,000
WCR	€th	-675	2,500	2,000	2,500
<i>of which trade & receivables (+)</i>	€th	3,838	8,000	9,000	10,000
<i>of which inventories (+)</i>	€th	1,272	2,500	3,000	4,000
<i>of which payables (+)</i>	€th	4,344	6,000	7,000	8,000
<i>of which other current liabilities (+)</i>	€th	1,441	2,000	3,000	3,500
Other current assets	€th	3,415	4,000	4,000	5,000
<i>of which tax assets (+)</i>	€th	1,000	1,000	1,000	1,000
Total assets (net of short term liabilities)	€th	25,776	30,114	35,314	39,814
Ordinary shareholders' equity (group share)	€th	-3,600	-3,120	7,525	10,724
Minority interests	€th	100	100	100	100
Provisions for pensions	€th	500	0.00	0.00	0.00
Other provisions for risks and liabilities	€th	5,679	10,000	12,000	15,000
Deferred tax liabilities	€th	-252	-2,000	-2,000	-2,000
Other liabilities	€th	14,830	15,000	16,000	16,000
Net debt / (cash)	€th	8,500	10,134	1,689	-9.81
Total liabilities and shareholders' equity	€th	25,757	30,114	35,314	39,814
Average net debt / (cash)	€th	7,105	9,317	5,911	840

EV Calculations

		12/16A	12/17E	12/18E	12/19E
EV/EBITDA(R)	x	-5.40	-4.95	6.62	2.88
EV/EBIT (underlying profit)	x	-3.97	-2.98	60.2	4.58
EV/Sales	x	6.50	5.69	0.76	0.38
EV/Invested capital	x	3.73	2.33	1.29	1.18
Market cap	€th	57,596	40,657	38,052	38,052
+ Provisions (including pensions)	€th	6,179	10,000	12,000	15,000
+ Unrecognised actuarial losses/(gains)	€th	0.00	0.00	0.00	0.00
+ Net debt at year end	€th	8,500	10,134	1,689	-9.81
+ Leases debt equivalent	€th	0.00	0.00	0.00	0.00
- Financial fixed assets (fair value) & Others	€th	10,000	15,000	20,000	20,000
+ Minority interests (fair value)	€th	1,000	1,000	1,000	1,000
= Enterprise Value	€th	63,275	46,791	32,741	34,042

Europlasma (Buy)

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► Financials

Per Share Data

		12/16A	12/17E	12/18E	12/19E
Adjusted EPS (bfr goodwill amort. & dil.)	€	-0.18	-0.11	0.01	0.03
<i>Growth in EPS</i>	%	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	283
Reported EPS	€	-0.15	-0.09	0.01	0.04
Net dividend per share	€	0.00	0.00	0.00	0.00
Free cash flow per share	€	-0.15	-0.10	0.02	0.03
Operating cash flow per share	€	-0.09	-0.06	0.05	0.06
Book value per share	€	-0.03	-0.02	0.04	0.05
Number of ordinary shares	Th	111,650 ⁽¹¹⁾	152,405 ⁽¹²⁾	202,405	202,405
Number of equivalent ordinary shares (year end)	Th	111,650	152,405	202,405	202,405
Number of shares market cap.	Th	111,000	152,400	152,000	170,000
Treasury stock (year end)	Th				
Number of shares net of treasury stock (year end)	Th	111,650	152,405	202,405	202,405
Number of common shares (average)	Th	90,659	132,028	177,405	202,405
Conversion of debt instruments into equity	Th	⁽¹³⁾	0.00 ⁽¹³⁾	5,575 ⁽¹³⁾	5,575
Settlement of cashable stock options	Th	⁽¹⁴⁾	0.00 ⁽¹⁵⁾	38,000 ⁽¹⁵⁾	38,000
Probable settlement of non mature stock options	Th				
Other commitments to issue new shares	Th		0.00	2,538	2,538
Increase in shares outstanding (average)	Th	0.00	0.00	23,057	46,113
Number of diluted shares (average)	Th	90,659	132,028	200,462	248,518
Goodwill per share (diluted)	€	0.01	0.00	0.00	0.00
EPS after goodwill amortisation (diluted)	€	-0.19	-0.11	0.01	0.03
EPS before goodwill amortisation (non-diluted)	€	-0.19	-0.11	0.01	0.04
Actual payment	€				
Payout ratio	%	0.00	0.00	0.00	0.00
Capital payout ratio (div +share buy back/net income)	%	0.00	0.00	0.00	

11. 30m more shares implied by the Bracknor financing
12. Including A warrants of 2014
13. Convertible issue of late 2015 with a coupon in shares
14. A warrants of 2014
15. New C warrants issued in October 2017 with a strike price at €0.32 up to 30/06/2018, and €0.75 thereafter up to 31/12/2018. We assume that they are exercised

Eurolasma (Buy)

Alternative Energy / France

Financials

Funding - Liquidity

		12/16A	12/17E	12/18E	12/19E
EBITDA	€th	-11,708	-9,459	4,944	11,827
Funds from operations (FFO)	€th	-11,575	-6,959	6,944	11,199
Ordinary shareholders' equity	€th	-3,600	-3,120	7,525	10,724
Gross debt	€th	13,500	8,000	7,000	2,000
o/w Less than 1 year - Gross debt	€th	3,000		5,000	
o/w 1 to 5 year - Gross debt	€th	7,900	5,000		
of which Y+2	€th	6,200			
of which Y+3	€th	960			
of which Y+4	€th	700			
o/w Beyond 5 years - Gross debt	€th	2,600	3,000	2,000	2,000
+ Gross Cash	€th	5,000	-2,134	5,311	2,010
= Net debt / (cash)	€th	8,500	10,134	1,689	-9.81

1. 3-year €5m convertible at 6% coupon paid in new shares

Bank borrowings	€th	6,300	2,000	2,000	2,000
Issued bonds	€th	5,000 ⁽¹⁾	5,000 ⁽¹⁾	5,000	
Other financing	€th	2,200	1,000	0.00	0.00
of which commercial paper	€th	1,700			
Gearing (at book value)	%			78.6	7.83
Adj. Net debt/EBITDA(R)	x	-0.73	-1.07	0.34	0.00
Adjusted Gross Debt/EBITDA(R)	x	-1.68	-1.90	3.84	1.44
Adj. gross debt/(Adj. gross debt+Equity)	%	122	121	71.6	61.3
Ebit cover	x	-40.2	-7.86	0.27	3.71
FFO/Gross Debt	%	-58.8	-38.7	36.5	65.9
FFO/Net debt	%	-136	-68.7	411	-114,171
FCF/Adj. gross debt (%)	%	-69.6	-75.7	23.4	45.3
(Gross cash+ "cash" FCF+undrawn)/ST debt	x	-2.90		1.95	
"Cash" FCF/ST debt	x	-4.54		0.89	

ROE Analysis (Dupont's Breakdown)

		12/16A	12/17E	12/18E	12/19E
Tax burden (Net income/pretax pre excp income)	x	1.01	0.80	-1.06	1.35
EBIT margin (EBIT/sales)	%	-172	-191	1.26	8.24
Assets rotation (Sales/Avg assets)	%	36.8	29.4	132	240
Financial leverage (Avg assets /Avg equity)	x	-47.9	-8.32	14.9	4.12
ROE	%	3,126	423	70.1	80.4
ROA	%	-125	-95.2	3.14	39.5

Shareholder's Equity Review (Group Share)

		12/16A	12/17E	12/18E	12/19E
Y-1 shareholders' equity	€th	2,481	-3,892	-3,120	7,525
+ Net profit of year	€th	-17,273	-14,215	1,544	7,339
- Dividends (parent cy)	€th	0.00	0.00	0.00	0.00
+ Additions to equity	€th	10,900	13,000	10,000	0.00
o/w reduction (addition) to treasury shares	€th	0.00	0.00	0.00	0.00
- Unrecognised actuarial gains/(losses)	€th	0.00	0.00	0.00	0.00
+ Comprehensive income recognition	€th	0.00	1,987	-900	-4,140
= Year end shareholders' equity	€th	-3,892	-3,120	7,525	10,724

Europlasma (Buy)

Alternative Energy / France

Financials

Staffing Analytics

		12/16A	12/17E	12/18E	12/19E
Sales per staff	€th	88.5	74.8	376	752
Staff costs per employee	€th	-78.2	-78.2	-78.2	-78.2
Change in staff costs	%	4.76	0.00	4.55	4.35
Change in unit cost of staff	%	0.00	0.00	0.00	0.00
Staff costs/(EBITDA+Staff costs)	%	-278	-1,011	64.5	44.3

Average workforce	unit	110	110	115	120
Europe	unit	105	110	115	120
North America	unit	0.00	0.00	0.00	0.00
South Americas	unit	0.00	0.00	0.00	0.00
Asia	unit	0.00	0.00	0.00	0.00
Other key countries	unit	0.00	0.00	0.00	0.00
Total staff costs	€th	-8,607	-8,607	-8,998	-9,390
Wages and salaries	€th	-8,607	-8,607	-8,998	-9,390
of which social security contributions	€th	-2,700	-3,000	-3,000	-3,000
Equity linked payments	€th				
Pension related costs	€th	0.00	0.00	0.00	0.00

Divisional Breakdown Of Revenues

		12/16A	12/17E	12/18E	12/19E
Engineering, Torch (Europlasma)	€th	1,650	1,628	2,000	3,000
Renewable Energy (CHO-POWER)	€th	379	102	28,295	73,682
Toxic Waste Management (Inertam)	€th	7,704	6,494	13,000	13,500
Air & Gaz (Europe Environnement)	€th	0.00	0.00	0.00	0.00
Other	€th	0.00	0.00	0.00	0.00
Total sales	€th	9,733	8,224	43,295	90,182

Divisional Breakdown Of Earnings

		12/16A	12/17E	12/18E	12/19E
Operating results Analysis					
Holding, R&D, Engineering, Torch (Europlasma)	€th	-3,954	-4,168	-3,900	-3,600
Renewable Energy (CHO-POWER)	€th	-9,356	-9,583	3,494	9,952
Toxic Waste Management (Inertam)	€th	-3,480	-1,964	950	1,075
Air & Gaz (Europe Environnement)	€th	0.00	0.00	0.00	0.00
Other/cancellations	€th	0.00	0.00	0.00	0.00
Total	€th	-16,790	-15,715	544	7,427
Operating results margin	%	-173	-191	1.26	8.24

Revenue Breakdown By Country

		12/16A	12/17E	12/18E	12/19E
Europe	%	90.0	90.0		
Americas	%	0.00	0.00		
Asia	%	10.0	10.0		
Other	%	0.00	0.00		

Europlasma (Buy)

Alternative Energy / France

► Financials

ROCE/CFROIC/Capital Invested

		12/16A	12/17E	12/18E	12/19E
ROCE (NOPAT+lease exp.*(1-tax))/(net) cap employed adjusted	%	-65.8	-54.7	1.51	19.9
CFROIC	%	-80.7	-67.8	17.6	26.7
Goodwill	€th	664	700	1,000	1,000
Accumulated goodwill amortisation	€th	0.00	0.00	0.00	0.00
All intangible assets	€th	247	314	314	314
Accumulated intangible amortisation	€th	0.00	0.00	0.00	0.00
Financial hedges (LT derivatives)	€th	0.00	0.00	0.00	0.00
Capitalised R&D	€th	0.00	0.00	0.00	0.00
PV of non-capitalised lease obligations	€th	0.00	0.00	0.00	0.00
Other fixed assets	€th	13,186	13,000	14,000	15,000
Accumulated depreciation	€th	0.00	0.00	0.00	0.00
WCR	€th	-675	2,500	2,000	2,500
Other assets	€th	3,538	3,600	8,000	10,000
Unrecognised actuarial losses/(gains)	€th	0.00	0.00	0.00	0.00
Capital employed after deprec. (Invested capital)	€th	16,960	20,114	25,314	28,814
Capital employed before depreciation	€th	16,960	20,114	25,314	28,814

Divisional Breakdown Of Capital

		12/16A	12/17E	12/18E	12/19E
Holding, R&D, Engineering, Torch (Europlasma)	€th				
Renewable Energy (CHO-POWER)	€th				
Toxic Waste Management (Inertam)	€th				
Air & Gaz (Europe Environnement)	€th				
Other	€th	16,960	20,114	25,314	28,814
Total capital employed	€th	16,960	20,114	25,314	28,814

► Pension Risks

Pension matters

Europlasma is a small company in terms of headcount. Actual engineering work is delivered by partners.

Summary Of Pension Risks

		12/16A	12/17E	12/18E	12/19E
Pension ratio	%	0.00	0.00	0.00	0.00
Ordinary shareholders' equity	€th	-3,600	-3,120	7,525	10,724
Total benefits provisions	€th	0.00	0.00	0.00	0.00
<i>of which funded pensions</i>	€th	0.00	0.00	0.00	0.00
<i>of which unfunded pensions</i>	€th	0.00	0.00	0.00	0.00
<i>of which benefits / health care</i>	€th	0.00	0.00	0.00	0.00
Unrecognised actuarial (gains)/losses	€th	0.00	0.00	0.00	0.00
<i>Company discount rate</i>	%	4.60	4.60	4.60	4.60
Normalised recomputed discount rate	%		1.50		
<i>Company future salary increase</i>	%	3.00	3.00	3.00	3.00
Normalised recomputed future salary increase	%		2.00		
<i>Company expected rate of return on plan assets</i>	%	6.00	6.00	6.00	6.00
Normalised recomputed expd rate of return on plan assets	%		1.50		
Funded : Impact of actuarial assumptions	€th		0.00		
Unfunded : Impact of actuarial assumptions	€th		0.00		

Geographic Breakdown Of Pension Liabilities

		12/16A	12/17E	12/18E	12/19E
US exposure	%				
UK exposure	%				
Euro exposure	%	100	100	100	100
Nordic countries	%				
Switzerland	%				
Other	%				
Total	%	100	100	100	100

Balance Sheet Implications

		12/16A	12/17E	12/18E	12/19E
Funded status surplus / (deficit)	€th	0.00	0.00	0.00	0.00
Unfunded status surplus / (deficit)	€th	0.00	0.00	0.00	0.00
Total surplus / (deficit)	€th	0.00	0.00	0.00	0.00
Total unrecognised actuarial (gains)/losses	€th	0.00	0.00	0.00	0.00
Provision (B/S) on funded pension	€th	0.00	0.00	0.00	0.00
Provision (B/S) on unfunded pension	€th	0.00	0.00	0.00	0.00
Other benefits (health care) provision	€th	0.00	0.00	0.00	0.00
Total benefit provisions	€th	0.00	0.00	0.00	0.00

P&L Implications

		12/16A	12/17E	12/18E	12/19E
Funded obligations periodic costs	€th	0.00	0.00	0.00	0.00
Unfunded obligations periodic costs	€th	0.00	0.00	0.00	0.00
Total periodic costs	€th	0.00	0.00	0.00	0.00
<i>of which incl. in labour costs</i>	€th	0.00	0.00	0.00	0.00
<i>of which incl. in interest expenses</i>	€th	0.00	0.00	0.00	0.00

Eurolasma (Buy)

Alternative Energy / France

► Pension Risks

Funded Obligations

		12/16A	12/17E	12/18E	12/19E
Balance beginning of period	€th	0.00	0.00	0.00	0.00
Current service cost	€th	0.00	0.00	0.00	0.00
Interest expense	€th	0.00	0.00	0.00	0.00
Employees' contributions	€th				
Impact of change in actuarial assumptions	€th	0.00	0.00	0.00	0.00
<i>of which impact of change in discount rate</i>	€th		0.00		
<i>of which impact of change in salary increase</i>	€th		0.00		
Changes to scope of consolidation	€th				
Currency translation effects	€th				
Pension payments	€th				
Other	€th				
Year end obligation	€th	0.00	0.00	0.00	0.00

Plan Assets

		12/16A	12/17E	12/18E	12/19E
Value at beginning	€th	0.00	0.00	0.00	0.00
Company expected return on plan assets	€th	0.00	0.00	0.00	0.00
Actuarial gain/(loss)	€th	0.00	0.00	0.00	0.00
Employer's contribution	€th	0.00	0.00	0.00	0.00
Employees' contributions	€th	0.00	0.00	0.00	0.00
Changes to scope of consolidation	€th				
Currency translation effects	€th				
Pension payments	€th	0.00	0.00	0.00	0.00
Other	€th				
Value end of period	€th	0.00	0.00	0.00	0.00
Actual and normalised future return on plan assets	€th	0.00	0.00	0.00	0.00

Unfunded Obligations

		12/16A	12/17E	12/18E	12/19E
Balance beginning of period	€th	0.00	0.00	0.00	0.00
Current service cost	€th	0.00	0.00	0.00	0.00
Interest expense	€th	0.00	0.00	0.00	0.00
Employees' contributions	€th				
Impact of change in actuarial assumptions	€th	0.00	0.00	0.00	0.00
<i>of which Impact of change in discount rate</i>	€th		0.00		
<i>of which Impact of change in salary increase</i>	€th		0.00		
Changes to scope of consolidation	€th				
Currency translation effects	€th				
Pension payments	€th				
Other	€th				
Year end obligation	€th	0.00	0.00	0.00	0.00











Governance & Management

Governance & Management





Europlasma's ambitious but underfunded inroads into green power led to a new CEO and a new CFO by late 2014. Regaining the confidence of financial partners and shareholders alike was a priority.

By summer 2016, the governance changed at the board level as a long-time partner fund (Credit Suisse Asset Management) stepped down. This may herald further changes.

Governance parameters

	Yes  / No 	Weighting
One share, one vote		15%
Chairman vs. Executive split		5%
Chairman not ex executive		5%
Independent directors equals or above 50% of total directors		20%
Full disclosure on mgt pay (performance related bonuses, pensions and non financial benefits)		20%
Disclosure of performance anchor for bonus trigger		15%
Compensation committee reporting to board of directors		5%
Straightforward, clean by-laws		15%
Governance score	70	100%











Existing committees

	Audit / Governance Committee
	Compensation committee
	Financial Statements Committee
	Litigation Committee
	Nomination Committee
	Safety committee
	SRI / Environment

Management

Name	Function	Birth date	Date in	Date out	Compensation, in k€ (year)	
					Cash	Equity linked
Jean-Eric PETIT	M  CEO		2014		252 (2016)	
Pierre CATLIN	M  Chairman	1949	2010		(2016)	(2016)
Krimer STEPHAN	M  CFO	1960	2017			


Board of Directors

Name	Indep.	Function	Completion of current mandate	Birth date	Date in	Date out	Fees / indemnity, in k€ (year)	Value of holding, in k€ (year)
Pierre CATLIN	M  	President/Chairman of th...	2016	1949	2010		84.0 (2016)	
Kim Ying LEE	M 	Member	2018		2008		20.0 (2016)	
Jean-Eric PETIT	M  	Member			2014		0.00 (2016)	
Yann LE DORÉ	M  	Member			2016		14.0 (2016)	
Erik MARTEL	M  	Member	2022		2016		101 (2016)	
François MARCHAL	M 	Member	2017		2011		20.0 (2016)	

Governance & Management

Human Resources


Accidents at work
25% Of H.R. Score




Human resources development
35% Of H.R. Score




Pay
20% Of H.R. Score























Job satisfaction
10% Of H.R. Score



Internal communication
10% Of H.R. Score



HR Breakdown

		Yes  / No 	Rating
Accidents at work	25%		25/100
Set targets for work safety on all group sites?	40%		10/100
Are accidents at work declining?	60%		15/100
Human resources development	35%		28/100
Are competences required to meet medium term targets identified?	10%		4/100
Is there a medium term (2 to 5 years) recruitment plan?	10%		0/100
Is there a training strategy tuned to the company objectives?	10%		4/100
Are employees trained for tomorrow's objectives?	10%		4/100
Can all employees have access to training?	10%		4/100
Has the corporate avoided large restructuring lay-offs over the last year to date?	10%		4/100
Have key competences stayed?	10%		4/100
Are managers given managerial objectives?	10%		4/100
If yes, are managerial results a deciding factor when assessing compensation level?	10%		4/100
Is mobility encouraged between operating units of the group?	10%		0/100
Pay	20%		6/100
Is there a compensation committee?	30%		6/100
Is employees' performance combining group performance AND individual performance?	70%		0/100
Job satisfaction	10%		10/100
Is there a measure of job satisfaction?	33%		3/100
Can anyone participate ?	34%		3/100
Are there action plans to prop up employees' morale?	33%		3/100
Internal communication	10%		0/100
Are strategy and objectives made available to every employee?	100%		0/100
Human Ressources score:			69/100

HR Score

H.R. Score : 6.9/10



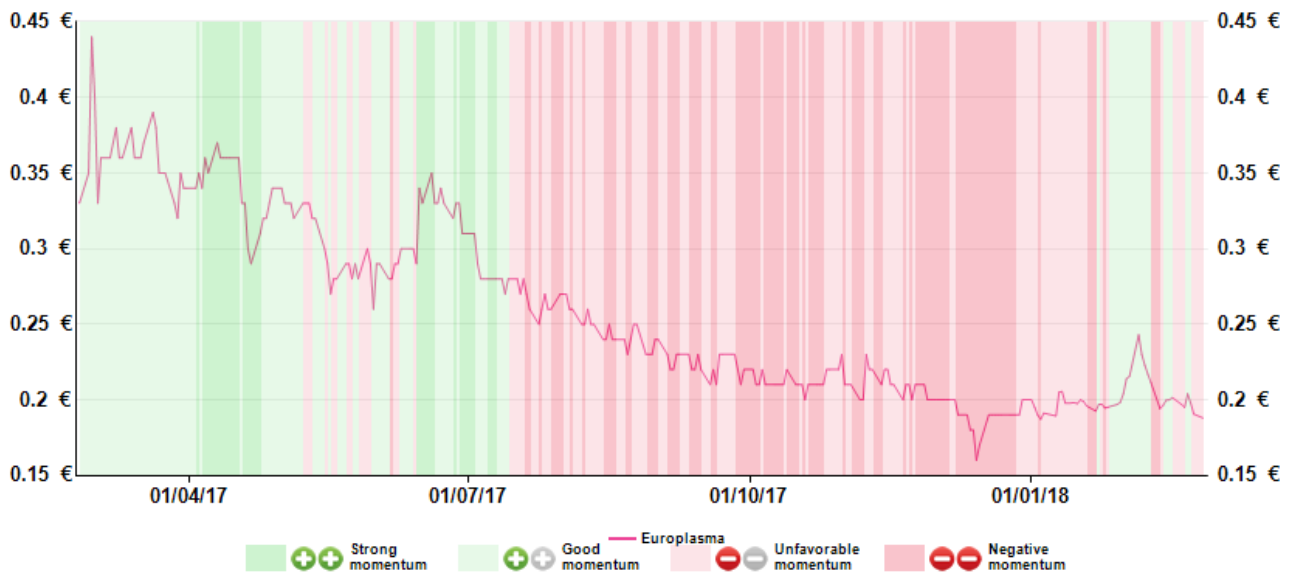
▼ Utilities
■ Europlasma


Europlasma (Buy)


Alternative Energy / France


► Graphics


Momentum



 : Strong momentum corresponding to a continuous and overall positive moving average trend confirmed by volumes

 : Relatively good momentum corresponding to a positively-oriented moving average, but offset by an overbought pattern or lack of confirmation from volumes

 : Relatively unfavorable momentum with a neutral or negative moving average trend, but offset by an oversold pattern or lack of confirmation from volumes

 : Strongly negative momentum corresponding to a continuous and overall negative moving average trend confirmed by volumes

Momentum analysis consists in evaluating the stock market trend of a given financial instrument, based on the analysis of its trading flows.

The main indicators used in our momentum tool are simple moving averages over three time frames: short term (20 trading days), medium term (50 days) and long term (150 days). The positioning of these moving averages relative to each other gives us the direction of the flows over these time frames.

For example, if the short and medium-term moving averages are above the long-term moving average, this suggests an uptrend which will need to be confirmed. Attention is also paid to the latest stock price relative to the three moving averages (advance indicator) as well as to the trend in these three moving averages - downtrend, neutral, uptrend - which is more of a lagging indicator.

The trend indications derived from the flows through moving averages and stock prices must be confirmed against trading volumes in order to confirm the signal. This is provided by a calculation based on the average increase in volumes over ten weeks together with a buy/sell volume ratio.

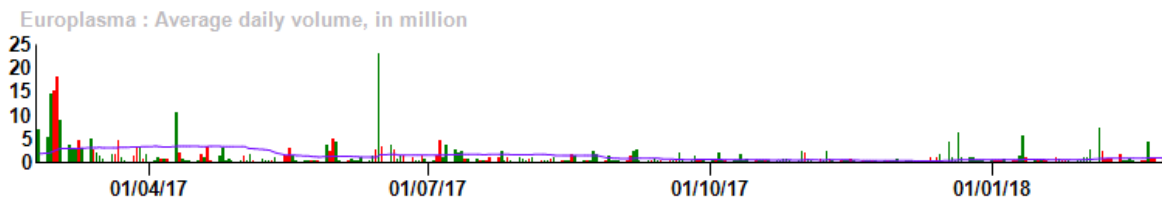
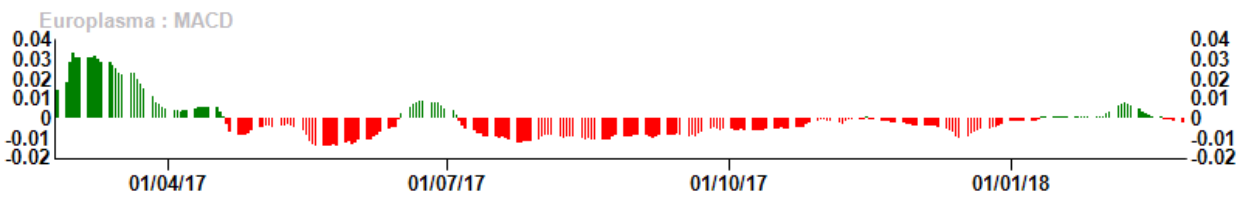
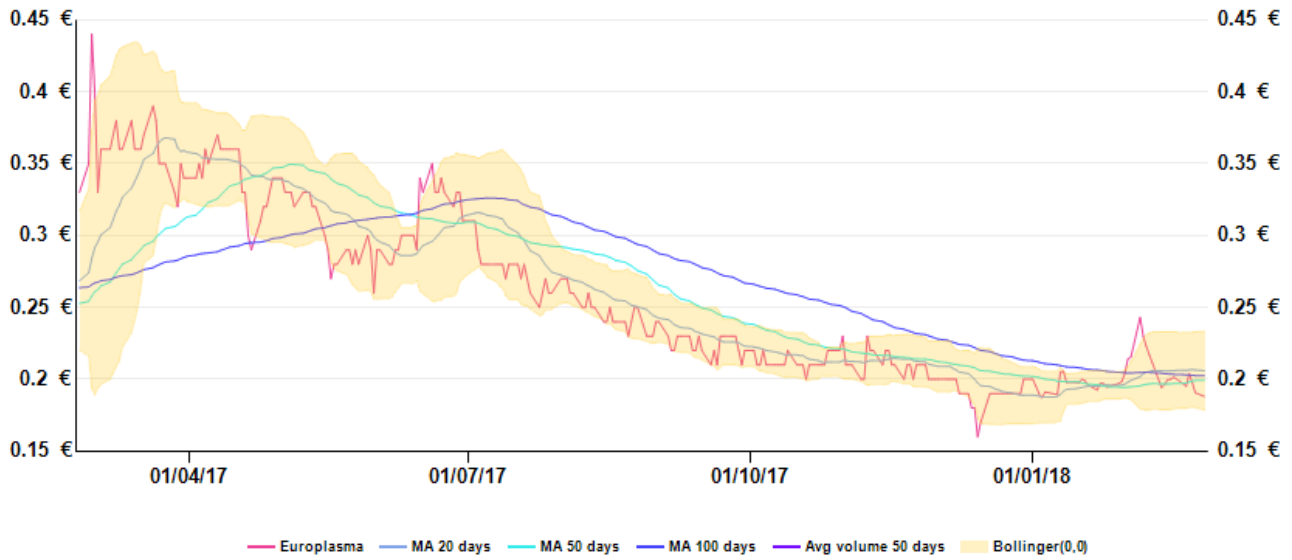
Europlasma (Buy)

Alternative Energy / France



► Graphics

Moving Average MACD & Volume



Europlasma (Buy)

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ALPHAVALUE
CORPORATE SERVICES

► Graphics

€/\$ sensitivity



Sector Utilities



Methodology

Eurolasma (Buy)

Alternative Energy / France

► Methodology

Fundamental Opinion

It is implicit that recommendations are made in good faith but should not be regarded as the sole source of advice.

Recommendations are geared to a “value” approach.

Valuations are computed from the point of view of a **secondary market minority holder** looking at a medium term (say 6 months) performance.

Valuation tools are built around the concepts of **transparency**, all underlying figures are accessible, and **consistency**, same methodology whichever the stock, allowing for differences in nature between financial and non financial stocks. A stock with a target price below its current price should not and will not be regarded as an Add or a Buy.

Recommendations are based on target prices with no allowance for dividend returns. The thresholds for the four recommendation levels may change from time to time depending on market conditions. Thresholds are defined as follows, ASSUMING long risk free rates remain in the 2-5% region.

Recommendation	Low Volatility	Normal Volatility	High Volatility
	10 < VIX index < 30	15 < VIX index < 35	35 < VIX index
Buy ●	More than 15% upside	More than 20% upside	More than 30% upside
Add ■	From 5% to 15%	From 5% to 20%	From 10% to 30%
Reduce ■	From -10% to 5%	From -10% to 5%	From -10% to 10%
Sell ●	Below -10%	Below -10%	Below -10%

There is deliberately no “neutral” recommendation. The principle is that there is no point investing in equities if the return is not at least the risk free rate (and the dividend yield which again is not allowed for).

Although recommendations are automated (a function of the target price whenever a new equity research report is released), the management of AlphaValue intends to maintain global consistency within its universe coverage and may, from time to time, decide to change global parameters which may affect the level of recommendation definitions and /or the distribution of recommendations within the four levels above. For instance, lowering the risk premium in a gloomy context may increase the proportion of positive recommendations.

Eurolasma (Buy)

Alternative Energy / France

► Methodology

Valuation

Valuation processes have been organized around transparency and consistency as primary objectives.

Stocks belong to different categories that recognise their main operating features : Banks, Insurers and Non Financials.

Within those three universes, the valuation techniques are the same and in relation to the financial data available.

The weighting given to individual valuation techniques is managed centrally and may be changed from time to time. As a rule, all stocks of a similar profile are valued using equivalent weighting of the various valuation techniques. This is for obvious consistency reasons.

Within the very large universe of Non Financials, there are in effect 4 sub-categories of weightings to cater for subsets: 1) 'Mainstream' stocks; 2) 'Holding companies' where the stress is on NAV measures; 3) 'Growth' companies where the stress is on peer based valuations; 4) 'Loss making sectors' where peers review is essentially pointing nowhere (ex: Bio techs). The bulk of the valuation is then built on DCF and NAV, in effect pushing back the time horizon.

Valuation Issue	Normal industrials	Growth industrials	Holding company	Loss runners	Bank	Insurers
DCF	35%	35%	10%	40%	0%	0%
NAV	20%	20%	55%	40%	25%	15%
PE	10%	10%	10%	5%	10%	20%
EV/EBITDA	20%	20%	0%	5%	0%	0%
Yield	10%	10%	20%	5%	15%	15%
P/Book	5%	5%	5%	5%	15%	10%
Banks' intrinsic method	0%	0%	0%	0%	25%	0%
Embedded Value	0%	0%	0%	0%	0%	40%
Mkt Cap/Gross Operating Profit	0%	0%	0%	0%	10%	0%