Europlasma

Zigi turns shares into fine dust

Opinion	Call Option
Upside (%)	791
Price (€)	0.01
Target Price (€)	0.10
Bloomberg Code	ALEUP FP
Market Cap (€M)	3.36
Enterprise Value (€th)	143,059

Momentum	NEGATIVE
Governance	6.5/10
Credit Risk	CCC ↗

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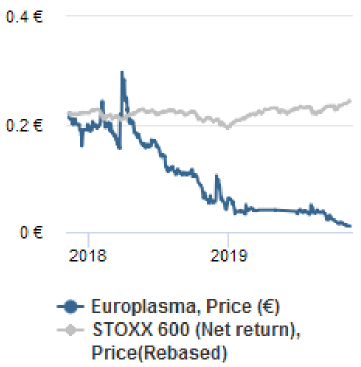


PROS

- Europlasma is part of a handful of companies worldwide able to master plasma torches in fields that span emission control and green energy provision
- The use of plasma torches to better the performance of waste-to-power processes provides Europlasma with an ace when it comes to efficiency
- Europlasma has a unique market position in its capability to deal with abestos waste

CONS

- By investing to capture the value attached to plasma-based processes, Europlasma has stretched itself and stumbled on funding issues. Costly refinancing exercises have been a drain on management's time
- Europlasma may end up selling one of its businesses to fund the others

KEY DATA	12/16A	12/17A	12/18E	12/19E	12/20E
Adjusted P/E (x)	**-1.70**	**-1.31**	**-1.67**	**-1.40**	**2.10**
Dividend yield (%)	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
EV/EBITDA(R) (x)	-3.45	-5.03	-24.8	20.9	9.85
Adjusted EPS (€)	**-0.18**	**-0.16**	**-0.05**	**-0.01**	**0.01**
Growth in EPS (%)	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Dividend (€)	0.00	0.00	0.00	0.00	0.00
Sales (€th)	9,733	13,133	14,000	24,560	45,160
Operating margin (%)	*-173*	*-107*	*-61.6*	*3.19*	*23.8*
Attributable net profit (€th)	-17,273	-21,820	-11,079	-3,742	3,417
ROE (after tax) (%)	**3,126**	**232**	**91.8**	**68.1**	**80.7**
Gearing (%)					*902*

Conflicts of interest

Corporate broking	No
Trading in corporate shares	No
Analyst ownership	No
Advice to corporate	No
Research paid for by corporate	Yes
Corporate access	No
Brokerage activity at AlphaValue	No
Client of AlphaValue Research	No

Europlasma (Call Option)

Detailed financials at the end of this report

Key Ratios

		12/17A	12/18E	12/19E	12/20E
Adjusted P/E	x	-1.31	-1.67	-1.40	2.10
EV/EBITDA	x	-5.03	-24.8	20.9	9.85
P/Book	x	-2.11	-2.73	-3.45	0.68
Dividend yield	%	0.00	0.00	0.00	0.00
Free Cash Flow Yield	%	-37.8	-55.6	-846	-747
ROE (after tax)	%	232	91.8	68.1	80.7
ROCE	%	-113	-9.69	0.44	4.14
Net debt/EBITDA	x	-1.70	-9.52	11.8	6.10

Consolidated P&L

		12/17A	12/18E	12/19E	12/20E
Sales	€th	13,133	14,000	24,560	45,160
EBITDA	€th	-8,057	-3,700	6,832	17,936
Underlying operating profit	€th	-13,799	-8,625	782	10,761
Operating profit (EBIT)	€th	-14,096	-8,625	782	10,761
Net financial expenses	€th	-854	-2,500	-4,000	-5,500
Pre-tax profit before exceptional items	€th	-14,950	-11,125	-3,218	5,261
Corporate tax	€th	30.0	0.00	0.00	0.00
Attributable net profit	€th	-21,820	-11,079	-3,742	3,417
Adjusted attributable net profit	€th	-21,164	-11,079	-3,742	3,417

Cashflow Statement

		12/17A	12/18E	12/19E	12/20E
Total operating cash flows	€th	-8,169	-3,548	6,332	16,936
Capital expenditure	€th	-3,100	-7,500	-63,000	-65,000
Total investment flows	€th	-3,800	-8,500	-64,000	-66,000
Dividends (parent company)	€th				
New shareholders' equity	€th	14,200	6,000	6,000	16,000
Total financial flows	€th	12,300	700	40,000	65,500
Change in net debt position	€th	2,531	-21,548	-45,668	-28,564
Free cash flow (pre div.)	€th	-12,123	-13,548	-60,668	-53,564

Balance Sheet

		12/17A	12/18E	12/19E	12/20E
Goodwill	€th	8.00	1,000	1,000	1,000
Total intangible	€th	201	1,314	1,314	1,500
Tangible fixed assets	€th	13,341	51,000	111,000	165,000
WCR	€th	1,152	2,000	3,500	5,500
Total assets (net of short term liabilities)	€th	28,299	72,314	136,814	193,000
Ordinary shareholders' equity (group share)	€th	-15,224	-8,909	-2,077	10,546
Provisions for pensions	€th	573	0.00	0.00	0.00
Net debt / (cash)	€th	13,675	35,223	80,891	109,454
Total liabilities and shareholders' equity	€th	28,311	72,314	136,814	193,000

Per Share Data

		12/17A	12/18E	12/19E	12/20E
Adjusted EPS (bfr gwill amort. & dil.)	**€**	**-0.16**	**-0.05**	**-0.01**	**0.01**
Net dividend per share	**€**	**0.00**	**0.00**	**0.00**	**0.00**
Free cash flow per share	€	-0.09	-0.06	-0.13	-0.08
Book value per share	€	-0.10	-0.03	0.00	0.02
Number of diluted shares (average)	**Th**	**132,028**	**223,203**	**467,000**	**640,000**

Contents

Businesses & Trends

Société fondée en 1992 afin de commercialiser la technologie de la torche à plasma, Europlasma propose de résoudre deux problématiques environnementales majeures : le traitement de déchets toxiques et la production d'énergie renouvelable. Les deux reposent sur l'utilisation du plasma à ultra-haute température pour déclencher des réactions chimiques. Le plasma comme fractionneur de molécules peut être utilisé dans nombres de processus industriels, mais les périodes de test sont généralement longues avant la mise en œuvre des solutions. La volonté d'Europlasma de se développer en aval (c'est-à-dire de déployer des solutions à base de torches plasma et de les exploiter) découle en partie de ce constat. depuis 2013, le groupe a restreint son activité à trois divisions :

1) Europlasma conçoit et développe des systèmes torches à plasma qui sont généralement vendus avec des prestations de maintenance. Rebaptisée Europlasma Industries, l'entité vend des licences à l'export (Japon, Corée du Sud). En 2017, elle a livré une usine de neutralisation des cendres volantes en Chine ainsi qu'une usine de confinement des déchets radioactifs en Bulgarie. À partir de 2018, le groupe a entamé des discussions techniques avec ArcelorMittal pour déployer des torches à plasma dans ses haut-fourneaux pour en réduire la production de CO_2.

2) Les énergies renouvelables à travers la conception, la construction et l'exploitation de solutions de production d'électricité à haut rendement par gazéification de déchets et de biomasse via des sites de production qu'il exploite et qu'il contrôle ; et

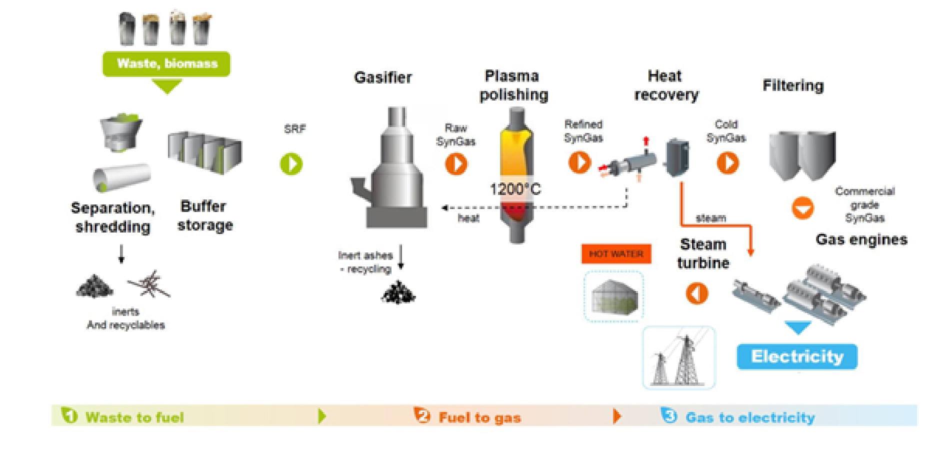
3) Le traitement des déchets amiantés (Inertam) assure la neutralisation et le recyclage des déchets d'amiante. La division exploite ses propres fours à cet effet, alimentés par des torches à plasma. Une autre activité non liée à l'ingénierie, Air & Gaz (Europe Environnement), a été cédée en 2013.

Une longue et douloureuse transition vers les énergies vertes

Le modèle économique d'Europlasma est en transition depuis 2011 avec une orientation stratégique majeure en cours vers la production d'électricité "verte" combinant la torche à plasma et les déchets/biomasse pour produire du gaz propre ensuite converti en électricité (cf. schéma). La proposition d'Europlasma est centrée sur la phase d'épuration des gaz qui repose sur les torches à plasma. Le gaz propre assure la génération électrique via sa combustion dans des moteurs entraînant des générateurs. L'efficacité thermique et électrique de ce processus de transformation des déchets en énergie attire les investisseurs, sensibles aux subventions encourageant les énergies alternatives faiblement émettrices de carbone (meilleure conversion = moins de carbone). Europlasma possède un avantage compétitif du fait d'une forte barrière à l'entrée technologique : la torche à plasma et les brevets associés qui améliorent la qualité du gaz produit à partir des déchets / de la biomasse. L'énergie verte dispose d'un potentiel de croissance considérable étant donné que les plateformes de transformation des déchets en énergie font l'objet d'une forte demande et reçoivent d'importantes subventions tandis que les progrès technologiques en réduisent rapidement les coûts.

L'électricité verte est la grande ambition du groupe… avec toutes les expériences douloureuses liées au développement d'une technologie d'avant-garde. En 2017, le groupe avait réglé l'ensemble des problèmes liés à la mise en route, mais avec environ trois ans de retard sur son calendrier initial. La technologie prototype sur son site de Morcenx atteint ses objectifs depuis fin 2017.

Du déchet à l'énergie: le gaz de synthèse est nettoyé par un procédé plasma



Un changement de direction mi-2014 a conduit à une refonte complète des plans de croissance avec des reports dans le temps, tandis que les difficultés liées à la technologie ont été hiérarchisées. Maintenant que les ambitions initiales sont réalisées, 3 nouvelles centrales électriques sont en construction. Appelée «CHO Tiper», la première est presque entièrement financée (cf. ci-dessous).

Le financement de ce projet audacieux alors que les moyens manquaient ne pouvant conduire qu'à un désastre. D'un point de vue financier, les conséquences ont été majeures avec une recapitalisation massive (environ 50m€) entre 2013 et 2017 (cf. section sur la dette). En plus de résoudre avec énergie les problèmes de technologie et de financement, la nouvelle direction a également cherché à réparer une erreur initiale en termes d'organisation dans laquelle Europlasma n'avait qu'une participation minoritaire dans les centrales électriques. En plus d'une structure juridique complexe multipliant les contrats intra groupe, cela a conduit à une divergence d'intérêts avec les bailleurs de fonds. Le problème a finalement trouvé une solution en avril 2018 via un échange d'actifs. Europolasma contrôle donc désormais sa première unité de production d'énergie et a l'intention de conserver une position de contrôle dans les futures unités. Pour plus de détails sur ce point, cf. section "Bon à savoir".

Ce qu'il faut savoir sur l'énergie verte

L'usine prototype que CHO-Power/Energies Renouvelables a construit à Morcenx (près de Bordeaux) produit du gas propre à partir de biomasse grâce à la torche à plasma. Ce gaz est utilisé dans un moteur thermique pour fournir de l'électricité à EDF, le principal producteur français d'électricité légalement tenu d'acheter l'énergie verte, et pour chauffer des installations locales de séchage du bois. En termes nominal, le rendement thermique global est excellent à 75%.

La vente d'électricité à EDF est encadrée par un contrat de 20 ans à un prix garanti. Ce prix dépend du rendement thermique et électrique total obtenu sachant que chaque pourcent supplémentaire au-delà de 50% de rendement donne droit à une augmentation d’un euro supplémentaire par MWh par rapport au tarif de départ fixé à 125 euros par MWh. Ainsi, pour un rendement global de 75% déjà atteint, le site pourra vendre son électricité à 150 euros par MWh. Nos modèles intègrent une unité de base de 11 MW.

Europlasma a l’ambition d’étendre son activité du projet pilote basé à Bordeaux à d’autres sites, dont un prêt à être lancé (CHO Tiper, pose de la première pierre prévue courant septembre 2018) et un autre sur le point de l’être (CHO Locminé), les prochaines étapes étant programmées éventuellement d’ici 2019. Trois autres sites ont été identifiés en France, bien que la nouvelle législation française relative à l’énergie ait revu l’obligation d’acheter de l’énergie verte pour la rendre moins certaine dans un modèle imposant l’achat d’énergie verte au prix du marché augmenté d’un supplément dépendant du type d’énergie. Europlasma pourrait finir par en bénéficier, estimant que sa technologie est la seule à pouvoir réellement transformer les déchets, “vendus” à un prix négatif alors que la biomasse a un coût réel et n’est pas abondante. L’équipe d’engineering étant déjà largement déployée et les moyens financiers manquant, les projets de même nature au Royaume Uni, l’un des principaux marché de la transformation des déchets en énergie en Europe, semblent être en veilleuse.

La nature même de la génération d’énergie implique que ces projets peuvent s’appuyer sur un fort effet de levier (à moins que les revenus anticipés ne soient trop incertains). L’effet de levier est vital car, financièrement parlant, Eurosplasma ne prévoit pas de faire face aux 250 à 300m€ de capex nécessaires pour ses 5 centrales. En effet, entre 2011 et 2017 inclus, Europlasma aura déjà investi environ 100m€ dans le développement de sa technologie et la mise sur pied de la première usine, soit environ 5x sa capitalisation boursière de 2017. Maintenant que la technologie est au point, de tels investissements peuvent être considérés comme la constitution d’un goodwill que l’entreprise contribuera en nature dans les coentreprises de production pour en garder le contrôle. Chaque coentreprise peut alors être gérée de manière autonome, en utilisant l’effet de levier intelligemment. (cf. section sur le financement). En supposant l’absence de problèmes importants au niveau de l’exploitation, le modèle économique consiste à ajouter des centrales électriques, et à collecter une marge sur l’EPC, sur l’O&M et sur les prix de l’électricité (comptes consolidés).

Le marché potentiel de la transformation des déchets en énergie est considérable et n’est limité que par les fonds propres disponibles/des rendements corrects/le prix des énergies vertes/les subventions. Si Europlasma n’est pas le seul à développer de tels projets, force est de constater que la plupart des initiatives ont échoué, car un fossé existe entre un concept sur une planche à dessin et les obstacles rencontrés tels que le contenu variable en énergie des déchets. Europlasma se considère comme étant à peu près le seul à maîtriser la technologie. Il existe évidemment d’autres moyens de produire de l’énergie verte compétitive que de transformer les déchets en gaz puis en énergie, mais Europlasma parvient à répondre à deux problématiques : réduire la pile de déchets et répondre à la demande en énergie. Les territoires isolés tels que les îles y voient des avantages.

En 2018, Europlasma semble avoir achevé sa transformation, étant désormais en mesure de générer ses premiers free cash flows dans la production d'électricité.

Divisional Breakdown Of Revenues

	Sector	12/17A	12/18E	12/19E	12/20E	Change 18E/17 €th	Change 18E/17 of % total	Change 19E/18E €th	Change 19E/18E of % total
Total sales		**13,133**	**14,000**	**24,560**	**45,160**	**867**	**100%**	**10,560**	**100%**
Engineering, Torch (Europlas...	Industry Specific Equipment	1,343	1,000	3,000	4,000	-343	-40%	2,000	19%
Renewable Energy (CHO-P...	Alternative Power Sources	4,356	4,000	10,560	28,160	-356	-41%	6,560	62%
Toxic Waste Neutralization (In...	Waste Mgt & Recycling	7,434	9,000	11,000	13,000	1,566	181%	2,000	19%
Air & Gaz (Europe Environne...	Gases & Liquid Process.	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%

Key Exposures

	Revenues	Costs	Equity
Dollar	15.0%	20.0%	45.0%
Emerging currencies	5.0%	0.0%	0.0%
Long-term global warming	90.0%	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

Un business model complexe dans l'énergie désormais lisible

La réorganisation d'avril 2018 (cf. Worth Knowing) a clarifié le business model d'Europlasma : le groupe maîtrise une technologie qu'il déploie dans les centrales électriques qu'il contrôle et génère un chiffre d'affaires à partir de la vente d'électricité lui permettant de financer ses dépenses d'investissement, de financement et d'exploitation.

Si son développement se poursuit comme prévu, Europlasma devient de fait une entreprise de production d'électricité. La complexité juridique antérieure dans laquelle Europlasma était un partenaire junior dans la production d'électricité conduisait à une modélisation complexe et à une perception du groupe comme acteur du secteur de l'ingénierie avec un ticket minoritaire dans l'énergie. Le petit groupe doit être abordé comme un exercice de confiance auprès d'actionnaires minoritaires et de préteurs afin de pouvoir financer l'important investissement préalable à ses activités (60m€ par centrale). Si la courbe d'expérience constitue un actif intangible qui aidera le groupe à exploiter au mieux les centrales électriques futures, chaque unité supplémentaire nécessitera cet ordre de grandeur en investissement.

Europlasma augmentant le nombre de ses centrales, ses comptes consolidés seront pénalisés par d'importantes immobilisations et coûts de financement alors que pratiquement 50% de ses résultats liés à la production d'électricité reviendront aux minoritaires. Ils ne seront redistribués aux actionnaires minoritaires des centrales électriques que plus tardivement sous forme de dividendes. Au moment de la rédaction, le séquencement de ces dividendes est un exercice de style.

Le respect du calendrier de développement imposera de prochaines augmentations de capital conduisant à une contribution significatives des minoritaires, ainsi que des augmentations de capital au niveau de la société mère elle-même. Le modèle retenu par AlphaValue en tient compte à compter d'avril 2018.

En termes de dépenses d'investissement visibles, la priorité est donnée à la centrale CHO Tiper. Il s'agit probablement d'un bon indicateur avancé avec un financement par endettement avoisinant 44m€ (auprès des agences nationales et régionales et la BEI) et par des fonds propres à hauteur d'environ 21m€. La finalisation du financement par les fonds propres permettra à la construction de démarrer. Nous avons supposé que CHO Tiper devrait livrer ses premiers kWh début 2020.L'ensemble des autorisations ont été obtenues pour CHO Tiper, dont celle prévoyant l'achat à long terme de sa production par EDF à des prix attractifs. Le deuxième projet pilote, à Locminé, a été approuvé par les autorités locales et le contrat prévoyant l'achat de l'énergie à des prix attractifs a été signé. Des opposants au projet se sont manifestés fin 2017, ce qui pourrait le retarder légèrement. Nous avons intégré un démarrage de la production d'électricité d'ici septembre 2020. Si trois autres projets (2 de plus dans l'ouest de la France, 1 dans le nord-est) s'inscrivent dans un calendrier à plus long terme, d'autres projets à court terme sont activement développés.

L'activité de traitement des déchets dépend surtout du séquencement des capacités

En 2013, Europlasma a simplifié sa structure juridique de manière à faciliter la lecture de ses autres activités. C'est le cas d'Inertam, qui est désormais entièrement axé sur le traitement des déchets amiantés. En raison de la rareté des capacités de traitement et d'une législation de plus en plus stricte préconisant une destruction de l'amiante plutôt que son enfouissement, les profits pourraient être élevés. Générant des marges d'EBITDA comprises entre 25% et 30% selon le taux d'utilisation des capacités et les coûts de maintenance, l'activité se doit d'être lucrative. Cependant comme dans tout processus de traitement thermique, les fours doivent régulièrement refaire leurs protection réfractaire. Notons que le traitement par la chaleur de l'amiante produit une matière pareille au verre présentant des qualités de rétention de la chaleur intéressantes pour les systèmes de chauffage.

2016 et 2017 devaient être des années de reprise avec un taux d'utilisation correct et des prix robustes. Mais l'usine et son four ont dû être arrêtés pour des problèmes de sécurité, son personnel étant potentiellement exposé à des fuites de poussières d'amiante, puis dans le cadre d'opérations de maintenance (remise à neuf du revêtement réfractaire). L'usine est revenue à sa capacité nominale et d'ici fin 2018, le groupe espère y construire un four de rechange qui facilitera les opérations de maintenance. La capacité de production ne devrait pas doubler cependant, les installations industrielles complexes devant préalablement être agrandies, même si l'opération augmentera la capacité de traitement d'une année donnée. De plus, maintenant que le processus de traitement de l'amiante est fiable, Inertam peut envisager développer de nouveaux projets, au moins en France, en répliquant le modèle économique de CHO Power.

La torche à plasma transformée en prestation de service?

Alors qu'Inertam est un prestataire de services, la société mère d'Europlasma est plutôt une entreprise d'ingénierie qui explore les nombreux usages de la torche à plasma. Il s'agit d'un secteur relativement complexe avec peu de concurrents capables de fournir des équipements industriels. Les co-développements tels que le partenariat avec Kobe Steel dans le domaine des lits fluidisés appliqués à la combustion sont prometteurs mais sont des projets de longue haleine. Cette part de l'activité est en effet une forme de R&D sur demande. La direction a pour objectif de rentabiliser ce savoir-faire par des prestations de conseil et d'ingénierie dans l'ensemble des industries concernées par les températures ultra élevées. Les livraisons réussies en 2017 d'une usine de production de cendres volantes en Chine et d'une usine de traitement à faible radioactivité en Bulgarie prouvent clairement que les efforts en matière d'industrialisation du groupe réalisés ces dernières années portent leurs fruits. Le business model des travaux en cours réalisés avec ArcelorMittal ayant pour but le recours au plasma pour contenir les émissions de CO_2 et convertir le CO_2 en énergie n'a pas été rendu public.

Globalement, la structure des bénéfices correspond à la poursuite d'ajustements en profondeur, une nouvelle fois marquée par une bonne part d'apurements et une grosse vague d'éléments exceptionnels entre 2013 et 2017. Sans les multiples recapitalisations fortement dilutives intervenues depuis 2013 (fonds propres + convertibles), l'entreprise n'aurait pas survécu. La visibilité sur les résultats reste dégradée, comme nous pouvions nous y attendre compte tenu des risques importants /du rendement élevé. Le gros du risque semble toutefois derrière. Les résultats devraient se redresser en partie à compter de 2018, Inertam étant de nouveau sur la bonne voie et la production d'électricité générant déjà un chiffre d'affaires réguliers (environ 10m€).

Pour résumer le modèle économique, Europlasma devient rapidement une société de production d'énergie verte et un prestataire de services qui explore les nombreux usages de la torche à plasma (traitement de l'amiante et éventuellement traitement du CO2 dans les aciéries). Il convient de garder à l'esprit que ces activités exigent beaucoup de capital et s'inscrivent dans un calendrier long.

Divisional Operating results

	12/17A	12/18E	12/19E	12/20E	Change 18E/17		Change 19E/18E	
					€th	of % total	€th	of % total
Total	**-14,097**	**-8,625**	**782**	**10,761**	**5,472**	**100%**	**9,407**	**100%**
Holding, R&D, Engineering, Torch (Europlasma)	-3,496	-4,200	-3,600	-3,300	-704	-13%	600	6%
Renewable Energy (CHO-POWER)	-6,324	-3,125	3,932	13,111	3,199	58%	7,057	75%
Toxic Waste Neutralization (Inertam)	-4,277	-1,300	450	950	2,977	54%	1,750	19%
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%

Divisional Operating results margin

	12/17A	12/18E	12/19E	12/20E
Total	**-107%**	**-61.6%**	**3.19%**	**23.8%**
Renewable Energy (CHO-POWER)	-145%	-78.1%	37.2%	46.6%
Toxic Waste Neutralization (Inertam)	-57.5%	-14.4%	4.09%	7.31%
Air & Gaz (Europe Environnement)				

Valuation

En dépit de ses importants problèmes de financement qui semblent désormais moins aigus, la valorisation d'Europlasma tient compte de son changement de statut, le groupe n'étant plus un simple fournisseur de biens d'équipement mais un acteur du secteur des énergies vertes. Le principe de l'activité semble être la mise en œuvre d'une technologie prometteuse dans des environnements complexes au sein desquels Europlasma est le mieux placé pour opérer. Alors que la démarche s'appliquait jusqu'ici au traitement de l'amiante, elle est encore mieux adaptée à la production d'énergie verte, et peut être aussi à la conversion en énergie des gaz d'échappement des hauts fourneaux.

La réorganisation conférant un contrôle majoritaire des actifs de production dans l'énergie est évidemment la bienvenue car elle correspond à ce qui précède. L'exercice d'évaluation alambiqué consistant à tenir compte à la fois des investissements et de leur exploitation n'a plus lieu d'être. Nous rappelons les conséquences en termes de valorisation d'un tel ensemble d'activités.

L'activité de fabrication de torches d'Europlasma s'apparente à la production de biens d'équipement.

La valorisation de l'activité d'Inertam (traitement des déchets dangereux) est relativement simple. Elle est établie autour de capacités de traitement. Inertam se fait payer pour traiter les déchets. La ressource étant rare, ses marges liées au traitement sont élevées car les prix tiennent. Cela revient à valoriser une activité de traitement des déchets avec des prix fermes et des perspectives de croissance qui dépendent de la réglementation.

CHO Power est désormais plus simple à appréhender, étant une unité de production d'énergie verte dotée d'une technologie propriétaire précieuse. Sa valorisation dépend également du rythme de déploiement de nouvelles centrales électriques.
h1 DCF
La valorisation par un DCF s'est simplifiée du jour au lendemain, les actifs étant désormais majoritairement détenus par le groupe et entièrement consolidés. La partie la plus délicate porte sur l'estimation de la valeur devant revenir aux minoritaires. L'exercice est difficile. Nous avons également du faire hypothèses complexes concernant les investissements à un horizon plus lointain (qui devraient baisser) et la fiscalité. Selon nous, les pertes fiscales reportables devraient pouvoir être utilisées maintenant que les bénéfices tirés de la production reviendront au groupe.
h1 ANR

Le calcul de la NAV est également plus simple maintenant qu'Europlasma détient et contrôle les actifs sur lesquels repose son activité. Il convient de noter que l'application des multiples retenus pour l'acquisition (19x EBITDA) du groupe canadien AlterNRG conduirait à évaluer les seules activités O&M à 70m€. Cependant, CHO Power est plus avancé dans son développement qu'AlterNRG, qui ne détient aucune centrale d'envergure commerciale en activité. Europlasma est désormais avant tout un groupe entièrement intégré qui conçoit et gère des centrales électriques et commercialise le courant. L'échange d'actifs intervenu en avril 2018 valorise CHO Power à 101M€, une estimation qui pourrait devenir prudente une fois la prochaine centrale en activité.

Cette valorisation d'AlterNRG résulte d'une offre réussie (juin 2015) émanant de l'entreprise privée chinoise Kaidi. Cela confirme la rareté des actifs dans le secteur de la gazéification des déchets… et que les groupes chinois d'ingénierie sont acquéreurs de savoir-faire dans ce domaine compte tenu des besoins sur leur marché domestique. Pour les actionnaires d'Europlasma, l'upside qui en résulte pourrait être important.

Valorisation par les pairs

Nous avons choisi divers pairs actuellement suivis par AlphaValue. Pour les activités d'ingénierie, nous retenons à la fois GEA et Elecnor qui dispose d'une forte présence dans les énergies renouvelables / l'environnement (bioénergie, énergie solaire) principalement en matière d'ingénierie. Pour tenir compte de la production d'électricité verte d'Europlasma, nous retenons Acciona (énergie solaire et éolienne), ERG (énergie éolienne) et de Drax (biomasse) ainsi que certaines autres petites entreprises cotées (ebioss et La Française de l'Energie).

Valuation Summary

Benchmarks		Values (€)	Upside	Weight
DCF		0.17	1,430%	35%
NAV/SOTP per share		0.07	538%	20%
EV/EBITDA based		n/a	0%	20%
P/E	*Peers*	0.01	-50%	10%
Dividend Yield	*Peers*	0.00	-100%	10%
P/book based		n/a	0%	5%
Target Price		**0.10**	**593%**	

Comparison based valuation

Computed on 18 month forecasts	P/E (x)	Ev/Ebitda (x)	P/Book (x)	Yield(%)
Peers ratios	20.0	8.40	1.34	3.08
Europlasma's ratios	n/a	n/a	n/a	n/a
Premium	50.0%	50.0%	0.00%	0.00%
Default comparison based valuation (€)	**0.01**	**n/a**	**n/a**	**0.00**
Acciona	18.0	7.75	1.46	2.12
Gea Group	30.7	14.9	2.15	2.72
ERG	22.6	8.28	1.28	4.13
Drax Group	11.9	4.46	0.48	6.35
Elecnor	12.0	7.29	1.50	3.00
Ebioss Energy	n/a	n/a	n/a	n/a

DCF Valuation Per Share

WACC	%	8.38
PV of cashflow FY1-FY11	€th	-110,4...
FY11CF	€th	43,203
Normalised long-term growth"g"	%	2.00
Governance weighted "g"	%	2.15
Terminal value	€th	693,560
PV terminal value	€th	310,188
PV terminal value in % of total value	*%*	*155*
Total PV	€th	199,721

Avg net debt (cash) at book value	€th	58,057
Provisions	€th	12,000
Unrecognised actuarial losses (gains)	€th	0.00
Financial assets at market price	€th	0.00
Minorities interests (fair value)	€th	20,000 (1)
Equity value	€th	109,664
Number of shares	Th	640,000
Implied equity value per share	€	0.17

1. DCFs are highly sensitive to the market value of the stakes held by minority partners in power plants. See also enterprise value breakdown for a longer term perspective

Assessing The Cost Of Capital

Synthetic default risk free rate	%	3.50
Target equity risk premium	%	5.00
Tax advantage of debt finance (normalised)	%	30.0
Average debt maturity	Year	5
Sector asset beta	x	0.90 (2) (3)
Debt beta	x	1.00
Market capitalisation	€th	7,168
Net debt (cash) at book value	€th	35,223
Net debt (cash) at market value	€th	29,864

Company debt spread	bp	500
Marginal Company cost of debt	%	8.50
Company beta (leveraged)	**x**	**3.00**
Company gearing at market value	%	491
Company market gearing	%	83.1
Required return on geared equity	**%**	**18.5**
Cost of debt	%	5.95
Cost of ungeared equity	**%**	**8.00**
WACC	%	8.38

2. Alternative energy sector beta
3. While we regard Europlasma as an Alternative Energy utility, the default beta of 0.58 for utility assets was too low; we now use 0.9 to allow for the utility side (Inertam)

DCF Calculation

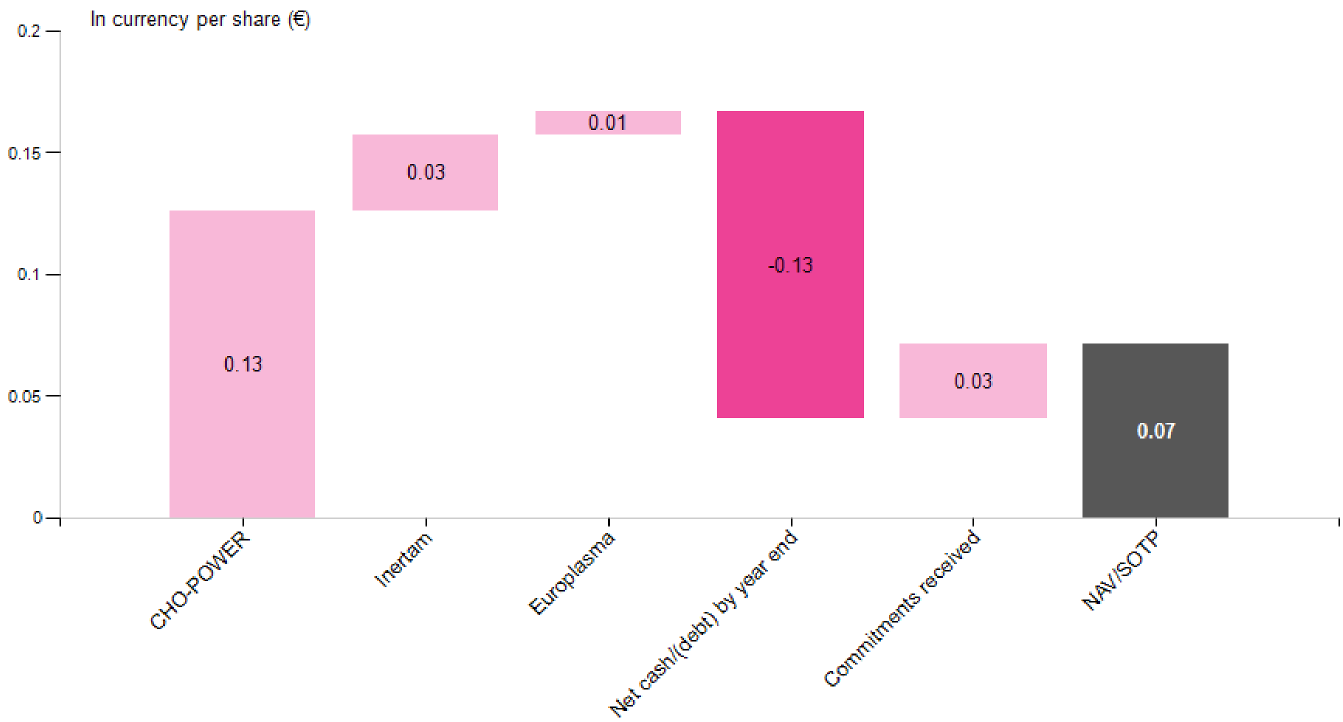
		12/17A	12/18E	12/19E	12/20E	Growth	12/21E	12/28E
Sales	€th	13,133	14,000	24,560	45,160	**15.0%**	51,934	138,145
EBITDA	€th	-8,057	-3,700	6,832	17,936	**18.0%**	21,165	67,420
EBITDA Margin	*%*	*-61.3*	*-26.4*	*27.8*	*39.7*		*40.8*	*48.8*
Change in WCR	€th	1,667	-848	-1,500	-2,000	**8.00%**	-2,160	-3,702
Total operating cash flows (pre tax)	€th	-8,199	-3,548	6,332	16,936		19,005	63,718
Corporate tax	€th	30.0	0.00	0.00	0.00	**0.00%**	0.00	0.00
Net tax shield	**€th**	**-256**	**-750**	**-1,200**	**-1,650**	**0.00%**	**-1,650**	**-1,650**
Capital expenditure	€th	-3,100	-7,500	-63,000	-65,000	**-15.0%**	-55,250	-17,712
Capex/Sales	*%*	*-23.6*	*-53.6*	*-257*	*-144*		*-106*	*-12.8*
Pre financing costs FCF (for DCF purposes)	€th	-11,525	-11,798	-57,868	-49,714		-37,895	44,356
Various add backs (incl. R&D, etc.) for DCF purposes	€th							-2,000 (4)
Free cash flow adjusted	**€th**	**-11,525**	**-11,798**	**-57,868**	**-49,714**		**-37,895**	**42,356**
Discounted free cash flows	**€th**	**-11,525**	**-11,798**	**-53,394**	**-42,324**		**-29,768**	**18,943**
Invested capital	€	14.7	62.3	126	182		155	43.9

4. Dividends paid to minorities

NAV/SOTP Calculation

	% owned	Valuation technique	Multiple used	Valuation at 100% (€th)	Stake valuation (€th)	In currency per share (€)	% of gross assets
CHO-POWER	80.0%	Adj. historical price		101,000	80,800 (1)	0.13	75.7%
Inertam	100%	EV/EBIT	20	20,000	20,000 (2)	0.03	18.7%
Europlasma	100%	EV/EBIT	12	6,000	6,000 (3)	0.01	5.62%
Other					0.00	0.00	0.00%
Total gross assets					**106,800**	**0.17**	**100%**
Net cash/(debt) by year end					-80,891	-0.13	-75.7%
Commitments to pay							
Commitments received					19,800 (4)	0.03	18.5%
NAV/SOTP					45,709	0.07	42.8%
Number of shares net of treasury shares - year end (Th)					**640,000**		
NAV/SOTP per share (€)					**0.07**		
Current discount to NAV/SOTP (%)					**84.3**		

1. Based on the March 2018 transaction with Gottex which puts an equity value on CHO Power
2. Environmental services multiple
3. The EV/EBIT multiple is 20% below the 2018 weighted average for the capital goods sector
4. NPV of tax credits. We indeed assume that all power generation projects are profitable



Debt

Europlasma, as it battles with its technology and timetable, has been a perennial fund raiser from 2014 to 2018 inclusive. This is expected to be less painful as the group hopes to rely on debt financing for c.2/3rds of new power units and a substantial proportion of minority-held equity funding. In a perfect world where all interests are aligned owing to the good performance of power plants, Europlasma's share of any future plants should be in the region of €10m. It is unlikely to be funded by cash flows before the next 3 to 5 years.

Recent expensive funding

Since 2015, Europlasma has had to resort to expensive equity funding whereby its immediate needs were met by the issue of "on stream" equity at the market price. Indeed takers of new shares have tended to sell them immediately. In H1-2018, the group launched a €8m financing with such a profile with the European High Growth Opportunity Fund as a taker. The previous round of funding to the tune of €15m provided by Bracknor Capital proved remarkably expensive in terms of dilution but that was the price to pay to get the pilot project to the point where it would stop burning cash. Please revert to the company website for a thorough description of successive financing layers.

Previously-issued warrants (see terms on the company website) are essentially out of the money owing to this massive dilution. To offset this frustrating outcome, as of late October 2017, Europlasma offered the shareholders free warrants with a first strike price at €0.32 before 30/06/2018 which looked unlikely to be reached at time of writing and another strike price at €0.75 with more oxygen, calendar wise (31/12/2021).

It is worth mentioning that the c.€5m convertible issued in late 2015 with an end-2018 redemption will not be converted (strike at €1.06 + capitalised interest) meaning that we have allowed for c.40m new shares in our share number forecasts.

Better funding news

Better financing news stemmed from the sponsoring by the French Agency for greener power (ADEME) of a €12m funding line at 0.99% tied to the CHO Tiper development. The European Investment Bank then backed the project with €30m of debt funding. CHO Tiper is the first project after the prototype phase that Morcenx represents. The last step is to find the minority equity partners such that Europlasma retains the control.

In April 2018, Europlasma managed a successful asset swap with its funding partner in the first power plant (see Worth Knowing) with, to boot. a very respectable valuation (€101m) of the sub-holding company (CHOPower) that will manage its green energy prospects. Using this leverage, Europlasma can hope to rely on finding c.€50m of fresh equity at CHOPower level without losing control (currently at 80%)

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, rapidly proved to be too expensive a bridge, resulting in an urgent need to inject fresh equity. The initial c.€4.4m raised in early 2014 was supplemented 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). Such warrants have not been exercised in that the equity refinancings that followed mean that the initial strike prices were too high

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 was then better suited to market conditions at the time.

In all, the completion of the Bracknor funding and the full dilution stemming from previously-issued conditional instruments led to 60% dilution for the existing shareholders by the close of 2017. The €8m issued in 2018 come on top.

Detailed financials at the end of this report

Funding - Liquidity

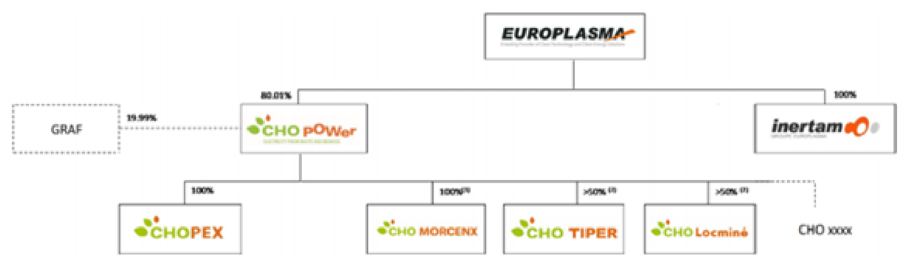
		12/17A	12/18E	12/19E	12/20E
EBITDA	€th	-8,057 (5)	-3,700	6,832	17,936
Funds from operations (FFO)	€th	-9,536	-5,200	3,832	13,436
Ordinary shareholders' equity	**€th**	**-15,224**	**-8,909**	**-2,077**	**10,546**
Gross debt	€th	21,800	32,000	60,000	105,000
+ Gross Cash	€th	8,125	-3,223	-20,891	-4,454
= Net debt / (cash)	**€th**	**13,675**	**35,223**	**80,891**	**109,454**
Gearing (at book value)	%				902
Adj. Net debt/EBITDA(R)	*x*	*-1.70*	*-9.52*	*11.8*	*6.10*
Adjusted Gross Debt/EBITDA(R)	*x*	*-3.79*	*-11.9*	*11.0*	*6.97*
Adj. gross debt/(Adj. gross debt+Equity)	*%*	*199*	*125*	*103*	*92.2*
Ebit cover	*x*	*-16.2*	*-3.45*	*0.20*	*1.96*
FFO/Gross Debt	*%*	*-31.2*	*-11.8*	*5.11*	*10.7*
FFO/Net debt	*%*	*-69.7*	*-14.8*	*4.74*	*12.3*
FCF/Adj. gross debt (%)	*%*	*-39.7*	*-30.8*	*-80.9*	*-42.9*
(Gross cash+ "cash" FCF+undrawn)/ST debt	*x*	*-1.33*	*-3.35*		
"Cash" FCF/ST debt	*x*	*-3.66*	*-2.71*		

5. Adjusted figure as the reported Ebitda (€-14m) is useless as it takes on board equity accounted earnings

Worth Knowing

The 2012 start-up of the CHO Morcenx pilot facility authenticated its mastery of the plasma torch-based technology used to clean gas derived from waste gasifying to be burned in combustion engines attached to generators. In 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 but was completed by mid 2017.

From April 2018, Europlasma rejigged the control of its energy assets thereby providing a clearer view of its ambition and extracting some of the hidden value in its considerable development efforts. The asset reoganisation has proven complex in terms of the steps required. The final set up is as described in the following flowchart (supplied by the company). In effect, the main shareholder (with 65%) of the first green power generation SPV (called CHO Morcenx) is recapitalising the SPV and then swapping its existing 65% stake (and a €20m debt reduction in favour of CHO Power) in the said unit for a 20% stake in CHO Power. CHO Power, thus 80% owned by Europlasma, thereby raises its stake in CHO Morcenx from 35% to 100%. In the process, Europlasma's Renewable Energy division, CHO Power, is valued at €101m (80% owned by Europlasma) and will use that valuation for future capital increases and collect the full profits of the green power generation assets (SPVs such as CHO Morcenx). Eventually, this means that Europlasma plans to fund and take a controlling stake in every future SPV associated with green power generation.



Note that one of the nagging issues with Europlasma moving away from being a pure plasma torch designer to a green power generator based on the use of plasma systems was and is the capital intensity of green power generation. To contend with this issue, Europlasma was in effect (and prior to the April 2018 change) addressing this attractive new market under four different hats: a component provider, an EPC provider, a risk taker as a minority shareholder in ad hoc power generation SPVs and a power generation manager through a fully-owned subsidiary (CHOpex). The inconsistent bit, out of necessity, was to be a minority shareholder in the SPVs. This has been addressed with the financial restructuring. It does change the business profile as it becomes all of a sudden "consistent". Being the full owners of green energy SPVs means that Europlasma will book the energy revenues and become a power generator as well as an engineer for plasma solutions.

The complex business model prevailing until this reorganisation meant that Europlasma would record revenues as an equipment provider, EPC supplier and power plant operator but only receive dividends from its minority stake in the power plant. This also meant that economic interests were not aligned between capital providers.

The solution whereby the owner of the first SPV (CHO Morcenx) swapped a controlling stake against a minority stake in a bigger, more ambitious company that will control CHO Morcenx and the future SPVs has the immediate consequence of putting a price on CHO Power at €101m, of which Europlasma retains 80%. This is about 2.5x our previous valuation (although CHO Power then only had a 35% stake in Morcenx). It also puts a price on Morcenx at c. €30m or possibly twice its initial equity value.

Endless green uncertainties

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 the importance of a stable framework for alternative energy projects, it is clear that the French government lowered visibility in mid 2016 when it changed the rules for support mechanisms that are now slowly introduced 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. The strong support of the French agency for better use of energy (Ademe) to Europlasma attests to this.

Shareholders

Name	% owned	Of which % voting rights	Of which % free to float
Gottex	2.10%	4.10%	2.10%
Staff Europlasma	2.00%	2.30%	0.00%
Apparent free float			**98.0%**

Governance & Management

Europlasma's ambitious but underfunded inroads into green power are now back on track largely thanks to a new CEO appointed in late 2014. Subsequent changes to the Board presumably helped take unpleasant funding decisions through expensive equity and prepare the ground for the reorganisation of power plant control.

Governance score

Company (Sector)	Independent board
6.5 (6.1)	No

Parameters	Company	Sector	Score	Weight
Number of board members	6	13	9/10	5.0%
Board feminization (%)	0	31	1/10	5.0%
Board domestic density (%)	66	68	6/10	5.0%
Average age of board's members	70	58	1/10	5.0%
Type of company : Small cap, not controlled			10/10	25.0%
Independent directors rate (%)	33	49	3/10	20.0%
One share, one vote			✗	5.0%
Chairman vs. Executive split			✓	5.0%
Chairman not ex executive			✓	5.0%
Full disclosure on mgt pay			✓	5.0%
Disclosure of performance anchor for bonus trigger			✗	5.0%
Compensation committee reporting to board of directors			✓	5.0%
Straightforward, clean by-laws			✓	5.0%
Governance score			**6.5/10**	**100.0%**

Management

Name		Function	Birth date	Date in	Date out	Compensation, in k€ (year) Cash	Equity linked
Jean-Eric PETIT	M	CEO		2014		322 (2017)	216 (2017)
François MARCHAL	M	Deputy CEO		2013		(2017)	(2017)
Pierre CATLIN	M	Chairman	1949	2010		(2017)	84.0 (2017)
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 (2017)	
Yann LE DORÉ	M	✓	Member			2016		20.0 (2017)	
Kim Ying LEE	M	✗	Member	2018		2008		20.0 (2017)	
Erik MARTEL	M	✓	Member	2022		2016		155 (2017)	
MASDAR VENTURE CAPITAL		✗	Member					0.00 (2017)	
Jean-Eric PETIT	M	✗	Member			2014		0.00 (2017)	

Human resources score

Company (Sector)

6.9 (6.2)

Parameters	Yes ✔ / No ✘	Weight
Accidents at work		**25%**
Set targets for work safety on all group sites?	✔	10.0%
Are accidents at work declining?	✔	15.0%
Human resources development		**35%**
Are competences required to meet medium term targets identified?	✔	3.5%
Is there a medium term (2 to 5 years) recruitment plan?	✘	3.5%
Is there a training strategy tuned to the company objectives?	✔	3.5%
Are employees trained for tomorrow's objectives?	✔	3.5%
Can all employees have access to training?	✔	3.5%
Has the corporate avoided large restructuring lay-offs over the last year to date?	✔	3.5%
Have key competences stayed?	✔	3.5%
Are managers given managerial objectives?	✔	3.5%
If yes, are managerial results a deciding factor when assessing compensation level?	✔	3.5%
Is mobility encouraged between operating units of the group?	✘	3.5%
Pay		**20%**
Is there a compensation committee?	✔	6.0%
Is employees' performance combining group AND individual performance?	✘	14.0%
Job satisfaction		**10%**
Is there a measure of job satisfaction?	✔	3.3%
Can anyone participate ?	✔	3.4%
Are there action plans to prop up employees' morale?	✔	3.3%
Internal communication		**10%**
Are strategy and objectives made available to every employee?	✘	10.0%
Human resources score	**6.9/10**	**100.0%**

Staff & Pension matters

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

Detailed financials at the end of this report

Summary Of Pension Risks

		12/17A	12/18E	12/19E	12/20E
Pension ratio	**%**	**0.00**	**0.00**	**0.00**	**0.00**
Ordinary shareholders' equity	€th	-15,224	-8,909	-2,077	10,546
Total benefits provisions	**€th**	**0.00**	**0.00**	**0.00**	**0.00**
of which funded pensions	*€th*	*0.00*	*0.00*	*0.00*	*0.00*
of which unfunded pensions	*€th*	*0.00*	*0.00*	*0.00*	*0.00*
of which benefits / health care	*€th*		*0.00*	*0.00*	*0.00*
Unrecognised actuarial (gains)/losses	€th	0.00	0.00	0.00	0.00

Geographic Breakdown Of Pension Liabilities

		12/17A	12/18E	12/19E	12/20E
US exposure	%				
UK exposure	%				
Euro exposure	%	100	100	100	100
Nordic countries	%				
Switzerland	%				
Other	%				
Total	%	100	100	100	100

Recent updates

05/08/2019

Restart

Financing issue

On 1 August, the French commercial court formally agreed on the refinancing plans to help Europlasma continue as is, albeit with new governance and massive dilution. We merely allow for that dilution from now on.

Fact

An ad-hoc Luxemburg based SPV named Zigi Capital and 50/50 owned by MM Alexandre-Henri Carré and Jérôme Garnache-Creuillot has committed to injecting the necessary resources into Europlasma to make it a successful venture. Those plans have been accepted by the commercial court. While there is an entirely new governance, the technique used to prop up the funding of Europlasma is massively dilutive as it amounts to de facto_ equity lines.

Analysis

Note that the previous governance had reached the conclusion that equity lines were no longer suitable as the group needed a substantial pocket of long-term funding for its two businesses and particularly for the capital intensive green power activity (CHO Power). If no long-term financing could be found for both, the idea was then to sell one of the businesses.

Zigi adds new layers of equity lines essentially achieved by the issuance of very short-term convertibles immediately converted into equity and sold in the market. Europlasma provided a detailed review of the potential number of shares once all known future layers of financing and payment of commissions to arrangers have been deployed.

As of end June 2019, the number of shares was 285m. We had anticipated 2019 to close at 345m shares prior to the financial restructuring and change of ownership. We now allow for 640m shares for 2019-2020-2021 as our current best guess of nearly-certain dilution

Note that Europlasma filed for Chapter 11 in January 2019 and has yet to publish its 2018 accounts. This means that the dilution is both phenomenal and based on highly theoretical earnings.

Impact

The impact on earnings last reviewed in November 2018 (...) is quite mechanical even though it is hardly visible with expected eps ranging from -0.01€ to 0.01€. The target price is divided by three as we have also taken a more cautious view on the DCF.

05/08/2019

Price to pay for survival: massive dilution

Change in Target Price € 0.08 vs 0.23 -67.6%

Now that the commercial court has signed off the restructuring and refinancing plans implemented by a new reference shareholder, we use the potential new number of shares of 640m shares vs. the 345m in our previous guesstimates. Note that, since 2018 accounts have yet to be released, the modelling is out of whack anyway. Everything hinges on the ability of the new governance to obtain full funding for the green power projects, delivered on time. The financial restructuring will have taken its toll on that front.

Change in NAV € 0.07 vs 0.23 -69.2%

We have allowed for the potential increase in the number of shares and use the 2020 net debt instead while the gross asset valuation is unchanged.

Change in DCF € 0.15 vs 0.51 -70.4%

We have allowed for the potential increase in the number of shares and changed the sector beta from 0.58 (utilities) - which is way too low as long as the business model has yet to stabilise - to 0.9.

05/06/2019

May be ...

Financing issue

Europlasma may have found a new reference shareholder

Fact

Europlasma on 04/06 indicated that a would-be financial partner had submitted a “continuation” plan to the French courts with a court decision about this offer expected by the end of July 2019. The proposal made by Luxembourg-based Zigi Capital would be to become a reference shareholder, keep the group as is including its industrial partners but restructure both the funding and the governance.

Analysis

Zigi Capital seems to be an ad hoc SPV for the purpose of becoming the reference shareholder of Europlasma. At pixel time, we found only skinny information about Zigi Capital. Information relates to the two 50/50 owners. A Mr Alexandre-Henri Lacarré would be Swiss-based and his A&A Development Group runs a property and private equity investment operation. A Mr Jérôme Garnache would have developed an advisory capability after an equity brokerage experience.

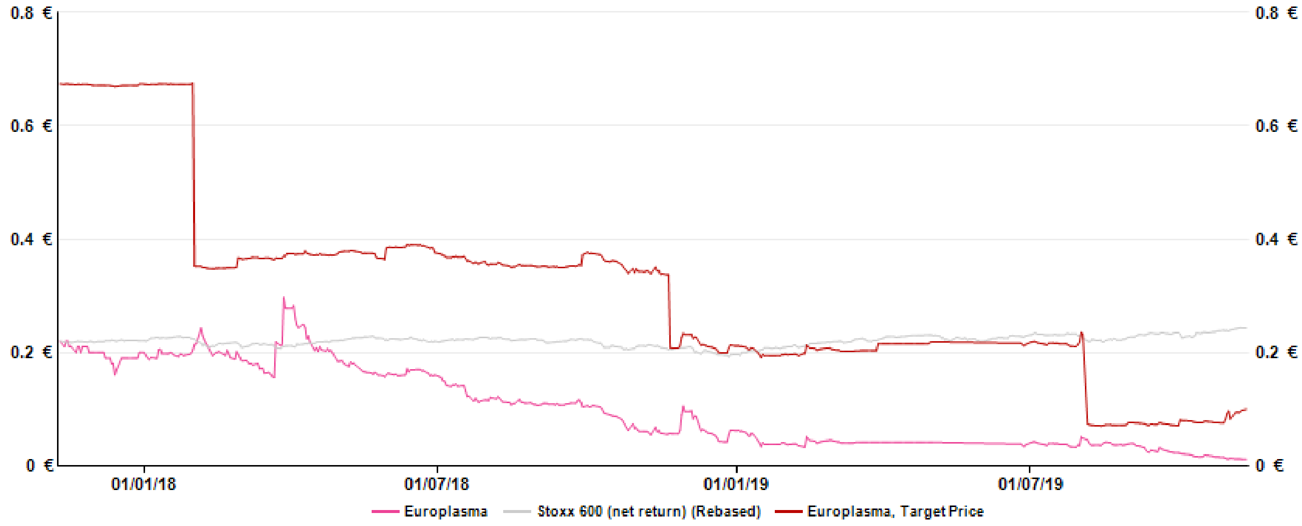
Numbers quoted in the communiqué are of limited help to compute how much debt holders and shareholders will lose in this financial restructuring. The silver lining is that the business looks like remaining a going concern, so that shareholders may entertain hopes of avoiding a complete wipe-out. Listing would not restart before the end of July.

The positive signal is that “an immediate financing” of €3.76m will see Europlasma through the "observation period" (to end July?) which means that the investor is seeing value. A French regional funding agency appears to lend €2m with another €30m to follow should the Zigi bid be validated. Terms are unknown.

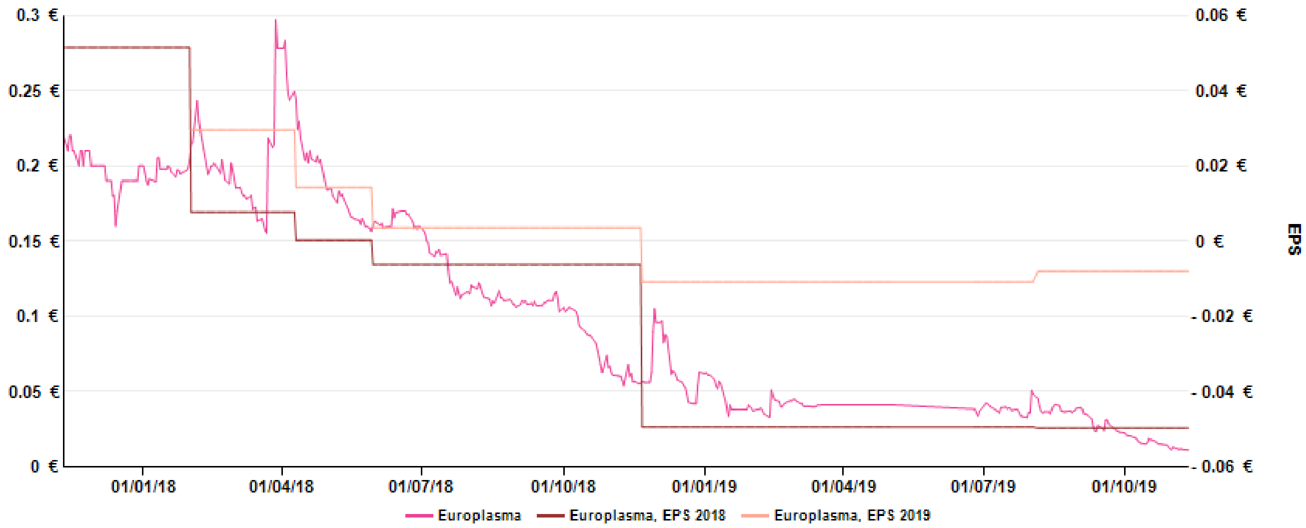
Impact

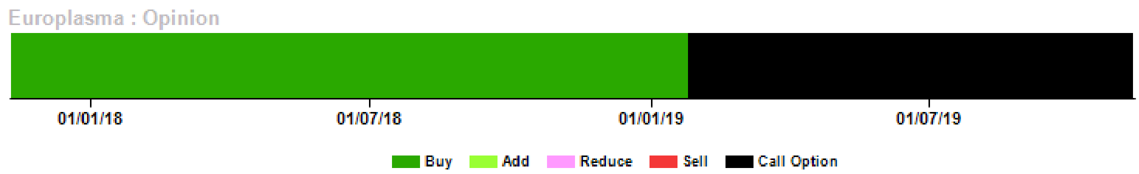
Survival odds seem to be on the rise.

Stock Price and Target Price

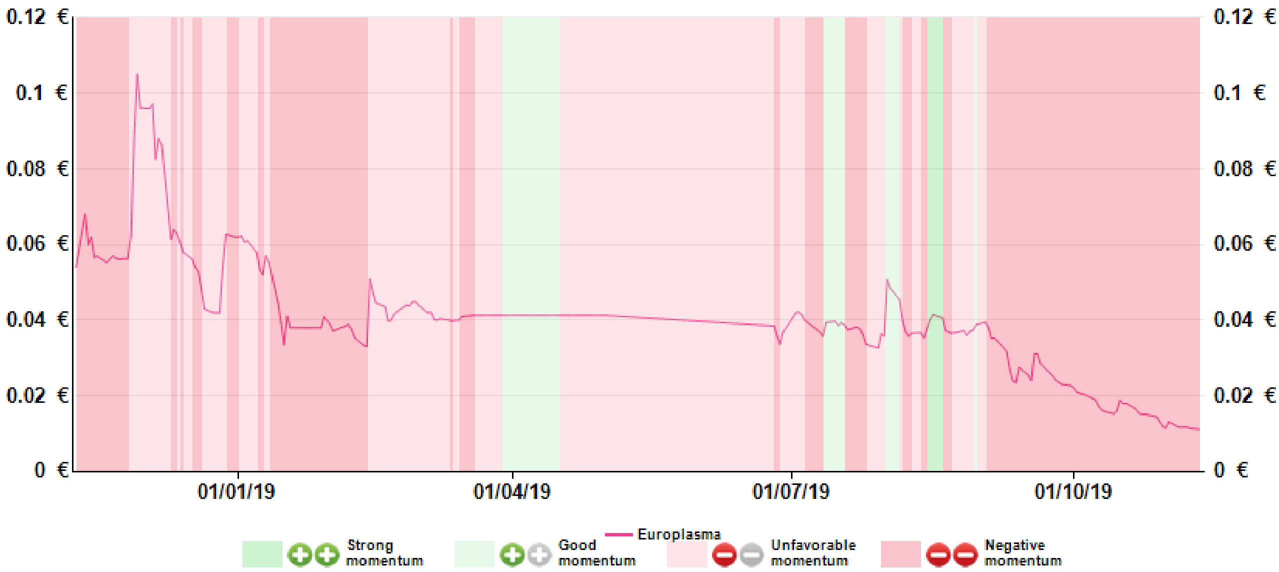


Earnings Per Share & Opinion





Momentum



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.

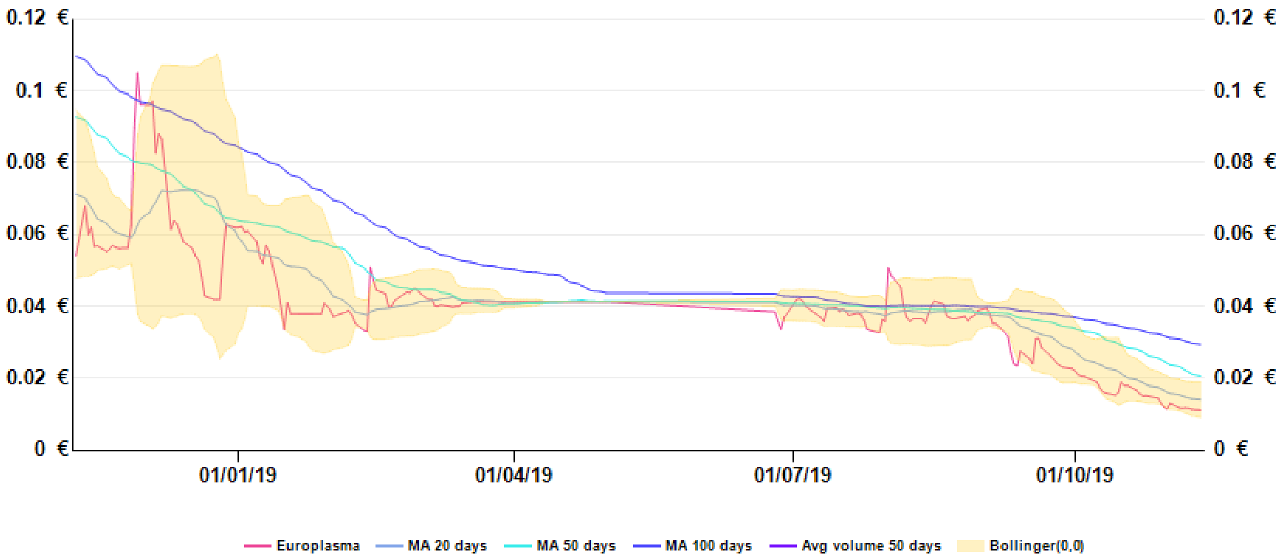
: Strong momentum corresponding to a continuous and overall positive moving average trend confirmed by volumes

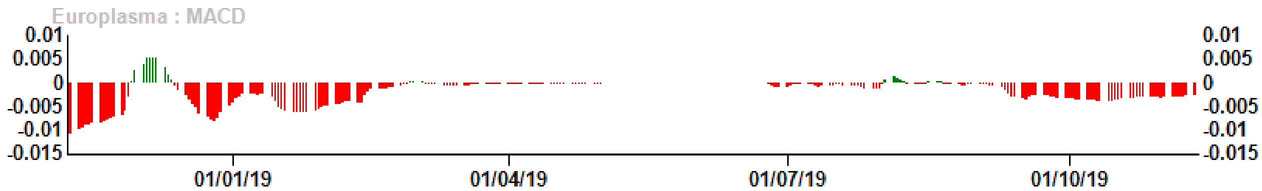
: Relatively good momentum corresponding to a positively-oriented moving average, but offset by an overbought pattern or lack of confirmation from volumes

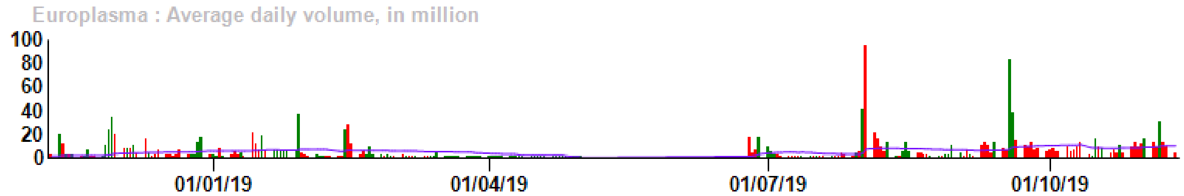
: Relatively unfavorable momentum with a neutral or negative moving average trend, but offset by an oversold pattern or lack of confirmation from volumes

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

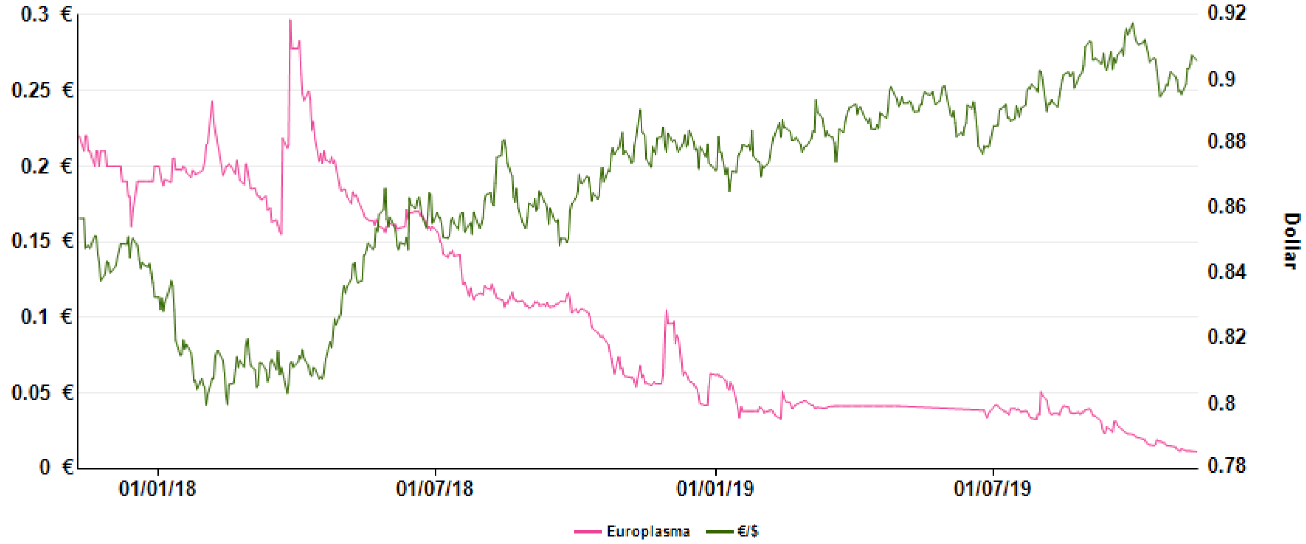
Moving Average MACD & Volume



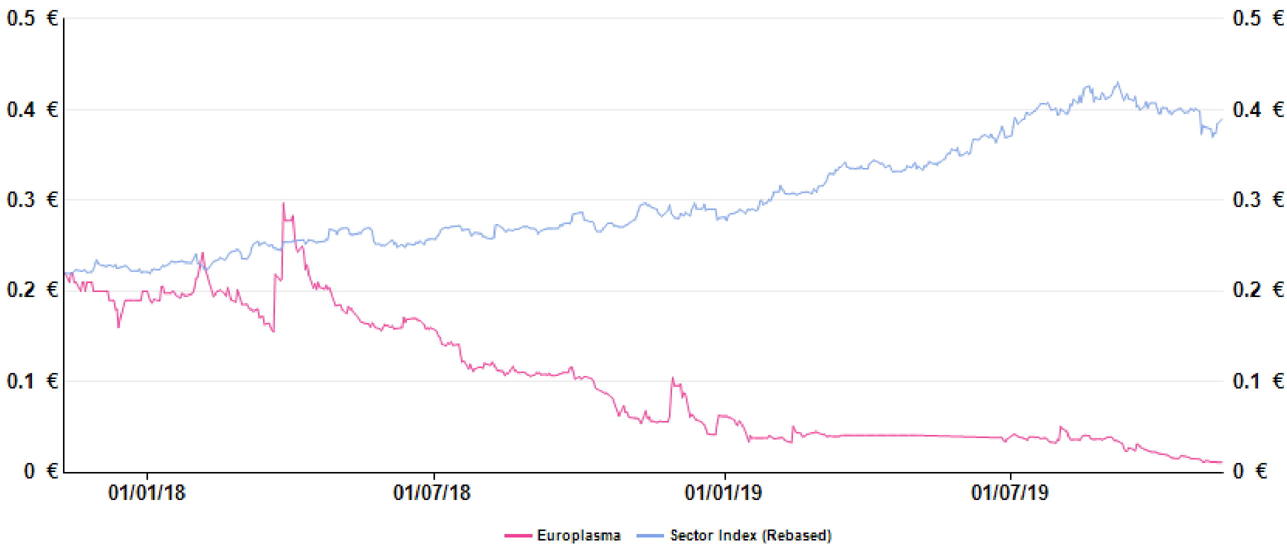




€/$ sensitivity



Sector Utilities



Detailed Financials

Valuation Key Data

		12/17A	12/18E	12/19E	12/20E
Adjusted P/E	**x**	**-1.31**	**-1.67**	**-1.40**	**2.10**
Reported P/E	x	-1.47	-2.20	-1.92	2.10
EV/EBITDA(R)	**x**	**-5.03**	**-24.8**	**20.9**	**9.85**
P/Book	**x**	**-2.11**	**-2.73**	**-3.45**	**0.68**
Dividend yield	**%**	**0.00**	**0.00**	**0.00**	**0.00**
Free cash flow yield	*%*	*-37.8*	*-55.6*	*-846*	*-747*
Average stock price	€	0.21	0.08	0.01	0.01

Consolidated P&L

		12/17A	12/18E	12/19E	12/20E
Sales	€th	13,133	14,000	24,560	45,160
Sales growth	*%*	*34.9*	*6.60*	*75.4*	*83.9*
Sales per employee	*€th*	*119*	*122*	*175*	*251*
Organic change in sales	*%*				
Purchases and external costs (incl. IT)	€th				
Staff costs	€th	-8,607	-8,998	-10,955	-14,085
Operating lease payments	€th				
Cost of sales/COGS (indicative)	€th				
EBITDA	€th	-8,057 (5)	-3,700	6,832	17,936
EBITDA(R)	€th	-8,057	-3,700	6,832	17,936
EBITDA(R) margin	*%*	*-61.3*	*-26.4*	*27.8*	*39.7*
EBITDA(R) per employee	*€th*	*-73.2*	*-32.2*	*48.8*	*99.6*
Depreciation	€th	-2,818	-4,925	-6,050	-7,175
Depreciations/Sales	*%*	*21.5*	*35.2*	*24.6*	*15.9*
Amortisation	€th	-2,924	0.00	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	-13,799	-8,625	782	10,761
Underlying operating margin	*%*	*-105*	*-61.6*	*3.19*	*23.8*
Other income/expense (cash)	€th	359	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	-656			
Operating profit (EBIT)	€th	-14,096	-8,625	782	10,761
Interest expenses	€th	-770	-2,500	-4,000	-5,500
of which effectively paid cash interest expenses	*€th*	*300*	*-2,500*	*-4,000*	*-5,500*
Financial income	€th	225	0.00	0.00	0.00
Other financial income (expense)	€th	-309	0.00	0.00	0.00
Net financial expenses	€th	-854	-2,500	-4,000	-5,500
of which related to pensions	*€th*		*0.00*	*0.00*	*0.00*
Pre-tax profit before exceptional items	€th	-14,950	-11,125	-3,218	5,261
Exceptional items and other (before taxes)	€th				
of which cash (cost) from exceptionals	*€th*				
Current tax	€th	30.0	0.00	965	-1,578
Impact of tax loss carry forward	€th		0.00	-965 (6)	1,578 (6)
Deferred tax	€th		0.00		
Corporate tax	€th	30.0	0.00	0.00	0.00
Tax rate	*%*	*0.21*	*0.00*	*0.00*	*0.00*
Net margin	*%*	*-114*	*-79.5*	*-13.1*	*11.7*
Equity associates	€th	-6,900 (7)	0.00	0.00	0.00
Actual dividends received from equity holdings	*€th*				
Minority interests	€th	0.00	45.6	-524	-1,844
Actual dividends paid out to minorities	*€th*				

5. Adjusted figure as the reported Ebitda (€-14m) is useless as it takes on board equity accounted earnings

6. We allow for the use of tax loss carry forwards to keep the effective tax close to zero

7. This amount refers to a mark to market of the 35% owned in CHOMorcenx. The capitalisation of interest expenses over an excessively long period (as the project was delayed by technical hiccups) led to a fixed asset value well in excess of the value implied by its cash flow generation. That has been marked down

Income from discontinued operations	€th				
Attributable net profit	€th	-21,820	-11,079	-3,742	3,417
Impairment charges/goodwill amortisation	€th	656	0.00	0.00	0.00
Other adjustments	€th				
Adjusted attributable net profit	€th	-21,164	-11,079	-3,742	3,417
Interest expense savings	€th				
Fully diluted adjusted attr. net profit	€th	-21,164	-11,079	-3,742	3,417
NOPAT	€th	-16,559	-6,038	548	7,533

Cashflow Statement

Cashflow Statement		12/17A	12/18E	12/19E	12/20E
EBITDA	€th	-8,057	-3,700	6,832	17,936
Change in WCR	€th	1,667	-848	-1,500	-2,000
of which (increases)/decr. in receivables	*€th*	*2,545*	*-2,617*	*-2,000*	*-2,000*
of which (increases)/decr. in inventories	*€th*	*327*	*-1,401*	*-1,000*	*0.00*
of which increases/(decr.) in payables	*€th*	*95.0*	*2,866*	*1,000*	*0.00*
of which increases/(decr.) in other curr. liab.	*€th*	*-1,300*	*304*	*500*	*0.00*
Actual dividends received from equity holdings	€th	0.00	0.00	0.00	0.00
Paid taxes	€th	421	0.00	0.00	0.00
Exceptional items	€th				
Other operating cash flows	€th	-2,200	1,000	1,000	1,000
Total operating cash flows	€th	-8,169	-3,548	6,332	16,936
Capital expenditure	€th	-3,100	-7,500 [8]	-63,000 [8]	-65,000 [8]
Capex as a % of depreciation & amort.	*%*	*54.0*	*152*	*1,041*	*906*
Net investments in shares	€th	0.00	0.00	0.00	0.00
Other investment flows	€th	-700	-1,000	-1,000	-1,000
Total investment flows	€th	-3,800	-8,500	-64,000	-66,000
Net interest expense	€th	-854	-2,500	-4,000	-5,500
of which cash interest expense	*€th*	*300*	*-2,500*	*-4,000*	*-5,500*
Dividends (parent company)	€th				
Dividends to minorities interests	€th	0.00	0.00	0.00	0.00
New shareholders' equity	€th	14,200	6,000	6,000	16,000
of which (acquisition) release of treasury shares	*€th*				
(Increase)/decrease in net debt position	€th	-2,200	10,200	28,000	45,000
Other financial flows	€th		-13,000 [9]	10,000 [10]	10,000 [10]
Total financial flows	€th	12,300	700	40,000	65,500
Change in cash position	€th	331	-11,348	-17,668	16,436
Change in net debt position	€th	2,531	-21,548	-45,668	-28,564
Free cash flow (pre div.)	€th	-12,123	-13,548	-60,668	-53,564
Operating cash flow (clean)	€th	-8,169	-3,548	6,332	16,936
Reinvestment rate (capex/tangible fixed assets)	*%*	*23.2*	*14.7*	*53.8*	*37.1*

8. Big surge in capex as new power plants are fully consolidated (€60m per unit). Actual capex is pushed back by 6 months on financing constraints
9. Scope of consolidation change in 2018 when Europlasma took majority control of its power generation unit and thus embarked on new debt
10. Cash injections by 49% holders of the equity of new power SPVs

Balance Sheet

		12/17A	12/18E	12/19E	12/20E
Goodwill	€th	8.00	1,000	1,000	1,000
Other intangible assets	€th	193	314	314	500
Total intangible	€th	201	1,314	1,314	1,500
Tangible fixed assets	€th	13,341	51,000 (11)	111,000 (11)	165,000 (11)
Financial fixed assets (part of group strategy)	€th	0.00	8,000	10,000	10,000
Other financial assets (investment purpose mainly)	€th	2,763	6,000	6,000	6,000
WCR	€th	1,152	2,000	3,500	5,500
of which trade & receivables (+)	€th	6,383	9,000	11,000	13,000
of which inventories (+)	€th	1,599	3,000	4,000	4,000
of which payables (+)	€th	4,134	7,000	8,000	8,000
of which other current liabilities (+)	€th	2,696	3,000	3,500	3,500
Other current assets	€th	10,842	4,000	5,000	5,000
of which tax assets (+)	€th	430	1,000	1,000	1,000
Total assets (net of short term liabilities)	€th	28,299	72,314	136,814	193,000
Ordinary shareholders' equity (group share)	€th	-15,224	-8,909	-2,077	10,546
Minority interests	€th	31.0	20,000 (12) (13)	30,000 (13)	40,000 (13)
Provisions for pensions	€th	573	0.00	0.00	0.00
Other provisions for risks and liabilities	€th	8,169	12,000	15,000	20,000
Deferred tax liabilities	€th	115	-2,000	-2,000	-2,000
Other liabilities	€th	20,972	16,000	15,000	15,000
Net debt / (cash)	€th	13,675	35,223	80,891	109,454
Total liabilities and shareholders' equity	€th	28,311	72,314	136,814	193,000
Average net debt / (cash)	€th	11,088	24,449	58,057	95,173

11. Surge in capex relates to the full consolidation of power production SPVs (c. €60m capex per unit; two years of construction)

12. 20% of CHO Power owned by Gottex from April 2018

13. Build up of minority interests in new SPVs (assumption is €10m/SPV)

EV Calculations

		12/17A	12/18E	12/19E	12/20E
EV/EBITDA(R)	**x**	**-5.03**	**-24.8**	**20.9**	**9.85**
EV/EBIT (underlying profit)	**x**	**-2.94**	**-10.6**	**ns**	**16.4**
EV/Sales	**x**	**3.08**	**6.54**	**5.82**	**3.91**
EV/Invested capital	x	2.76	1.47	1.14	0.97
Market cap	€th	32,092	24,357	7,168	7,168
+ Provisions (including pensions)	€th	8,742	12,000	15,000	20,000
+ Unrecognised actuarial losses/(gains)	€th	0.00	0.00	0.00	0.00
+ Net debt at year end	€th	13,675	35,223	80,891	109,454
+ Leases debt equivalent	€th	0.00	0.00	0.00	0.00
- Financial fixed assets (fair value) & Others	€th	15,000	0.00	0.00	0.00
+ Minority interests (fair value)	€th	1,000	20,000	40,000	40,000
= Enterprise Value	**€th**	**40,509**	**91,580**	**143,059**	**176,622**

Per Share Data

		12/17A	12/18E	12/19E	12/20E
Adjusted EPS (bfr gwill amort. & dil.)	**€**	**-0.16**	**-0.05**	**-0.01**	**0.01**
Growth in EPS	%	*n/a*	*n/a*	*n/a*	*n/a*
Reported EPS	€	-0.14	-0.04	-0.01	0.01
Net dividend per share	**€**	**0.00**	**0.00**	**0.00**	**0.00**
Free cash flow per share	€	-0.09	-0.06	-0.13	-0.08
Operating cash flow per share	€	-0.06	-0.02	0.01	0.03
Book value per share	€	-0.10	-0.03	0.00	0.02
Number of ordinary shares	**Th**	**152,405** [14]	**294,000** [15]	**640,000**	**640,000**
Number of equivalent ordinary shares (year end)	Th	152,405	294,000	640,000	640,000
Number of shares market cap.	Th	152,400	254,000	300,000	500,000
Treasury stock (year end)	Th				
Number of shares net of treasury stock (year end)	Th	152,405	294,000	640,000	640,000
Number of common shares (average)	**Th**	**132,028**	**223,203**	**467,000**	**640,000**
Conversion of debt instruments into equity	Th	0.00 [16]	0.00 [16]	0.00	0.00
Settlement of cashable stock options	Th	0.00 [17]	0.00 [17]	0.00	0.00
Probable settlement of non mature stock options	Th				
Other commitments to issue new shares	Th	0.00	0.00	0.00	0.00
Increase in shares outstanding (average)	Th	0.00	0.00	0.00	0.00
Number of diluted shares (average)	**Th**	**132,028**	**223,203**	**467,000**	**640,000**
Goodwill per share (diluted)	€	0.00	0.00	0.00	0.00
EPS after goodwill amortisation (diluted)	€	-0.17	-0.05	-0.01	0.01
EPS before goodwill amortisation (non-diluted)	€	-0.17	-0.05	-0.01	0.01
Actual payment	€				
	%	**0.00**	**0.00**	**0.00**	**0.00**
Capital payout ratio (div +share buy back/net income)	**%**	**0.00**	**0.00**	**0.00**	

14. Including A warrants of 2014
15. We assume that the necessary recapitalisaton will be achieved above the nominal value (€0.1/share) as the erosion in the share price reflects liquidity concerns rather than a change in the enterprise value. We used €0.15 as an issue price
16. Convertible issue in late 2015 with a coupon in shares has been allowed for as being repaid in full implying the issuance of c.40m new shares from 2018.
17. 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

Funding - Liquidity

		12/17A	12/18E	12/19E	12/20E
EBITDA	€th	-8,057 [5]	-3,700	6,832	17,936
Funds from operations (FFO)	€th	-9,536	-5,200	3,832	13,436
Ordinary shareholders' equity	**€th**	**-15,224**	**-8,909**	**-2,077**	**10,546**
Gross debt	€th	21,800	32,000	60,000	105,000
o/w Less than 1 year - Gross debt	€th	3,000	5,000		
o/w 1 to 5 year - Gross debt	€th	15,800			
of which Y+2	€th	6,200			
of which Y+3	€th	1,000			
o/w Beyond 5 years - Gross debt	€th	3,000	27,000 [18]	60,000 [18]	105,000 [18]
+ Gross Cash	€th	8,125	-3,223	-20,891	-4,454
= Net debt / (cash)	**€th**	**13,675**	**35,223**	**80,891**	**109,454**
Bank borrowings	€th	2,000	2,000	10,000	10,000
Issued bonds	€th	5,000 [19]	5,000		
Financial leases liabilities	€th		25,000	45,000	90,000
Other financing	€th	14,800	0.00	5,000	5,000
Gearing (at book value)	%				902
Adj. Net debt/EBITDA(R)	*x*	*-1.70*	*-9.52*	*11.8*	*6.10*
Adjusted Gross Debt/EBITDA(R)	*x*	*-3.79*	*-11.9*	*11.0*	*6.97*
Adj. gross debt/(Adj. gross debt+Equity)	*%*	*199*	*125*	*103*	*92.2*
Ebit cover	*x*	*-16.2*	*-3.45*	*0.20*	*1.96*
FFO/Gross Debt	*%*	*-31.2*	*-11.8*	*5.11*	*10.7*
FFO/Net debt	*%*	*-69.7*	*-14.8*	*4.74*	*12.3*
FCF/Adj. gross debt (%)	*%*	*-39.7*	*-30.8*	*-80.9*	*-42.9*
(Gross cash+ "cash" FCF+undrawn)/ST debt	*x*	*-1.33*	*-3.35*		
"Cash" FCF/ST debt	*x*	*-3.66*	*-2.71*		

5. Adjusted figure as the reported Ebitda (€-14m) is useless as it takes on board equity accounted earnings
18. The profile of debt funding has to be determined
19. 3-year €5m convertible at 6% coupon paid in new shares

ROE Analysis (Dupont's Breakdown)

		12/17A	12/18E	12/19E	12/20E
Tax burden (Net income/pretax pre excp income)	x	1.46	1.00	1.16	0.65
EBIT margin (EBIT/sales)	%	-107	-61.6	3.19	23.8
Assets rotation (Sales/Avg assets)	%	48.6	27.8	23.5	27.4
Financial leverage (Avg assets /Avg equity)	x	-2.87	-4.17	-19.0	38.9
ROE	**%**	**232**	**91.8**	**68.1**	**80.7**
ROA	%	-95.9	-15.9	0.68	6.26

Shareholder's Equity Review (Group Share)

		12/17A	12/18E	12/19E	12/20E
Y-1 shareholders' equity	€th	-3,892	-15,212	-8,909	-2,077
+ Net profit of year	€th	-21,820	-11,079	-3,742	3,417
- Dividends (parent cy)	€th	0.00	0.00	0.00	0.00
+ Additions to equity	€th	14,200	6,000	6,000	16,000
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	-3,700	11,382	4,574	-6,795
= Year end shareholders' equity	**€th**	**-15,212**	**-8,909**	**-2,077**	**10,546**

Staffing Analytics

		12/17A	12/18E	12/19E	12/20E
Sales per staff	€th	119	122	175	251
Staff costs per employee	€th	-78.2	-78.2	-78.2	-78.2
Change in staff costs	*%*	*0.00*	*4.55*	*21.7*	*28.6*
Change in unit cost of staff	*%*	*0.00*	*0.00*	*0.00*	*0.00*
Staff costs/(EBITDA+Staff costs)	*%*	*1,564*	*170*	*61.6*	*44.0*
Average workforce	**unit**	**110**	**115**	**140**	**180**
Europe	unit	110	115	140	180
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**	**-8,998**	**-10,955**	**-14,085**
Wages and salaries	€th	-8,607	-8,998	-10,955	-14,085
of which social security contributions	*€th*	*-3,000*	*-3,000*	*-3,000*	*-3,000*
Equity linked payments	€th				
Pension related costs	€th		0.00	0.00	0.00

Divisional Breakdown Of Revenues

		12/17A	12/18E	12/19E	12/20E
Total sales	**€th**	**13,133**	**14,000**	**24,560**	**45,160**
Engineering, Torch (Europlasma)	€th	1,343	1,000	3,000	4,000
Renewable Energy (CHO-POWER)	€th	4,356	4,000	10,560	28,160
Toxic Waste Neutralization (Inertam)	€th	7,434	9,000	11,000	13,000
Air & Gaz (Europe Environnement)	€th	0.00	0.00	0.00	0.00
Other	€th	0.00	0.00	0.00	0.00

Divisional Breakdown Of Earnings

		12/17A	12/18E	12/19E	12/20E
Operating results Analysis					
Holding, R&D, Engineering, Torch (Europlasma)	€th	-3,496	-4,200	-3,600	-3,300
Renewable Energy (CHO-POWER)	€th	-6,324	-3,125	3,932	13,111
Toxic Waste Neutralization (Inertam)	€th	-4,277	-1,300	450	950
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**	**-14,097**	**-8,625**	**782**	**10,761**
Operating results margin	%	-107	-61.6	3.19	23.8

Revenue Breakdown By Country

		12/17A	12/18E	12/19E	12/20E
Europe	%	90.0	90.0		
Americas	%	0.00	0.00		
Asia	%	10.0	10.0		
Other	%	0.00	0.00		

ROCE/CFROIC/Capital Invested

		12/17A	12/18E	12/19E	12/20E
ROCE (NOPAT+lease exp.(1-tax))/(net) cap employed adjusted*	*%*	*-113*	*-9.69*	*0.44*	*4.14*
CFROIC	*%*	*-82.5*	*-21.7*	*-48.2*	*-29.4*
Goodwill	€th	8.00	1,000	1,000	1,000
Accumulated goodwill amortisation	*€th*	*0.00*	*0.00*	*0.00*	*0.00*
All intangible assets	€th	193	314	314	500
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	13,341	51,000	111,000	165,000
Accumulated depreciation	*€th*	*0.00*	*0.00*	*6,000*	*10,000*
WCR	€th	1,152	2,000	3,500	5,500
Other assets	€th	0.00	8,000	10,000	10,000
Unrecognised actuarial losses/(gains)	€th	0.00	0.00	0.00	0.00
Capital employed after deprec. (Invested capital)	**€th**	**14,694**	**62,314**	**125,814**	**182,000**
Capital employed before depreciation	€th	14,694	62,314	131,814	192,000

Divisional Breakdown Of Capital

		12/17A	12/18E	12/19E	12/20E
Holding, R&D, Engineering, Torch (Europlasma)	€th				
Renewable Energy (CHO-POWER)	€th				
Toxic Waste Neutralization (Inertam)	€th				
Air & Gaz (Europe Environnement)	€th				
Other	€th	14,694	62,314	125,814	182,000
Total capital employed	**€th**	**14,694**	**62,314**	**125,814**	**182,000**

Pension Risks

Summary Of Pension Risks

		12/17A	12/18E	12/19E	12/20E
Pension ratio	**%**	**0.00**	**0.00**	**0.00**	**0.00**
Ordinary shareholders' equity	€th	-15,224	-8,909	-2,077	10,546
Total benefits provisions	**€th**	**0.00**	**0.00**	**0.00**	**0.00**
of which funded pensions	*€th*	*0.00*	*0.00*	*0.00*	*0.00*
of which unfunded pensions	*€th*	*0.00*	*0.00*	*0.00*	*0.00*
of which benefits / health care	*€th*		*0.00*	*0.00*	*0.00*
Unrecognised actuarial (gains)/losses	€th	0.00	0.00	0.00	0.00
Company discount rate	*%*	*4.60*	*4.60*	*4.60*	*4.60*
Normalised recomputed discount rate	%		1.50		
Company future salary increase	*%*	*3.00*	*3.00*	*3.00*	*3.00*
Normalised recomputed future salary increase	%		2.00		
Company expected rate of return on plan assets	*%*	*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

		12/17A	12/18E	12/19E	12/20E
US exposure	%				
UK exposure	%				
Euro exposure	%	100	100	100	100
Nordic countries	%				
Switzerland	%				
Other	%				
Total	%	100	100	100	100

Balance Sheet Implications

		12/17A	12/18E	12/19E	12/20E
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
Total benefit provisions	**€th**	**0.00**	**0.00**	**0.00**	**0.00**

P&L Implications

		12/17A	12/18E	12/19E	12/20E
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**
of which incl. in labour costs	*€th*	*0.00*	*0.00*	*0.00*	*0.00*
of which incl. in interest expenses	*€th*	*0.00*	*0.00*	*0.00*	*0.00*

Funded Obligations

		12/17A	12/18E	12/19E	12/20E
Balance beginning of period	**€th**	**0.00**	**0.00**	**0.00**	**0.00**
Current service cost	€th		0.00	0.00	0.00
Interest expense	€th		0.00	0.00	0.00
Employees' contributions	€th				
Impact of change in actuarial assumptions	€th		0.00	0.00	0.00
of which impact of change in discount rate	*€th*		*0.00*		
of which impact of change in salary increase	*€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

		12/17A	12/18E	12/19E	12/20E
Value at beginning	**€th**		**0.00**	**0.00**	**0.00**
Company expected return on plan assets	€th		0.00	0.00	0.00
Actuarial gain /(loss)	€th		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

		12/17A	12/18E	12/19E	12/20E
Balance beginning of period	**€th**	**0.00**	**0.00**	**0.00**	**0.00**
Current service cost	€th		0.00	0.00	0.00
Interest expense	€th		0.00	0.00	0.00
Employees' contributions	€th				
Impact of change in actuarial assumptions	€th		0.00	0.00	0.00
of which Impact of change in discount rate	*€th*		*0.00*		
of which Impact of change in salary increase	*€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**

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 10 < VIX index < 30	Normal Volatility 15 < VIX index < 35	High Volatility 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.

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%	50%	15%
PE	10%	10%	10%	5%	10%	20%
EV/EBITDA	20%	20%	0%	5%	0%	0%
Yield	10%	10%	20%	5%	10%	15%
Book	5%	5%	5%	5%	10%	10%
Banks' instrinsic method	0%	0%	0%	0%	10%	0%
Embedded Value	0%	0%	0%	0%	0%	40%
Mkt Cap/Gross Operating Profit	0%	0%	0%	0%	10%	0%