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CleanTech Sector Core activities: Energy Efficiency Core area of activity: Global Listing: TSX Venture (SDW.V)

## **Sofame Technologies**



Sofame custom-engineered and manufactured systems improve the efficiency of existing gas fired boilers, reducing fuel costs and greenhouse gas emissions. The increase in energy prices has made such savings more attractive. New management has overhauled business practices and has set extremely ambitious sales targets.

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**Initiation Report** 

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I certify that this report represents my own opinions.

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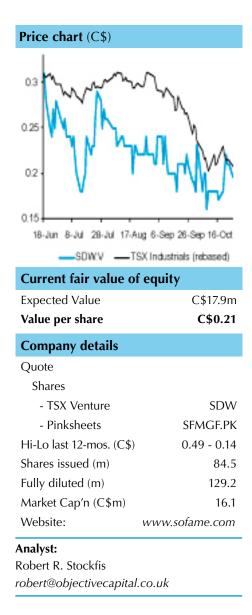
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### **Key Points**

Sofame specialises in industrial heat recovery and bespoke solutions for water heating applications. Its custom-engineered and manufactured systems improve the efficiency of existing gas fired boilers, reducing fuel costs and greenhouse gas emissions. The increase in natural gas price earlier this year (although now off its peak) has made such savings more attractive for customers and reduced the payback period for Sofame's systems. New management has overhauled business practices and has set extremely ambitious sales targets.

- *High gas prices are a key business driver.* The price of natural gas is the most important business driver for Sofame. The surge in prices earlier this year, has made fuel savings a far more pressing issue for building owners and manufacturing businesses. Dependent on the actual delivered price of gas, the payback period for an organisation installing Sofame's technology can be anywhere between two and seven years.
- **Over 300 successful installations** and a 'blue chip' list of customers provide testimony that Sofame can deliver improved efficiency and reduced fuel consumption whilst cutting greenhouse gas emissions. Hospitals, airports, schools and industrial and commercial factories have all benefited from Sofame's technology. As boilers and heating units are only changed infrequently, systems can be effectively upgraded without disruption or dislocation.
- **Reducing costs, curbing fuel usage and earning carbon credits** is a powerful combination in a more enlightened age of environmental responsibility. Those organisations which do not abide by 'green principles' are likely to face higher taxation and penalties for non-compliance. Lower fuel consumption brings fewer greenhouse gas emissions, delivering potential carbon tax savings; these in turn may qualify the owner for carbon credits.
- A highly incentivised new management is overhauling the way Sofame does business and has produced a detailed marketing plan, with an impressive prospect pipeline from its existing manufacturers' representatives. New distributors have been signed-up in both North America and Europe, with clearly defined territories and targets.
- A planned finance subsidiary could be the key to increased sales. Sofame is planning to establish a finance subsidiary which would own and finance the systems that customers would have installed. Customers would have no up front costs and would share future energy cost savings with Sofame Finance. Management believes this model could be a route to greatly increase future sales.
- The key is execution. Management's ambitious marketing plan 2009-2013 envisages a substantial step change in the company's fortunes. Ultimately, the company's valuation will be dependent on the ability of management to execute this plan. Although we have evidence of an extensive prospect pipeline over the next two to three years, before we feel comfortable in projecting such numbers as revenues, we need to have evidence that the pipeline is being transformed into firm orders. Hopefully this will become evident over the next few quarters, when we can re-evaluate our assumptions. As such, our scenario analysis captures this caution, whilst mindful that even the best laid plans can receive unexpected setbacks. On the basis that the business can accomplish our core scenario illustration we value Sofame at C\$0.21, or a 10.5 percent premium to the current share price of C\$0.19

#### 28 October 2008 Price: C\$0.19



### **Overview**

Sofame has been in business since 1984, designing and manufacturing innovative, energy-saving commercial/industrial heat recovery systems. The company went public in 1997 with most of its business conducted in Canada where it has won around 20 industry awards and has in excess of 300 systems in place, often for very high profile customers. The heat recovery system installed at Montreal Trudeau International Airport won the coveted ASHRAE (American Society of Heating Refrigeration and Air-Conditioning Engineers) prize in 2007. Another high profile project of note is the Xstrata Zinc's Brunswick mine in New Brunswick, Canada (one of the world's largest underground lead and zinc mines), where Sofame's technology has been instrumental in improving energy management, reducing the emission of greenhouse gases (GHG) and achieving cost savings.

Despite the accolades and a long pedigree, Sofame has never enjoyed a strong financial performance. Revenues have disappointed whilst meaningful profitability has remained elusive. However, this now looks set to change with new management, further capital and a comprehensive marketing plan.

John Gocek the current President and CEO joined the company in October 2007. Mr Gocek has a recent background in the related HVAC (Heating Ventilation and Air Conditioning) industry. The company also has new investors including Notre Dame Capital and Soffimat.

In addition to John Gocek, Sofame has a new Chairman, Richard T Groome, who is the founder, President and Managing Partner of Notre-Dame Capital. Earlier this year, Notre-Dame arranged financing for Sofame and as part of their compensation, received 'compensation' warrants. Mr Groome also has interests in, or control and direction over, various warrants and debentures which, if fully converted or exercised, would amount to more than 17 percent of the share capital. Management is highly incentivised to make sure the current incarnation of Sofame is more successful than the last.

The challenge for the new management team is to implement its new strategy and turn around a perennially under-performing business, but which nonetheless has interesting technology.

Sofame's systems recover heat from the flue gases of conventional boilers that would otherwise be lost in the stack, i.e. wasted energy. With traditional boilers, flue gases have to be kept relatively hot, i.e. above 120°C or 250°F to prevent the gases condensing as the water vapour they contain will casue a traditional boiler to quickly rust. In practice these temperatures can be considerably higher, 232°C or 450°F and this is obviously inefficient.

The heat from these flue gases are used to heat a cold water stream which is then reused in the industrial process or heating system. These processes improve the energy efficiency of the entire system, reduce fuel usage and as a consequence reduce greenhouse gas emissions.

When gas prices were significantly lower and the threat of global warming not sufficiently understood, such systems might have appeared only marginally beneficial given a payback period of around seven years. This is no longer the case; "green" is very much on the political agenda and while natural gas prices have reduced from the very high levels seen earlier this year, they could increase further. At the start of this year, on the basis of the then prevailing prices, the payback for some of Sofame's customer's systems was less than two years.

With the appointment of further Sofame Manufacturers' Representatives (SMR), this will provide the company with an excellent opportunity to capitalise on its engineering expertise.

Management has identified the lack of sales and marketing muscle as the single largest impediment to Sofame's progress in the past and to this end has signed a number of distributor agreements in North America and Europe. Management believes that distributors with extensive HVAC client lists and experience will probably be best placed to help Sofame increase its sales rapidly. Such distributors have an active client list and regular contact with those clients to perform maintenance and advise them on improvements to increase efficiency and lower costs. New distributors include Wise Energy and French based Soffimat.

Sofame is also looking to launch a financing subsidiary, most likely with a finance specialist who would take a minority interest in the venture, in order to offer potential customers a different model. Under this model Sofame Finance would own the equipment and would pay for it from the savings stream which it would also share with the owner of the heating system on a 10 year contract. The idea behind this model is that it presents potential customers with a virtually risk free option, in that all they have to do is host the system, while Sofame arranges finance for the system, installation and the finance subsidiary assumes both the interest rate risk and commodity price risk. For illustration, assuming a ten year contract, in Years 1-7 the savings would be shared 80:20, in favour of Sofame's finance subsidiary (until the cost of the capital equipment has been repaid), whilst in Years 8-10 the savings would be shared equally 50:50. Historical records for the boiler's energy consumption can be compared to current usage in terms of volume of gas consumed. The actual arithmetic and savings delivered in C\$ will depend of the price of gas. This turn-key business model would also provide a long term 'repetitive income' stream for Sofame through its subsidiary.

Since its founding, Sofame has designed over 300 installations, so the type of customers to which these systems appeal are relatively easy to identify. They tend to be commercial or industrial applications, often large public buildings such as hospitals and airports and energy intensive industrial processes such as pulp and paper manufacturing, brewing, food processing etc. Publicly owned or high profile institutions such as airports, hospitals and universities are also coming under increasing public scrutiny to improve efficiency, reduce energy consumption and be more environmentally responsible.

While sales are currently modest, management's plans are anything but that, with a stated intention to increase yearly revenues to C\$100m in five years. Within the "pipeline" are prospects currently worth around C\$46m and whilst not all of these will turn out to be contracts, management is very hopeful of securing at least 50 percent of them over a two year period and 80 percent over a three year period. If achieved, that would represent a scale change in the company's fortunes. These are very ambitious plans but show that management recognises the opportunity presented by a combination of high gas prices and the directives to cut CO<sub>2</sub> and NO emissions.

Our enquiries with representatives who have done their own channel checks suggest that Sofame's systems usually perform better than specification. This is a "green" technology that is fully developed and needs no subsidy to be competitive. These systems pay for themselves, sometimes in less than three years and have impeccable carbon credit credentials.

#### Percotherm installation

University of Toronto, Canada



Source: Sofame Technologies

### Valuation

At the current price of C\$0.19 per share, the market is valuing Sofame's equity at just over C\$16m. Sales for the year ending 30 September 2008E were marginally down; we estimate revenues at C\$1.9m (2007, C\$2.3m) which will have generated an after tax loss in the region of C\$1.1m (2007, loss C\$1.2m). Clearly, therefore, this valuation is already looking forward to substantial improvements in the operating performance of the business in 2009F.

The case for investing in the "cleantech" area is well rehearsed and Sofame is excellently placed within this sector. The case less easily made is that of valuation, because, as at the time of writing, there are few confirmed projects out of its huge prospect pipeline. There are long lead times and delays on projects are common. We do however anticipate a substantial increase in sales in the current financial year, even if not reflecting the ambitious targets pencilled-in by management.

#### **Three scenarios**

We have shown three operating scenarios:

- **1.** An optimistic scenario, what investors might expect if the main elements of the marketing plan go smoothly;
- 2. A most likely outcome which is our current best call as to what is likely to happen; and
- **3.** A pessimistic scenario, where for whatever reasons, management is not able to execute its plan effectively and the financial performance, whilst an improvement on years past, lacks any real traction.

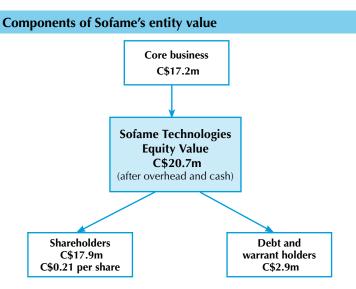
**Our optimistic scenario** takes the stance that the projects currently in the pipeline get converted into orders in a timely way based broadly on the current marketing plan. For our revenue projections we make the assumption that 15.0 percent of the existing pipeline gets converted into actual orders each year for four years; in other words, sixty percent of the prospects in the pipeline comes good but it takes upto four years for them to materialise into sales. During this period new SMR's are signed up who only contribute to sales in the year after appointment, as the gestation period between contacting a prospect and confirming an order can be 18 months or longer.

Fair value summary (C\$m) Scenario Core **Optimistic Pessimistic** Value of firm 17.2 42.4 5.5 Add: starting cash + new funds 3.6 3.6 3.6 Total current value for firm 20.7 46.0 9.1 Less: starting & new debt 2.7 2.7 2.7 Total value to equity claims 18.1 43.3 6.5 Less: Options/Convertibility 0.2 1.2 0.0 Ordinary Equity Holders 17.9 42.2 6.4

0.50

0.21

0.08

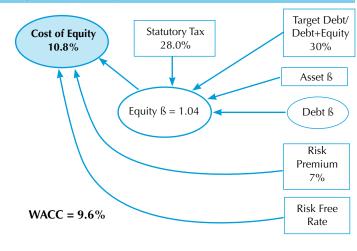


#### **Scenario Assumptions**

Value per share (C\$ps)

							10115	scenario Assumpt
Optimistic	Core			Pessimistic				
10F 2011F 2008F 2009F 2010F 2011F	2010F	2009F	2008F	2011F	2010F	2009F	2008F	
								Profit & Loss ( C\$m)
8.01 10.92 1.90 6.95 12.25 17.54	8.01	5.10	1.90	6.72	5.21	3.71	1.90	Sales
4.89) (6.66) (1.16) (4.17) (7.35) (10.53)	) (4.89)	(3.11)	(1.16)	(4.17)	(3.23)	(2.30)	(1.16)	COGS
3.12 4.26 0.74 2.78 4.90 7.02	3.12	1.99	0.74	2.55	1.98	1.41	0.74	Gross profit
39% 39% 39% 40% 40% 40%	39%	39%	39%	38%	38%	38%	39%	Gross margin %
(1.8) (2.2) (1.8) (1.5) (1.8) (2.2)	) (1.8)	(1.5)	(1.8)	(1.7)	(1.5)	(1.3)	(1.8)	Selling costs
1.3 2.0 (1.1) 1.3 3.1 4.8	5 1.3	0.5	(1.1)	0.9	0.5	0.1	(1.1)	Operating EBIT
1.3 2.1 (1.0) 1.4 3.1 4.8	5 1.3	0.6	(1.0)	0.9	0.6	0.2	(1.0)	EBITDA
17% 19% n/a 20% 25% 28%	17%	11%	n/a	14%	11%	5%	n/a	EBITDA margin %
39% 39% 39% 40% 40%   (1.8) (2.2) (1.8) (1.5) (1.8)   1.3 2.0 (1.1) 1.3 3.1   1.3 2.1 (1.0) 1.4 3.1	) (1.8) 5 1.3 6 <b>1.3</b>	39% (1.5) 0.5 <b>0.6</b>	39% (1.8) (1.1) <b>(1.0)</b>	38% (1.7) 0.9 <b>0.9</b>	38% (1.5) 0.5 <b>0.6</b>	38% (1.3) 0.1 <b>0.2</b>	39% (1.8) (1.1) <b>(1.0)</b>	Gross margin % Selling costs Operating EBIT EBITDA

#### Weighted cost of capital



For the optimistic scenario, our assumption is that on average, six new distributors are signed up each year who book ten prospects at the median price as indicated by Sofame's current business plan, i.e., C\$589k. Again, we assume a similar conversion rate of prospects into a firm order book. This translates into total sales over the four year period of almost C\$60m – this represents, on average, around 7.5x the annual turnover of the business currently. We note: the current prospect pipeline details 71 projects with a total value of around C\$46m, an average project value of C\$700k, split between eight SMR. Of course not all orders get confirmed simultaneously and as we have noted above, the track from enquiry to confirmation of order and commissioning can take 18 months or longer.

So for the financial year ending September 2009F, under this scenario we have pencilled-in revenues amounting to C\$6.9m, these rise to C\$12.2m in 2010F and C\$17.5m in 2011F. We have assumed an average gross profit margin of 40 percent and modelled a fixed element and variable element into SG&A. So while in 2009F, SG&A amounts to 25 percent of sales, this reduces to around 17 percent by 2012F. We note: the projections in Sofame's marketing plan indicates a weighted average gross margin in excess of 44 percent across all the projects and that SG&A is 28 percent of sales in 2009F, but falls sharply to just nine percent of sales in 2012F.

Clearly, for the optimistic scenario to happen, it assumes above all, that management is able to turn the 'prospect pipeline' into an 'order pipeline'. Other factors that will bare on success will inlcude:

- First, the gas price this needs to remain high enough to encourage boiler owners to buy Sofame's cost saving kit. The NYMEX Henry-Hub natural gas price has been extremely volatile this year, swinging from highs of around US\$14 per MMBtu to lows of US\$6 per MMBtu. At US\$8 per MMBtu, the average payback time for Sofame's systems is around three years.
- Secondly, that the Canadian and US economies do not experience a severe recession, for whatever the arguments about cost savings, if an organisation is not prepared to make the necessary capital expenditure then the project will get delayed; and
- Thirdly, that Sofame can control its costs effectively stainless steel and other raw material prices have been falling rapidly recently which should assist in this regard.

**The most likely scenario** is our best estimate, acknowledges that the comprehensive marketing plan has considerable merits, but that translating prospects into orders will take time – especially in the current economic climate.

The principal difference to the Optimistic scenario (with optimistic figures in parenthesis) is that the conversion rate into firm orders declines to 11 percent (15.0 percent); on average five (six) MR's are appointed annually who develop nine (ten) prospects.

Also, that gross margins will be slightly lower; we have assumed gross margins averaging 39 percent; and on the cost structure we have used SG&A expenses reducing from 29 percent in 2009F to 19 percent by 2012F as a percentage of sales. Sales are ahead to C\$5.1m in financial 2009F and to C\$8.0m in 2010F. Revenues over the period 2009F - 2012F amount to just under C\$38m.

**Our pessimistic scenario**, or low outcome, is that essentially the new marketing strategy fails to get traction as presently conceived and that the company's plans are thrown off course by severe recession and/or a collapse in the gas price. A sharp slow down in the North American economy looks increasingly possible now, this may persuade managers to defer capital expenditure and the price of gas might reduce further through a contraction of demand. Nevertheless, even in this scenario we expect to see a sharp jump in revenues in 2009F to C\$3.7m.

In this scenario the conversion rate is just eight percent of prospects, so that just 32 percent of the prospect pipeline gets converted into orders over four years. On average four new representatives are appointed each year who develop eight prospects for the pipeline. We have assumed gross margins of 38 percent 2009F - 2012F but because revenues are much lower, the overhead recovery over the period is less; accordingly, SG&A amounts to 35 percent of sales in 2000F, only reducing to 23 percent by 2012F.

## **Key Risks**

#### Commodity price risk

Earlier this year, the sharp rise in the price of gas and other fossil fuels dramatically reduced the payback period on Sofame's systems, in some cases to just a year. The recent declines have, in part, reversed this trend. If lower gas prices become the norm then the business case for Sofame's technologies would suffer. The financing model that Sofame is planning to develop would also suffer with lower energy costs reducing the shared stream of energy cost savings.

#### Competition

Although Sofame has a good engineering pedigree it is not the only player in its market. There are various other players who operate in Sofame's market space offering not dis-similiar systems and customer benefits. We comment briefly on a number of other companies that offer 'direct contact' heat recovery systems that are alternatives to Sofame's Percotherm and/or Percomax systems later in this report.

While management is looking to make a significant impact on signing up an enhanced network of Manufacturers' Representatives, competition is likely to remain keen. If capital expenditure budgets contract and credit remains tight, competitor response could significantly reduce management's assumed gross margins.

#### Scalability

Sofame has never enjoyed high sales and consequently it has never experienced pressure either to design or manufacture in the sort of volumes that management is now envisaging. However, management has indicated that it has hired more engineering expertise and that factory capacity is not a constraint to ramping up volumes, at least in the short term. But this will put pressure on its engineering staff to design and specify systems at a much faster rate than hitherto. Sofame's new manufacture and ship model envisages that the increased working capital requirements of new business will be largely offset by the payment upfront of around thirty percent of a project's value; if this fails to materialise, this would undermine the company's business plan.

#### **Patent protection**

Although Sofame does have patent protection on many of its systems and processes, some of these are quite old and have little remaining life; just three years in the case of the Hybrid Percomtherm in Canada (four years in the USA). Also, the patents appear to be restricted to North America. However, we suspect that given each system is essentially a custom-engineered solution, patent protection may be less of an issue than it appears.

#### **Finance subsidiary**

Although the creation of a finance subsidiary would be an attractive addition to the business model it is not without risks of its own. Clearly there are interest rate and commodity price risks that the finance subsidiary needs to address. The scheme would also need to be clearly thought through, particularly in situations where outside minority equity partners might wish to finance part of the project as this could potentially lead to compliance issues and/or conflicts of interest

In addition, some of the larger distributors that Sofame hopes to use will already have their own finance models, so management must be careful not to alienate these distributors in the process.



## **Corporate Overview**

Sofame was founded in 1984 and went public in 1997. Its business is based on the concept of using heat recovery from conventional gas-fired boiler systems and industrial processes to improve the efficiency of heating systems, reduce energy consumption and lower green house gas emissions.

For about ten years, Sofame was minority owned by the gas utility, Gas Metropolitain. Gaz Metro and their ally Gaz de France helped Sofame develop many of its patents. This is a classic case of a technology company "leaving a bureaucratic mode and going for profit mode".

Sofame's technology is all about cost recovery. Whether through efficiency saving or lower plant maintenance costs, its aim is to provide building owners with cost savings. With over 300 installations to date, including Montreal Trudeau international airport and the Brunswick mine zinc dryer heat recovery project, there are plenty of case studies to testify that its systems deliver tangible results.

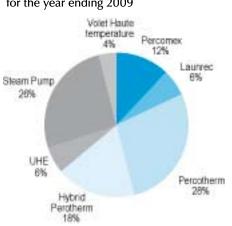
Sofame has five principal products:

- Percomax direct contact industrial hot water heater;
- Percotherm Flue gas heat recovery (stack economiser);
- Hybrid- Percomtherm combines the advantages of a Percomax and a Percotherm in one unit;
- Launrec RBT patented wastewater heat recovery system;
- UHE Sofame Ultra High Efficiency high temperature water heater.

We provide full descriptions of these products/systems as well as illustrations in the appendices at the end of this report. Management believes that the majority of orders will be for the Percotherm, Hybrid and the Ultra High Efficiency water heater.

With the arrival of new management in 2007 and the development of a comprehensive marketing plan, John Gocek and his team have, we believe, correctly identified insufficient emphasis on sales and marketing as the key failing at Sofame in the past. Ambitious sales initiatives are well underway.

## **Illustrative product mix in projections** for the year ending 2009



Source: Sofame Marketing Plan 2009-2013

Management believes that a more extensive use of sales representatives is the key to ramping up sales in the near term. The representatives are chosen for their HVAC expertise; they are granted exclusivity within their defined territory and paid a commission on sales. The costs of sales and marketing are born by the representative firm, while Sofame provides advertising in trade journals and of course engineering support for project proposals in development. This model should allow Sofame to control its expenses while increasing the company's reach and presence across North America. The agreement also sets out previously discussed sales targets and how these targets are to be set in future. Typically these agreements are looking for sales of \$1m in year 1, \$2m in year 2 and \$3m in year 3.

Currently there are four manufacturers' representatives in the US and three in Canada with a further two representatives are about to be signed up. Over a five year period, it is the company's goal to have a network of fifty representatives in the US market and twelve in the Canadian market. The proposed J/V with Soffimat in Europe will take the form of a 50:50 Master Distribution Agreement with Sofame. Soffimat itself is a large privately owned and long standing private power producer in France and provides the company with a well connected and credible partner in Europe.

At this stage, Sofame estimates that it has projects in the pipeline (i.e. being tendered for, estimated or ready to sign) of approximately C\$46m. Actual firm orders are still small at this stage, around C\$800k, but the company hopes to have perhaps C\$1.5m signed by the end of its first quarter (December 2008) with shipment dates prior to year-end. If another order(s) of a similar magnitude can be confirmed, management hopes to break even in the first quarter of 2009. According to management, with the company's new cost structure, break-even sales are estimated in the region of C\$4.5m per annum.

Apart from putting in place an appropriate sales network, management has addressed a number of other issues. Training and the introduction and application of Computer Aided Design (CAD) software for quotations is also a necessary pre-requisite to support the planned increase in its business and the effectiveness of its manufacturing ability.

We note that under its new manufacture and ship model, Sofame's standard terms of payment were modified to request thirty percent of the price of the job at the time of confirmed order; 35 percent when submittal drawings are approved and thirty percent before shipment. Although there has been some resistance from some customers most of the response thus far has been encouraging, this funding of the working capital is essential if the company is going to take on the volumes of work it anticipates. In turn, fabrication work that is outsourced necessitates a 25 percent prepayment to the subcontractor on account.

Sofame offices



**Percomax installation** Sacre Coeur Hospital, Canada



Source: Sofame Technologies

Percotherm installation

Montoir de Bretagne, France



Ultra high efficiency installation Neufchatel College, Canada



Source: Sofame Technologies

If indeed management's ambitious sales targets are met, it is unlikely that in-house capacity will be sufficient. Manufacturing capacity of the plant was estimated to be circa. C\$10m at the beginning of 2008 but following investment in plant and reorganisation is now estimated to be in the region of \$24m. We understand that at present, approximately 15 percent of the company's work is sub-contracted, but if sales targets materialise management will probably have to outsource metal fabrication and assembly of components in both the North American and European markets. This practice should reduce transportation costs which have risen substantially in recent years. As one option, Sofame is considering using an associate of its recently appointed representative Wise Energy, to carry out fabrication work in the US Midwest. Provided Sofame receives certain assurances with respect to costs, quality and quantities it should help the company to meet deliveries of higher anticipated sales and reduce costs of transportation.

Sofame is listed on the TSX-V (**SDW**) and as of 8 October 2008 there were 84.5m shares outstanding; 6.5 options; and a total of 11.1 warrants. Upto a further 1.55m share may also be issueable under a convertible debenture.

Ownership fully diluted capital (m	)	
Directors and employees	40.3 (31.19%)	
Associates	23.9 (18.49%)	
Pinetree Capital	12.5 (9.67%)	
Soffimat	4.9 (3.81%)	
Free float	47.6 (36.48%)	
Total	129.2	

Sofame's 300 plus systems that have been installed to date are spread across a diverse range of industries/sectors. The company's product range covers hot water systems, various heating systems, heat recovery for re-use in heating systems or industrial processes etc. The range of customers is also wide and includes hospitals, factories, and public buildings such as airports, libraries, schools and universities.

Sofame estimates that the annual market potential for heating products in North America to be about US\$3.1bn<sup>1</sup>. In conjunction with its European partner Soffimat, it estimates Europe to be worth US\$1.9bn and the Middle East to be about US\$500m. Those numbers suggest a total worldwide addressable market of about US\$5.5bn. These estimates are based on historical sales figures for the markets over the last five years. Although in principle Sofame technology should work with boilers using fuel sources other than natural gas including number 2 and number 6 heating oils, it is currently concentrating on gas-fired boilers, and to a lesser extent number 2 heating oil (diesel).

Typically any building owner using a conventional gas-fired steam-boiler, (i.e. not using condensing technology), could improve efficiency and lower costs using Sofame's systems. Similarly, any industrial process using heat provided by a steam boiler and or generating heat as a by product, such as laundries, breweries, distilleries, refineries, pulp and paper manufacturing etc., could theoretically make fuel cost savings and reduce greenhouse gas emissions using Sofame's technology.

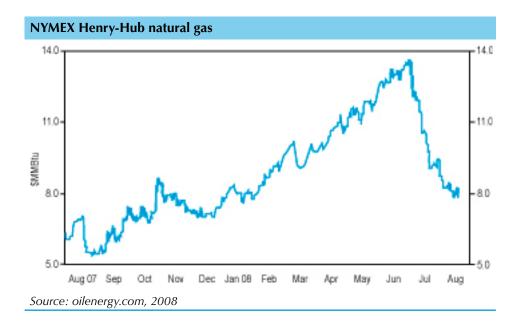
#### Drivers

We believe the single most important driver for Sofame's products are the cost savings that can accrue with the installation of its systems and in turn these are dependent on the price of fuel (the price of natural gas or no. 2 heating oil). The further the cost of gas rises, the more heating costs increase both in absolute terms and also as a percentage of a building's running costs. Similarly the energy costs for an industrial process increase, thereby eroding profit margins.

The greater the price of gas the shorter the payback period for the customer. With payback periods falling to under two years when prices are high, the return on investment becomes compelling.

## Markets and Drivers

<sup>&</sup>lt;sup>1</sup> Source: United States Census Bureau and Statistics Canada



The reduction of greenhouse gas emissions is increasingly becoming a driver of the business. Not specifically from the desire of building owners and manufacturers to become more socially responsible perhaps, but from the growing realisation that they will likely be taxed on excessive emissions. Contra to this, they will be compensated in the form of carbon credits for improving efficiency and reducing emissions.

Rewards for improved efficiency in the form of carbon credits may or may not be a driver. They are certainly not a primary driver as in the case of fuel savings because their valuation is uncertain and has proved extremely volatile in the past.

In addition to fuel savings, the Sofame direct contact water heater is likely to have lower operating costs than a conventional steam boiler because it requires less maintenance and supervision. Various provinces and states in North America have strict regulations for running power plants, particularly in the case of conventional pressure vessels.

In many cases boilers have to be supervised and checked every couple of hours meaning, in effect, constant supervision. That typically means a team of three people for any 24-hour period at an annual cost of over \$300,000. The Sofame direct contact system does not require this supervision because there is no pressure vessel as the machines operate at atmospheric pressure, using pumps to regulate the flows of hot water.

Finally, the installation of a Sofame condensing stack economiser may in many cases prove to be a far more cost effective solution than replacing a boiler where more power is needed, say in the case of an extension to the building. A new boiler would involve planning consent, new pipe runs and a far longer installation period involving greater structural work. The Percotherm system could achieve the same increase in efficiency as an adjunct to the existing boiler.

#### Selection of competitors offering direct contact heat recovery solutions

#### **Armstrong International**

#### www.armstronginternational.com

Armstrong International, Inc., established in 1900, is a multi-national, familyowned company, led by the charismatic President and CEO, David Armstrong. The company has 12 manufacturing sites and around 100 representatives in most of the main commercial and industrial centres in the US, Canada, Belgium, and China, Japan and Korea in the Far East.

Armstrong's business methods are "holistic", sharing information with its business partners under the motto: *Knowledge not shared is energy wasted*<sup>®</sup>. For many years the company has conducted hands-on seminars at customer sites and at its training installations in Belgium, China, Japan, Korea and the United States.

The company's FloDirect Water Heater provides an alternative solution to Sofame's Percomax.

#### **Cannon Boiler Works**

#### www.cannonboilerworks.com

Cannon Boiler Works, Inc. was founded in 1972 in Pittsburgh Pennsylvania. The company's equipment can be retrofitted to existing boilers, or sold to a boiler manufacturer for use on new equipment. The rise in natural gas prices has opened up a large market for the company's equipment.

The company is a leader in the production of brazed finned tubing which is at the heart of all energy recovery equipment.

Cannon has recently built and installed ten waste heat boilers for Duke Power at its Mobile Bay Co-Generation Plant, Alabama. The company has also designed and built waste heat boilers for other projects such as gas turbines, diesel engines and incinerators. These projects can vary in price from US\$100,000 to US\$2,500,000.

Canon's patented waste heat recovery technology has been installed on numerous applications, reducing flue gas emissions to zero. This enables Cannon to offer custom engineered units that provide pollutant free emissions from industrial boilers with savings in cost of ownership and operation.

This company already possesses a comprehensive representative network across the USA and has five representatives in Canada.

The Cannon Superheater addresses two distinct markets, new boilers and retrofit installations and is an alternative solution to Sofame's Percotherm.

#### CHX System

#### www.condexenergy.com

CHX was founded in 1977. One of its systems, CHX<sup>™</sup> Condensing Heat Exchangers for Flue Gas Heat Recovery covered with TEFLON<sup>®</sup> fluoropolymer is comparable with Sofame's Percotherm system.

A common application for a CHX<sup>TM</sup> condensing heat exchanger is in the recovery of waste heat to preheat boiler make-up water, thereby increasing boiler efficiency. CHX<sup>TM</sup> units can have a number of other uses in the plant environment. Applications range from building heat, to heating process streams in food processing, chemical plants, and various pulp and paper applications.

The company cites one case study of a midsized industrial plant which has been saving an average of \$1,000 per day for the past ten years in energy costs by heating process water with boiler flue gas. The additional heat recovery in effect increased the capacity of the plant without requiring the purchase of another boiler. This particular CHX<sup>TM</sup> heat recovery system paid for itself in less than 25 months.

#### Ludell (part of Ellis Corporation) www.condexenergy.com

Ludell which was acquired by Ellis Corporation in 1996 designs and manufacturers stack gas heater absorbers, heat exchangers and waste water heat recovery products. Their direct contact ULTRA efficient water heater competes in the same space as Sofame's Percotherm and Percomax products.

#### **Thermal Energy**

#### www.thermalenergy.com

Like Sofame, Thermal Energy is also a Canadian publicly-traded technology company and operates in a similar space as Sofame, particularly with regard to its Percotherm and Percomax products. It also possesses a number of different patents, the most important of which include FLU-ACE<sup>®</sup>, their waste heat recovery technology.

In terms of size, revenues to the year ended May 2008 amounted to C\$4.9m on which it recorded a net loss of C\$2.4m. Revenues are equally split between the USA and Canada with a small amount of business recently commenced in China.

#### QuikWater

#### www.quickwater.com

QuikWater operates out of Sand Springs, Oklahoma, where the company designs, manufactures and markets its patented energy efficient Direct Contact Water Heater for a broad range of commercial and industrial end users. The company is particularly strong in the food industry with blue chip clients such as Tyson Foods, Frito-Lay, Sara Lee, Pepsi and many others.

Its direct contact system is an alternative to Sofame's Percomax. It claims that its Twin Tower System is the world's best direct contact water heater. Sofame remains a small company. Its headquarters are in Montreal in a small industrial area. The company owns the building and land where it currently employs around 27 people. It is first and foremost an engineering solutions provider with a limited in-house manufacturing capacity.

#### Sales

Sales and marketing has been an acknowledged weak point in the past and is reflected in a prolonged lack of sales growth. This is being addressed both by adding to the sales team, with a dedicated VP sales and by signing up new dedicated HVAC engineering representatives to sell Sofame equipment to their customers. The new representatives have specialist HVAC engineering knowledge and extensive customer contacts. Their continuing maintenance and consultancy agreements with customers allow them to recommend energy saving systems from Sofame, help to specify the system and arrange installation.

#### Sofame Manufacturers' Representatives

Management believes this is the best way to sell Sofame's systems. To this end it has signed up a number of new distributors in North America and has formed a joint venture, Sofame Europe, with Soffimat in France. Among the North American distributors are Stoermer IES; Brady-Trane; Tozour-Trane and Wise Energy and NewMech from the Corval group and Enviroair in Canada.

We have contacted two of the above representatives; Stoermer IES and Tozour-Trane. Both of these representatives had done extensive checks of their own on Sofame and its products. Tozour-Trane had contacted around 100 customers who had Sofame equipment fitted and reported that all had had a satisfactory customer experience. Virtually all the equipment had exceeded the predicted performance in terms of energy savings and where there had been warranty issues these had all been put right by Sofame to the customer's satisfaction.

The representative agreements that are signed only tell a part of the story. These representatives are serious businesses with a valuable customer base with which they take all measures to maintain good relationships. The representatives have to assure themselves that any product or system they recommend to their clients will both deliver the promised performance and not in any way compromise their client relationship. Furthermore that if there are any problems they will be covered by warranty and rectified as soon as possible.

The representatives we spoke to told us they were satisfied that the Sofame products were at least the equal of any competing product on the market and probably better. They also confirmed some of the prospects that Sofame hoped would soon issue purchase orders and were confident that they would be able to increase sales of Sofame systems in the future.

### **Operations**

#### Engineering & manufacturing

Although Sofame systems and products use standard technology developed in-house and patented, each installation is bespoke to customer and location. In large commercial buildings such as airports, hospitals, or processes such as a pulp and paper plant or brewery, the power plants are custom designed by consulting engineers.

As part of the new management's review of practices and procedures, the engineering and fabricating departments have been renovated and cleared up by the existing workforce, to free up space, remove tooling and materials no longer or infrequently used, improve work flow in the available space, improve materials handling and ensure that each workstation has the correct tools and materials readily to hand.

It is management's intention to ramp up production capability, with the help of the new director of engineering, perhaps quadrupling the existing capacity. In future, as sales increase, so will the component of manufacturing and fabrication that is outsourced. Heat transfer material, pumps, metal fabrication, piping can all be outsourced at a lower unit cost to Sofame, leaving in-house resources to concentrate on sales and marketing, surveying, specification and design. As well as lowering manufacturing costs this may also reduce lead times. Sofame has already been in discussion with one of its distributors, New Mech, who have the facilities to carry out fabrication for Sofame in the USA.

#### How does the technology work?

In simple terms there are a few key aspects to the technology that allow Sofame either to provide a more efficient hot water heating system or improve the efficiency of an existing steam boiler based system.

A conventional boiler uses a burner to heat metal tubes or a vessel through which water runs. The flame is first heating metal that, in turn, heats the water. There are two obvious inefficiencies here: energy is lost in heating the metal tubes and further energy is lost in the hot combustion gases exiting the flue. Flue gases from a conventional boiler can be over 232°C.

The principle behind both Sofame's water-heater, Percomax, and its condensing stack economiser, Percotherm, is direct contact. In both these systems cold water percolates down through stainless steel heat transfer nodules and so comes into contact with either the burner flame or rising hot combustion gases. In the case of the Percotherm the hot flue gas from the conventional boiler is used as the heat source, usually aided by a fan to induce draft. Sofame also produce a hybrid Percomtherm which uses an additional gas burner.

The increase in efficiency comes from not having to heat the water indirectly and from the direct contact between the water and the hot flue gases which would otherwise escape into the air and be wasted.

Profit & Loss					
Year ending September (C\$m)	2007	2008E	2009F	2010F	2011F
Revenues	2.29	1.90	5.10	8.01	10.92
Cost of goods sold	(1.87)	(1.16)	(3.11)	(4.89)	(6.66)
Gross profit	0.41	0.74	1.99	3.12	4.26
Administration and selling costs	(1.24)	(1.80)	(1.46)	(1.84)	(2.22)
EBITDA	(0.83)	(1.01)	0.58	1.34	2.09
Depreciation & amortisation	(0.09)	(0.06)	(0.05)	(0.05)	(0.05)
Operating EBIT	(0.91)	(1.06)	0.53	1.28	2.04
Net interest	(0.26)	(0.02)	0.02	0.03	0.05
Profit before taxation	(1.17)	(1.08)	0.55	1.31	2.09
Taxation	—	_	—	—	(0.51)
Profit after taxation	(1.17)	(1.08)	0.55	1.31	1.58
Dividends		_	—	—	_
Earnings per share	(0.015)	(0.017)	\$0.005	\$0.016	\$0.025

Cashflow					
Year ending September (C\$m)	2007	2008E	2009F	2010F	2011F
EBIT	(0.91)	(1.06)	0.53	1.28	2.04
Depreciation	0.09	0.06	0.05	0.05	0.05
(Increase) decrease in receivables	0.02	0.06	(0.53)	(0.49)	(0.49)
(Increase) decrease in inventory	(0.02)	0.18	(0.49)	(0.44)	(0.44)
Increase (decrease) in payables	(0.29)	(0.12)	0.32	0.30	0.30
Increase (decrease) in prepayments	—	0.01	(0.09)	(0.08)	(0.08)
Increase in deferred costs	(0.24)	_	—	_	—
Net cash from Operations	(1.35)	(0.87)	(0.20)	0.62	1.38
Taxation paid	_		_	_	(0.51)
Dividends	_		_	_	_
Net interest recieved (paid)	(0.26)	(0.02)	0.02	0.03	0.05
New equity introduced	0.28	4.19	_	_	_
New (deposits) borrowings	1.67		_	_	_
Capital expenditure	(0.05)	(0.03)	(0.03)	(0.03)	(0.03)
Net cash from financing	1.63	4.13	(0.01)	(0.00)	(0.49)
Net increase (decrease) in cash	0.28	3.26	(0.21)	0.62	0.89

Balance sheet					
Year ending September (C\$m)	2007	2008E	2009F	2010F	2011F
Fixed assets at Net Book Value	0.76	0.74	0.72	0.69	0.67
Cash	0.31	3.57	3.36	3.98	4.87
Receivables	0.12	0.05	0.58	1.07	1.55
Inventory and wip	0.27	0.09	0.58	1.02	1.47
Prepayments	0.10	0.09	0.18	0.26	0.34
Deferred costs	0.22	0.22	0.22	0.22	0.22
Current Assets	1.01	4.02	4.92	6.55	8.45
Total Assets	1.78	4.76	5.63	7.24	9.12
Less Payables	(1.24)	(1.12)	(1.45)	(1.75)	(2.04)
Net Current Assets	(0.23)	2.90	3.47	4.80	6.41
Less loans	(2.67)	(2.67)	(2.67)	(2.67)	(2.67)
Net capital employed	(2.14)	0.96	1.51	2.82	4.41
Equity share capital	8.00	12.18	12.18	12.18	12.18
Retained profit/(deficit)	(8.96)	(10.14)	(11.22)	(10.67)	(9.36)
Current retained earnings/(loss)	(1.17)	(1.08)	0.55	1.31	1.58
Shareholders' funds	(2.14)	0.96	1.51	2.82	4.41
Source: Objective Capital					

## **Financials**

#### Financial results for the year ending September 2008

The year end results for the year just ended are likely to show turnover approximately fifteen percent lower than in 2007 of around C\$1.9m, and to record a pre-tax loss in the region of C\$1.1m. However, in terms of the company's new marketing plan we do not believe too much can, or indeed should, be read into them.

Sofame does not, in our view, represent a short-term trading opportunity. The systems sold by Sofame are custom-designed and have a very long lead-time between initial enquiries or sales calls. The delivery of a system can often take as much as 18 months or more. Each system is bespoke and will be priced differently. The combination of these factors makes sales lumpy and unpredictable on a quarter by quarter basis, while overheads sadly are not. In addition to sales being uneven, profits will likely be volatile on a quarterly basis.

We believe the investment case for Sofame should be based on a long-term view and on whether the management can bring about a sustainable growth in sales. Management needs to demonstrate that its new sales strategy and representative agreements are working.

#### Percomax

Up to 100% fuel efficiency. Flue gas temperatures as low as 50°F (10°C)

### Cooled flue gases outlet 6°C Cold water inlet 1°C Stack Heat transfer media Fan Combustion Hot water Air 20°C outlet 85°C Natural Gas Burner Hot water tank Water Heater Transfer Pump

Source: Sofame

#### Description

**The Percomax is a "direct contact"**, natural gas fired, **water heater** which is designed to heat water to temperatures as high as 185°F (85°C).

#### Operation

Cold water enters the unit at the top and is then uniformly distributed over the upper surface of a packing of stainless steel nodules which constitutes the heat transfer zone. The water percolates down through the packing where it comes in "direct-contact" with the rising, hot products of combustion. Both the sensible (potential) and latent heat contained in the gas are transferred to the water. The products of combustion are generated by a fully modulating, integrated, natural gas burner.

The heated water collecting at the bottom of the unit is then pumped directly to the process, or across a plate and frame heat exchanger to transfer its energy to a process fluid.

#### Construction

All wetted components and materials, including the unit's shell and the packing, are entirely fabricated of stainless steel, and are covered by a 5 year guarantee.

#### Applications

Domestic water heating, hydronic (space) heating, fresh air heating (via glycol loop), boiler make-up water pre-heating, and process water heating.

#### Capacities

The Percomax is available in capacities varying from 1 to 50 million BTU/hr (300 to 15,000 kW).

## Appendix: Sofame's technologies

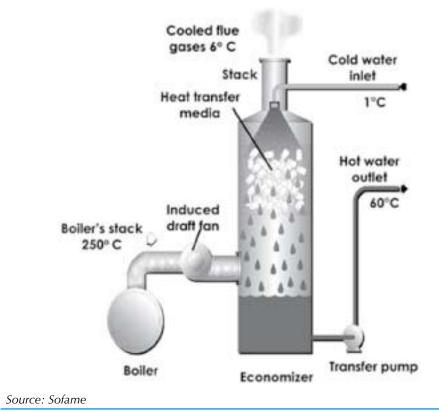
#### Stated advantages

- Very high efficiencies; up to 100% (based on HHV).
- Maximum flue gas temperatures no more than 10°F (5.5°C) greater than cold water temperature at inlet.
- Minimum maintenance required.
- Reduced emission of atmospheric pollutants.
- No supervision required (unit is not classed as a pressure vessel).
- Rapid unit start-up (instantaneous hot water production).
- Can be installed outside.

Markets: Industrial; Commercial; Institutional

#### Percotherm

Recuperate up to 100% of the heat in a boiler's flue gas, flue gas temperatures as low as 50°F (10°C)



#### Description

The Percotherm is a "direct contact", condensing stack economizer which recuperates the residual heat contained in a boiler's flue gas and transfers this heat to a cold water stream. Hot water is produced at temperatures as high as 140°F (60°C).

#### Operation

Cold water enters the unit at the top and is then uniformly distributed over the upper surface of a packing of stainless steel nodules which constitutes the heat transfer zone. The water percolates down through the packing where it comes in "direct-contact" with the rising, hot products of combustion. Both the sensible and latent heat contained in the gases are transferred to the water. The products of combustion are generated by existing boilers. The heated water collecting at the bottom of the unit is then pumped directly to the process, or across a plate and frame heat exchanger to transfer its energy to a process fluid.

#### Construction

All wetted components and materials, including the unit's shell and the packing, are entirely fabricated of stainless steel, and are covered by a 5 year guarantee.

#### Applications

Fresh air heating (via the glycol loop); pre-heating of domestic water or boiler make-up water; heating of process water.

#### Capacities

The Percotherm is available for connected boiler capacities varying from 100 HP to 100,000 lb steam/hr (1000 to 30,000 kW).

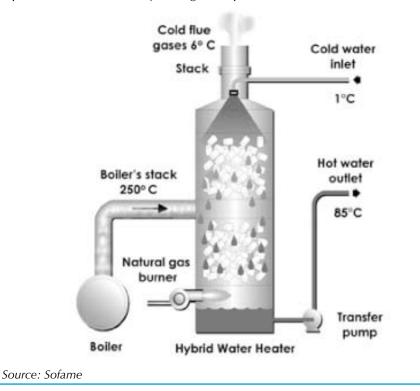
#### Stated advantages

- Very high efficiency; up to 100% (based on HHV). (Boiler seasonal efficiency improved by up to 20%).
- Maximum flue gas temperatures no more than 10°F (5.5°C) greater than cold water temperature at inlet.
- Minimum maintenance required.
- Reduced emission of atmospheric pollutants.
- No supervision required (unit is not classed as a pressure vessel).
- Reduction of installed boiler capacity.
- Can be installed outside.

Markets: Industrial; Commercial; Institutional

#### **Hybrid Percomtherm**

Up to 100% fuel efficiency. Flue gas temperatures as low as 50°F (10°C)



#### Description

The Hybrid Percomtherm is a "direct contact", condensing stack economizer which is equipped with an integral, fully modulating burner. Therefore, the Hybrid provides boiler flue gas heat recovery from existing boilers, and provides its own heat source to completely satisfy process hot water demand. Hot water is produced at temperatures as high as 185°F (85°C), when the Hybrid is natural gas fired.

#### Operation

Cold water enters at the top of the Hybrid and is uniformly distributed over the upper surface of a packing of stainless steel nodules which constitutes the first heat transfer zone. The water percolates down through the packing and recuperates the heat contained in the rising, hot flue gas of the connected boilers.

If the recuperated energy is not sufficient to heat the water to the desired temperature, a fully modulating burner, located in the lower part of the Hybrid, is activated. The partially heated water falls from the first heat transfer zone to the surface of the second. The burner's hot combustion gas rise through the second heat transfer zone to release its heat to the downward percolating water until the desired water temperature is attained. The heated water collecting at the bottom of the unit is then pumped directly to the process, or across a plate and frame heat exchanger to transfer its energy to a process fluid.

#### Construction

All wetted components and materials, including the Hybrid's shell and the packing, are entirely fabricated of stainless steel, and are covered by a 5 year guarantee.

#### Applications

Domestic water heating, hydronic (space) heating, fresh air heating (via glycol loop), boiler make-up water pre-heating, and process water heating.

#### Capacities

The Hybrid Percomtherm is available in capacities varying from 1 to 50 million Btu/hr (300 to 15000 kW), and for connected boilers of 100 HP to 100,000 lb steam/hr (1000 to 30000 kW).

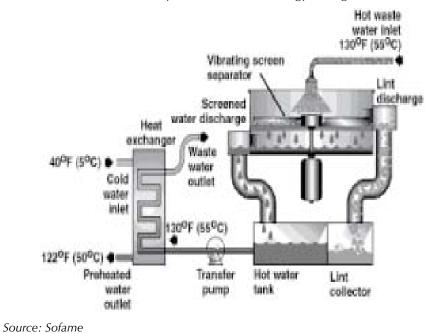
#### Stated advantages

- Very high efficiency; up to 100% (based on HHV).
- Maximum flue gas temperatures no more than 10°F (5.5°C) greater than cold water temperature at inlet.
- Minimum maintenance required.
- Reduced emission of atmospheric pollutants.
- No supervision required (unit is not classed as a pressure vessel).
- Rapid unit start-up (instantaneous hot water production).
- Reduction of installed boiler capacity.
- Can be installed outside.

Markets: Industrial; Commercial; Institutional

#### Launrec RBT

Maintain maximum efficiency at all times with energy savings of 75%.



#### Description

The Launrec RBT is a complete heat reclaim system, which recovers the energy contained in the waste-water of industrial laundries and textile dye houses. The recovered energy is used to preheat a secondary water stream to within 8°F (4.5°C) of the waste water temperature.

#### Components

The Launrec RBT system includes the following equipment:

- Self-priming trash (waste water) pump.
- Vibrating screen separator designed to remove the fibres and lint from process effluents, which would otherwise block heat exchanger passages. The resulting screened effluent meets or exceeds local waste water standards.
- Lint accumulation basket.
- Feed water tank.
- Feed water pump.
- Specially designed plate and frame heat exchanger which is expandable if greater capacity is required in the future.
- CSA approved control panel, completely pre-wired, including the PLC which permits easy RBT system calibration with respect to process.
- Automatic heat exchanger plate cleaning system.

#### **Optional Equipment:**

- Waste water tank.
- Hot water tank.
- Tempered water tank.
- Repressurisation pumps.

#### Materials

All wetted components and materials are entirely fabricated of stainless steel.

#### Operation

Waste water is drawn from the waste water tank by the trash pump and delivered to the separator. The screened waste water falls, by gravity, through the separator into the feed water tank. The removed fibres and lint are rejected to the lint accumulation basket. The feed water pump then delivers the screened waste water across the plate and frame heat exchanger where heat is transferred from the waste water to a secondary water stream. This pre-heated secondary water is delivered to holding tanks and will ultimately be used in various processes.

#### Capacities

The Launrec RBT system is available for flow rates varying from 25 to 1000 USGPM (6 -  $225 \text{ m}^3/\text{h}$ ).

#### Stated advantages

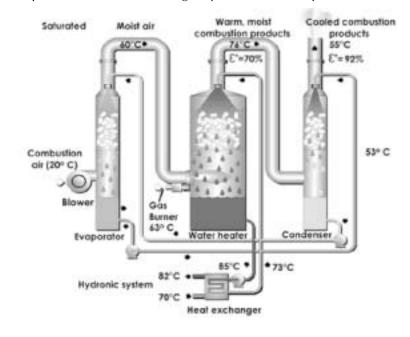
- Energy savings: "Free" Hot water produced by recovering 75%, or more, of the energy contained in process waste water.
- System operation fully controlled by PLC to ensure simple and flexible configuration and operation.
- System expansion possible.
- Minimum maintenance.
- Automatic cleaning of heat exchanger plates requires no operator intervention.
- Start-up and after sale service performed by Sofame technicians.

#### Markets

- Commercial and industrial laundries.
- Textile industry dye houses

#### Ultra high efficiency water heater

Stack temperature lower than heating loopwater return temperature



Source: Sofame

#### Description

The UHE water heater is composed of a Percomax "direct contact" water heater and a "water vapour pump". This arrangement results in an appliance which will operate at high efficiencies (94%) even when used for space heating requirements, where return water temperatures are as high as 150°F (66°C). Hot water is produced at temperatures as high as 190°F (88°C).

#### Operation

The principal component of the UHE water heater remains the Percomax, complete with its circulating pump and heat exchanger. The water vapour pump includes an evaporator tower, a condenser tower, and two circulating pumps.

#### **Operation of the water vapour pump:**

- Combustion air is delivered by a fan into the lower part of the evaporator tower. At the same time, warm water is delivered to the top of the tower by one of the two circulating pumps. The direct contact of the falling water and rising air, in the evaporator heat transfer zone, results in heating, and increasing the humidity of the air (by evaporation of some of the water), and cooling of the water.
- 2. The cooled water collecting at the bottom of the evaporator tower is delivered to the top of the condenser tower by the second circulating pump. At the same time, the hot, saturated flue gas issuing from the Percomax is delivered into the lower part of the condenser. The direct contact of the falling water and rising flue gas, in the condenser heat transfer zone, results in cooling of the flue gas, and a condensation of part of its water content, and heating of the water.

3. The heated water collecting at the bottom of the condenser tower is delivered back to the top of the evaporator tower by the first circulating pump. There it will transfer the energy, recuperated from the Percomax flue gas in the condenser, to the combustion air, as described in 1, above.

#### Construction

All wetted components and materials, including the Percomax, evaporator, and condenser shells, and their heat transfer zone packings, are fabricated of stainless steel, and are covered by a 5 year guarantee.

#### Applications

Hydronic (space) heating.

#### Capacities

The UHE water heater is available in capacities varying from 1 to 50 million BTU/ hr (300 to 15000 kW).

#### Stated advantages

- Even greater efficiency than a standard direct-contact water heater
- Minimum maintenance required.
- Reduced emission of atmospheric pollutants, including NOx.
- No supervision required (unit is not classed as a pressure vessel).
- Rapid unit start-up (instantaneous hot water production).

Markets: Industrial; Commercial; Institutional; Multi-unit residential

## Appendix: Management

#### Richard Groome – Chairman

Richard Groome is Managing Partner of Notre-Dame Capital Inc. His expertise stems from financing small and mid-size emerging growth companies. Prior to starting this business in October 2005, he was Senior Vice-President of Strategic Capital from January 2003 through September 2005 and Senior Vice-President of Institutional Equity Sales from August 2001 to January 2003 at Desjardins Securities, a Quebec-based firm. Richard has been in the financial industry for more than 20 years at such firms as Groome Capital (his own firm), Marleau Lemire Securities, Sprott Securities and Levesque Beaubien Geoffrion. He has a BA in Economics from McGill University. Mr Groome has actively managed or participated in over 400 financings representing some \$4 billion of small cap financings. Mr Groome is very active in numerous philanthropic projects, most notably underprivileged children in Montreal and Peru in addition to the World Wildlife Fund.

#### John Gocek – President, CEO

John Gocek is a C-level executive offering 20+ years of hands-on experience in general management, accounting, manufacturing operations, corporate finance, investment and international banking, portfolio and treasury management, IS/IT and management consulting. He has experience in general management for manufacturing, private equity and international banking. Mr Gocek is an advocate of performance-based metrics and web-based management systems. He is a mentor skilled at coaching others to understand the organization's needs and to act constructively. His educational background includes honours economics at McGill University in Montreal ('82), Management Associate training on Wall Street ('85), and years of professional development leading to roles of increasing responsibility in finance, business strategy, and executive management including CEO of a public company and co-founder and CFO in a multinational SOX regulated manufacturing corporation.

#### Luc Mandeville - Eng., V.P. Technology and Research

Luc Mandeville is co-founder of Sofame and served as its President for over 20 years. He has been involved in every patent creation developed by Sofame. He is an owner in every one of these patents. Graduated from "École Polytechnique" of Montreal in 1973 in Industrial Engineering, he worked for 10 years in the water treatment field for Degremont before starting Sofame. Mr Mandeville has developed markets in North America and Europe for Sofame products since the company's founding in 1984. He has over 25 years of experience in the energy field.

#### Kébir Ratnani – Engineer, M.Sc, Director

Kébir Ratnani has over 30 years experience in the natural gas, electricity, windmill and energy sectors. He owns 13 patents related to natural gas, petrochemical and environment technologies and has concluded numerous cooperation agreements with different governments including Algeria, Cameroon, Gabon, Kenya, Tunisia, Senegal, Libya, Gambia, Burkina Faso, Ivory Coast, Egypt, Lebanon, Morocco, Syria, Saudi Arabia and Kuwait, Malaysia, Vietnam as well as, Pakistan and France. In 1991 he directed the setting up of the Natural Gas Technologies Centre, a research organization associated with Gaz Métropolitain, Gaz de France, Brooklyn Union Gas, and Osaka Gas. Since 2000 he was directing Business Development at SNC-Lavalin for Africa and the Middle East and was responsible for all water, power and infrastructure projects including ports, airports and roads.

#### **Douglas C. Robertson – Director**

Douglas Robertson has been a member of the Quebec bar since 1963. His expertise lies in international taxation, mining and resource law, banking and financial law, securities law, mergers and acquisitions, derivative and securitized transactions. He was Counsel to the European Banking Federation at the time of the revision of the Canadian Bank Act. In 1985 he was retained by the Montreal Stock Exchange to act as a special consultant on tax and regulatory issues. In 1996 he was retained by the IFC of the World Bank to draft a securitization law for the Kingdom of Morocco. This draft was enacted in 1999. He was later appointed foreign law expert to the Asian Development Bank PRC economic law reform project and was invited in 2006 by the Bank to serve as a foreign law expert for the study of an asset-backed securitization law for China.

#### Rami Shehabi - Director and President Sofame International

Rami Shehabi has significant experience as an international energy advisor. After graduating from York University in Oil Economics, he acted as Vice-President for Soffimat Europe, Vice-President for Environmondiale, President of Blue Mountain Investments and Advisor and International Consultant on energy for SNC-Lavalin and Hydro Quebec International. He was also a lobbyist on behalf of oil companies in the Middle-East. He acted as President-CEO of Sofame Technologies Inc. from 2005-2007 and is now president of Sofame International.

#### Fahim Samaha – P.Eng., Director

Mr Samaha is the Chairman and CEO of SOFFIMAT SA, which is a Paris-based private corporation active in energy conversion and power generation in Europe for the past twenty years. Mr Samaha is an electrical engineer trained at AUB and Berkeley, and co-founded Soffimat in 1988. Soffimat has participated as either contractor, operator, owner or promoter in power projects representing over 1.4 gigawatts of installed capacity of different energy technologies, including gas turbines, gas and diesel engines, microturbines and thermal energy recovery systems. Since 1998, Mr Samaha has been actively developing Soffimat's strategic focus on renewable energy and innovative concepts to save energy and increase fuel efficiency. He has personally championed the development of over one hundred megawatts of biogas and biomass power plants as well as environmental friendly public transport vehicles, including an electric car called Bi-Scot, the first electric vehicle certified roadworthy in France. Mr Samaha has also concluded the acquisition of over two dozen businesses and has built an extensive business network across Europe in the energy field.

#### Ahmed Hirani Vice-President Sales

Ahmed Hirani joins the Sofame team from Direct Energy Business Services Ltd. where he held the position of Director of Technology Solutions & Sales. He brings strong sales leadership and energy technology expertise to the organization. Prior to his posting at Direct Energy, Ahmed was co-owner of BASE Controls Ltd., a leading independent Canadian building automation system and energy management company, where he assisted in growing the organization to being a leader in the delivery and implementation of emerging open systems, web-based technologies. In 2004 he and the management team of BASE Controls successfully concluded the sale of BASE Controls to Direct Energy. Ahmed has over eighteen years of experience in helping commercial and industrial customers innovatively reduce their energy consumption and lower their operating costs.

We are pleased to bring you this report on **Sofame Technologies Inc.** 



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As always, I welcome your comments and feedback on our research!

Gabriel Didham, CFA Objective Capital

#### **Robert Stockfis**

Robert has over 15 years experience in consultancy and business analysis in the UK and the Far East. He has previously worked for Standard Chartered Securities, Nomura and the Thai independent broker Seamico.

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