

Net sales in January-September 2020 totalled EUR 234.6 million – EBITDA decreased due to maintenance shutdown

(The financial data from Terrafame Ltd presented in this factsheet are unaudited FAS figures. Unless otherwise stated, the figures in parentheses refer to the corresponding period of the previous year.)

January-September 2020 in brief

- Nickel production decreased by 4.3 percent and was at 20,141 (21,050) tonnes. Zinc production decreased by 5.5 per cent to 40,063 (42,377) tonnes.
- The average price of nickel in the London Metal Exchange decreased by 2.5 per cent during the review period to USD 13,069 (13,407) per tonne.
- The average price of zinc in the London Metal Exchange decreased by 17.5 per cent during the review period to USD 2,145 (2,602) per tonne.
- Net sales for the review period decreased by 3.7 percent from the previous year and came to EUR 234.6 (243.6).
- Net sales were mainly impacted by the decrease in production volumes. In addition to normal maintenance tasks, tie-in connections between the current metals production and the battery chemicals plant were executed during the shutdown. Deliveries have not been impacted by the coronavirus pandemic.
- Net sales in July-September decreased by 39.5 per cent year-on-year and came to EUR 62.0 (102.4) million. The very high net sales in the comparison period were supported by the steep rise in the price of nickel in July-August 2019.
- EBITDA for the review period came to EUR 6.1 (31.3) million accounting for 2.6 (12.8) per cent of net sales. EBITDA decreased due to the longer than normal maintenance shutdown in Q3.
- The operating profit for the period came to EUR -23.7 (3.5) million.
- Free cash flow from operations was EUR -25.9 (-28.3) million.
- The combined 12-month LTIFR of Terrafame and its partner companies was 10.9 (12.2).
- During the review period, the coronavirus pandemic did not affect Terrafame's operations and the construction of the battery chemicals plant has progressed as planned. Terrafame has a dedicated internal committee which continues to regularly handle topics related to the coronavirus outbreak to ensure the continuity of operations in exceptional circumstances.

Financial and production figures

	2020 Q3	2019 Q3	Change, %	2020 Q1-Q3	2019 Q1-Q3	Change, %	2019
Financial figures							
Net sales, EUR million	62.0	102.4	-39.5 %	234.6	243.6	-3.7 %	310.4
EBITDA, EUR million	-13.0	29.8	na	6.1	31.3	na	32.0
Operating result, EUR million	-23.1	19.6	na	-23.7	3.5	na	-5.6
Work in progress, EUR million	186.5	184.6	1.0 %	186.5	184.6	1.0 %	186.2
Free cash flow, EUR million ⁽¹⁾	-38.0	14.0	na	-25.9	-14.3	na	-20.6
Capital expenditure, total, EUR million	51.3	38.0	35.0 %	148.7	98.0	51.7 %	130.6
Sustaining capex, EUR million	9.2	12.5	-26.4 %	31.2	28.0	11.4 %	42.1
Development and growth capex, EUR million	42.1	25.5	65.1 %	117.5	70.0	67.9 %	88.5
Equity, EUR million	413.4	321.8	28.5 %	413.4	321.8	28.5 %	349.8
Total assets, EUR million	830.1	763.6	8.7 %	830.1	763.6	8.7 %	749.5
Metals production							
Nickel produced, tonnes	4,679	7,466	-37.3 %	20,141	21,050	-4.3 %	27,468
Zinc produced, tonnes	10,134	15,341	-33.9 %	40,063	42,377	-5.5 %	55,222

1) Free cash flow after maintenance capex = EBITDA - Change in net working capital - Maintenance capital expenditure excluding right-of-use assets.

CEO Joni Lukkaroinen:

"After a very strong first half of the year, our net sales for the third quarter were reduced by the maintenance shutdown which lasted longer than normally. During the shutdown, in addition to normal maintenance tasks, tie-in connections between the current metals production and the new battery chemicals plant were executed. This was an important step in the project and brings us nearer to the commissioning start-up which will be initiated in the near future.

All in all, the battery chemicals plant project is proceeding well and the plant will be commissioned as planned in early 2021. Recruitments have continued and the plant's workforce is currently almost 130 persons. Including maintenance and quality assurance operations the battery chemicals plant's total workforce will be approximately 170 when fully operational. We have been delighted to see that the open positions at our battery chemicals plant have received a great deal of interest and we have been able to recruit a very skilled and motivated team to run the plant. Terrafame directly employed a total of 843 people at the end of the review period and an average of 1,160 people (FTE) employed by our partner companies worked at Terrafame's industrial site over the course of the review period.

The major shutdown decreased our metals production tonnes in the third quarter and this was visible in our net sales which came to EUR 234.6 (243.6) million in January-September 2020. The shutdown's impact was also decreased EBITDA which came to EUR 6.1 (31.3) million for the review period.

The impact of the coronavirus pandemic was reflected in the demand for electric vehicles in early 2020. However, as early as in March, EV sales started to recover first in China and later in Europe and in North America. In June, global BEV & PHEV sales saw an increase of 46 percent m-o-m, supported by a particularly strong month in Europe where sales returned to pre-coronavirus levels. The increase in overall EV sales started to level off in July but the year-to-date sales in August were still 5 percent higher than the previous year.

Concerns about climate change, and especially the high CO₂ emissions generated by transport, are increasing the demand for electric vehicles. The transition to electric vehicles is also being accelerated by various governmental control measures. In September, we released the outcome of

the certified life cycle assessment, which showed that the carbon footprint of Terrafame's nickel sulphate is more than 60% lower than that produced by conventional production technologies. Our bioleaching-based production process uses about 90 per cent less electricity and thermal energy in the production of nickel sulphate than the industry average. We have a unique integrated production process from our own mine to battery chemicals which is energy efficient and provides customers with a transparent, traceable and truly European battery chemical production chain. At Terrafame, we are proud to participate in the fight against climate change by enhancing low-carbon mobility with responsibly produced battery chemicals. We are also committed to supporting and applying the ten principles of the UN Global Compact initiative in the fields of human rights, labour, the environment and anti-corruption in our operations and strategies.

At our industrial site, we continue to promote a stronger safety culture both among our own personnel and in our partner companies. We have achieved some improving results but we need to focus targeted safety measures on those areas of production where improvements are most urgently required. During the review period, Terrafame's employees suffered 8 (6) lost-time injuries. The rolling 12-month lost-time injury frequency rate (LTIFR), or number of accidents resulting in absence per one million person-hours, was 10.4 (6.3). The 12-month LTIFR of partner companies was 11.2 (17.5). The combined 12-month LTIFR of Terrafame and all of its partner companies was 10.9 (12.2)."

Market developments

Electric vehicles and EV battery markets

According to Rho Motion analysts' estimates, the global EV sales, including BEV and PHEV, were approximately 1,470,000 (1,400,000) units in January–August 2020 which is 5 percent more than during the corresponding period in 2019.

In early 2020, the outbreak of the coronavirus pandemic resulted in a significant reduction in Chinese EV sales. However, they already started to recover in March. The major reduction caused by the actions taken to fight the coronavirus followed China with a delay in European and North American EV sales occurring in April and outweighing on the global scale the continued recovery in China. In June, global BEV & PHEV sales saw an increase of 46 percent m-o-m supported by a particularly strong month in Europe where sales returned to pre-coronavirus levels. The increase in overall EV sales started to level off in July but the year-to-date sales in August were still 5 percent higher than the previous year.

The sales weighted average battery pack size was 50 kWh in August 2020 compared with 55 kWh in August 2019. However, average pack sizes increased for the first time since April, a product of a strong sales month in China, where BEVs make up a larger share of the market than in Europe. In terms of chemistry development, the share of NCM811 batteries in the market was 9 percent compared with 4 percent in August 2019. The global market share of NCM622 batteries was 37 percent in August 2020 compared with 12 percent in August 2019.

Nickel and zinc

In the third quarter, the market price of nickel was USD 14,213 per tonne in the London Metal Exchange (LME), an increase of 16.1 per cent from the second quarter in 2020 (12,243). However, in July–September 2020, the price of nickel fell by 8.6 per cent year-on-year (15,510). The average price of nickel decreased in January–September by 2.5 per cent year-on-year amounting to approximately USD 13,069 (13,407) per tonne. After the steep decline in the Q1 2020, recovery in Chinese stainless steel demand has driven the nickel price recovery.

In the third quarter, the market price of zinc was USD 2,335 per tonne in the London Metal Exchange (LME) which is 18.9 per cent higher than in the second quarter of 2020 (1,964). The upside in zinc price comes from sharp response to the coronavirus impacts from the supply side and some maintenance-driven smelter downtime in China. In July–September 2020, the price of zinc fell by 0.6

per cent year-on-year (2,350). In January–September, the price of zinc fell 17.5 per cent year-on-year and was an average of USD 2,145 (2,602) per tonne.

The combined nickel stock levels in the London Metal Exchange (LME) and Shanghai Futures Exchange (SHFE) amounted to 265,313 tonnes at the end of the review period. The stock levels increased compared with both the situation at the end of the second quarter of 2020 (262,517) and year-on year (174,008). The stock levels equalled just under 6 (4) weeks' demand. At the end of the review period, the zinc stock levels totalled 260,724 tonnes equalling approximately one week's (half a week) demand. At the end of the second quarter of 2020, the combined zinc stock levels totalled 220,457 tonnes while at the end of the third quarter of 2019 the zinc stock levels totalled 132,845 tonnes.

Exchange rate

In the third quarter of 2020, the average EUR/USD exchange rate was 1.17 compared to 1.10 in Q2. The average EUR/USD exchange rate was 1.11 and 1.12 in Q3 and Q2 of 2019, respectively.

Metals production

Nickel production decreased by 4.3 per cent in the review period to 20,141 (21,050) tonnes. Zinc production decreased by 5.5 per cent to 40,063 (42,377) tonnes. The decrease in production volumes was caused by the longer than normal maintenance shutdown in Q3 which, in addition to normal maintenance tasks, included tie-in connections between the current metals production and the battery chemicals plant.

In the third quarter, nickel production decreased by 37.3 per cent year-on-year to 4,679 (7,466) tonnes. Zinc production decreased by 33.9 per cent to 10,134 (15,341) tonnes. In the previous year, the scheduled maintenance shutdown was executed in Q2.

Net sales and financial performance

During the review period, net sales decreased by 3.7 per cent and came to EUR 234.6 (243.6) million. Decrease in net sales was mainly due to the decrease in production volumes caused by the longer than normal maintenance shutdown in Q3 which offset the good performance in the earlier part of the year. In addition to normal maintenance tasks, tie-in connections between the current metals production and the battery chemicals plant were executed during the shutdown. Deliveries have not been impacted by the coronavirus pandemic.

Net sales in the third quarter decreased by 39.5 per cent year-on-year and came to EUR 62.0 (102.4) million. The very high net sales in the comparison period were supported by the steep rise in the price of nickel in July-August 2019.

Hedging had a positive impact on the company's net sales during the review period. In the latter part of the year 2019, the strategic level of hedging for nickel deliveries in particular was raised to take advantage of the increased market prices. This had a clear positive impact on net sales for the whole review period although rising market prices diluted the impact during Q3 2020.

EBITDA for the review period came to EUR 6.1 (31.3) million which accounts for 2.6 (12.8) per cent of net sales. EBITDA decreased due to the prolonged maintenance shutdown in Q3.

Operating profit for the period came to EUR -23.7 (3.5) million, and free cash flow from operating activities amounted to EUR -25.9 (-14.3) million.

*Free cash flow after maintenance capex = EBITDA – Change in net working capital – Maintenance capital expenditure excluding right-of-use assets.

Financing arrangements

In the first quarter of 2020, Terrafame drew down the EUR 30 million share of the Finnish Minerals Group and the EUR 30 million share of Trafigura Group's Galena Funds of the equity financing of approximately EUR 166 million agreed on in 2017 and 2018 to finance the investment in the battery chemicals plant. Following this, Terrafame no longer has any unused equity financing in this financing instrument.

Furthermore, Terrafame drew down approximately EUR 26 million from Trafigura in the first quarter from a USD 150 million (approximately EUR 128 million) loan facility agreed on in 2017 and 2018 to finance the investment in the battery chemicals plant. USD 50 million (approximately EUR 43 million) remained in the loan facility granted to Terrafame by Trafigura.

Terrafame drew down the remaining USD 50 million loan facility in two USD 25 million lots in August and October.

In August, Terrafame and the owners of Terrafame reached an agreement on funding rearrangements and further financing of the company to ensure that Terrafame will be able to continue the development of its operations in the current uncertain market situation and finalise the investment project for its battery chemicals plant as planned. The previous funding and loan-repayment arrangements were agreed before the decision on the major investment in the battery chemicals plant was made. The rearrangements were made to support Terrafame's growth investments.

The new financing arrangement consists of the restructuring of existing loans as well as a new equity financing commitment:

- Funds under the management of Galena Asset Management (Galena) and Sampo will convert USD 29 million (approx. EUR 25 million) in long-term loans granted to Terrafame, due to mature in 2020, into ownership in the company by exercising stock options previously granted to them.
- Finnish Minerals Group and Galena commit to grant new equity financing totalling a maximum of EUR 115 million. The equity investment will be implemented by Finnish Minerals Group and Galena pro rata to their current holdings. Accordingly, Finnish Minerals Group has committed to a maximum of around EUR 80,5 million and Galena to a maximum of around EUR 34,5 million in equity financing.
- In addition, Trafigura and Sampo will defer the repayment of USD 43 million (approx. EUR 36 million) in long-term loans previously granted to Terrafame, due to mature in 2021, to the end of 2022.
- Lastly, Trafigura will commit to purchase additional volumes of Terrafame's zinc precipitates.

Items based on other currencies have been converted into Euro at the rate of the end of the review period.

As a result of the above arrangements, Terrafame's shares are held by its shareholders will be as follows:

Finnish Minerals Group	67.3%
Galena Funds (Trafigura)	31.2%
Sampo Plc	1.6%

At the end of the reporting period, shareholdings are as follows:

Finnish Minerals Group	66.8%
Galena Funds (Trafigura)	31.3%
Sampo Plc	1.9%

Capital expenditure

Capital expenditure for the review period amounted to EUR 148.7 (98.0) million. Of this amount, EUR 117.5 (70.0) million was used to increase capacity and improve productivity, while maintenance capital expenditure amounted to EUR 31.2 (28.0) million.

The most important capital expenditure is related to the construction of the battery of chemicals plant to be commissioned in 2021. In addition, construction works related to the extension of the primary leaching area have progressed as planned.

The construction of the battery chemicals plant is currently in its final stages. Most of the equipment and materials have been installed. The operating organization has been taking part in the inspection and testing activities have been initiated.

The most significant sustaining capital expenditure items were related to purchases of spare parts for mining equipment and the ore crushing lines, and construction work in the new block of the KL2 waste rock area as well as the conveyor changes to the secondary leaching area.

Environment and permits

During January-September 2020, 6.26 (2.8) million cubic metres of purified water were released from the industrial site.

The rainy autumn of 2019 and high amounts of snow and consequently meltwaters caused by several mild periods during the winter increased the amount of water in the process during the winter months. Because of this, the neutralisation process for purifying and reducing the amount of solution in the process circulation was in use from January to March which increased the sulphate content of the purified water. As a result, the average monthly flow-weighted sulphate content limit for discharge waters was slightly exceeded in February, March and April. In April, the sulphate load from the discharge pipe into Lake Nuasjärvi was also slightly exceeded. For May–September, sulphate content and sulphate load remained below the permitted limits. The sulphate load of the discharge is expected to increase over the course of 2020 from the 2019 level. However, it will remain well below the annual sulphate load quota.

On 24 September the Finnish Safety and Chemicals Agency (TUKES) granted Terrafame the chemicals permit for the new battery chemicals production.

On 5 August, in continuing Terrafame's and Adven's co-operation, Terrafame announced it had agreed to expand its district heating network to a mining depot replacing the light fuel oil currently used in the area. With the new bio energy plant, which will be completed in November 2020, and the recovery of excess energy announced earlier this year, these measures will bring about an annual reduction of 9,000 tonnes in CO₂ emissions which reflects a decline of 90 per cent in Terrafame's heat production emissions.

On 23 April 2020, Terrafame and Metsähallitus signed a real estate transaction by which Terrafame acquired from Metsähallitus land within the planned expansion area of the mining concession as well as water and waterfront areas on Kivijärvi lake. The transaction includes 160 hectares of forest. At Kivijärvi, the transaction includes 25 unbuilt beach plots and 165 hectares of water areas. The total

value of the transaction is EUR 875,800. The transaction settles all claims made by Metsähallitus regarding the water and land areas it owns.

During the review period, Terrafame decided on an investment in order to change the process of the centralised water treatment plant to ensure the water from the solution process can be treated separately from the run-off waters and returned to process circulation. The change will be implemented in 2020 and will improve the quality of the purified discharge waters.

Terrafame submitted an environmental impact assessment (EIA) programme to the Kainuu ELY Centre on 30 March 2020 regarding the exploitation of the Lake Kolmisoppi ore deposit, the waterbody arrangements required for Lake Kolmisoppi, and the expansion of the mining concession.

On 6 February 2020, the Finnish Government decided to grant a uranium extraction permit to Terrafame. The company submitted the permit application for uranium recovery under the Nuclear Energy Act (990/1987) to the Finnish Government on 30 October 2017. Terrafame already has the related necessary chemicals and environmental permits. The commissioning and start-up of the uranium extraction plant will take approximately one year, during which time the plant's organisation will also be established. An appeal against the Government decision has been submitted to the Supreme Court and Terrafame estimates that it will take roughly two years before the final decision is issued on the permit.

In January 2020, Terrafame announced that it would start recovering the excess energy of its hydrogen plants for use in the production of process steam. In the past, a similar technology has been used in power plants, but implementing it in hydrogen plants is a new innovation. The energy and water company Adven will be responsible for its implementation and operation.

Personnel and occupational safety

At the end of the review period, Terrafame employed 843 (736) persons, a 15 per cent increase year-on-year. Of the increase, the two-year apprenticeship training leading to a professional degree in the process industry, organised by Terrafame, Kainuu Vocational College and OSAO, accounts for 71 persons.

The internal and external recruitment of experienced process and maintenance professionals for the production organisation of the new battery chemicals plant continued during the review period, and the plant's workforce is currently almost 130 persons. Including maintenance and quality assurance operations, the battery chemicals plant's total workforce will be approximately 170 when fully operational.

During the review period there were approximately 150 partner companies at Terrafame's industrial site. An average of 1,160 people (FTE) employed by all partner companies, including subcontractors, worked at Terrafame's industrial site over the course of the review period.

During the review period, Terrafame's employees suffered 8 (6) lost-time injuries. The rolling 12-month lost-time injury frequency rate (LTIFR), or number of accidents resulting in absence per one million person-hours, was 10.4 (6.3).

The 12-month LTIFR of partner companies was 11.2 (17.5).

The combined 12-month LTIFR of Terrafame and all its partner companies was 10.9 (12.2).

The focus on safety measures has been reflected positively in safety incidents but this is yet to be visible in the 12-month rolling LTIFR. Measures will be actively continued to improve the safety at

work of both Terrafame's and its partner companies' personnel. In 2020, we have held campaigns with monthly changing safety-related themes, and continue to target safety measures for those areas of production where improvements are most urgently required.

Assessment of near-term risks caused by the coronavirus pandemic to Terrafame's operations

During the review period, the coronavirus pandemic did not affect Terrafame's operations and the construction of the battery chemicals plant has progressed as planned.

However, on the date of this report, COVID-19 epidemic is accelerating throughout almost all of Finland, although in the Kainuu region the situation is currently stable. Terrafame has a dedicated internal committee which continues to regularly handle topics related to the coronavirus outbreak to ensure the continuity of operations in exceptional circumstances. The situation is closely monitored, and actions will be promptly updated to reflect any changes in the overall situation if necessary. The coronavirus pandemic may affect the delivery of certain individual materials and equipment. There have been some delays in material and equipment deliveries for the battery chemicals plant project, but production is scheduled to commence in the first half of 2021.

Near-term outlook

Price development is impacted by uncertainties related to the coronavirus pandemic.

We are preparing to take the new gypsum pond into use even though the permit decision is clearly delayed from the original schedule.

The commercial production of battery chemicals will commence in early 2021.

Terrafame will continue to improve its safety culture, production, and cost efficiency.

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Terrafame's purpose is to enhance low-carbon mobility with responsible battery chemicals. Terrafame's integrated production process – which begins in its own mine and ends with battery chemicals on one industrial site – is a unique and energy-efficient entity that provides customers with a transparent, traceable, and truly European battery chemicals production chain. Terrafame will start producing battery chemicals in early 2021 and the new production plant is one of the world's largest production lines for battery chemicals used in EV batteries. The carbon footprint of the nickel sulphate produced by the plant is more than 60% lower than the industry average.

Terrafame Ltd was founded in 2015 and its production facilities are located in Sotkamo, Finland. In 2019, Terrafame's net sales amounted to EUR 310 million, and the company's industrial site employed approximately 1,500 people, of which around half were employees of its partner companies. www.terrafame.com