

## Waste becomes energy in Vitebsk

The waste disposal site in Vitebsk will produce around 6,000 megawatt hours of electricity per year.

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# Finding the path to sustainable consumption

**T**HERE IS CURRENTLY A LOT OF talk about the need to develop circular economies in order to move away from our disposable culture. We have to make more careful use of our precious natural resources by recycling as well as investing in sustainable energy and material flows. The WWF's most recent Living Planet report established that if all the developing countries began to follow Western patterns of consumption, we would need two planet Earths to provide sufficient resources. We are living beyond our ecological means, consuming raw materials in a way that exceeds nature's renewal abilities by around 30%. This is depleting our rich biodiversity. Of the 150 countries studied, the Nordic countries are alarmingly high in the rankings of environmental footprint per capita. It is certainly not a flattering picture of the European countries that has been painted in WWF's report. The wonders of industrialisation also have a dark side. Consequently, it is essential to invest in green growth and cleantech to promote environmentally-sustainable development.

"We are living beyond our ecological means, consuming raw materials in a way that exceeds nature's renewal abilities by around 30%."

**AN INCREASING NUMBER** of research institutes and international organisations emphasise the financial sector's key role in restructuring the global production patterns. Problems related to the belief

of a perpetual economic growth are highlighted in the Worldwatch Institute's report State of the World 2015. "Economic growth drives most environmental problems, and it has produced a world in which human activities have grown too large for the planet to accommodate them sustainably. Forests are scalped, rivers run dry, species are going extinct, and humans are changing the climate, all driven by the pursuit of growth," says the institute.

**THIS NEWSLETTER INCLUDES** a focus on creating energy from waste. We visited the town of Vitebsk, in north-eastern Belarus where the Swedish company Vireo is extracting methane from the local landfill site. The company has financed a total of five similar projects in both Belarus and Russia. We also made the acquaintance of a brickyard, which has successfully minimised its energy consumption. The local BNB-Bank in Minsk has provided capital loans to local companies which renew their machinery and equipment by purchasing large goods vehicles which use less fuel, reducing emissions and improving the company's profitability. Investing in the environment pays off.



Mikael Sjövall

Communications  
Manager  
NEFCO

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Waste is transformed into energy at the landfill in Vitebsk, Belarus.

COVER PHOTO PATRIK RASTENBERGER

PATRIK RASTENBERGER



● School children in eastern Ukraine will benefit from the Nordic energy efficiency and humanitarian support initiative.

REPLENISHMENT

## Finland allocates funds for energy efficiency

**THE FINNISH GOVERNMENT** has announced that it will pledge EUR 3 million to the newly-established grant funding programme, the Nordic energy efficiency and humanitarian support initiative. The pledge was voiced by Finland's Secretary of State, Peter Stenlund, at a donor conference in Kiev 28 April.

**THE INITIATIVE IS** funded by the Nordic countries and administered by NEFCO. The assistance from this fund is provided primarily for the refurbishment and reconstruction of municipal buildings in the war-torn, vulnerable areas of Eastern and Southern Ukraine. Emphasis will be placed on social infrastructure, such as schools, day care centres and health centres.

**THE NORDIC ENERGY** efficiency and humanitarian support initiative currently has funds to a total value of EUR 5.6 million. Further allocations to the fund will be made in 2015. The initiative has so far allocated funding for projects in the cities of Berdiansk, Lozovo, Pavlograd, Kramatorsk, Severodonetsk, Izum, Chuhuiv, Kupyansk and Dniprodzержynsk.

"We are pleased by Finland's contribution, as this will enable us to identify and finance a larger amount of projects than we had anticipated earlier," says Senior Investment Manager Amund Beitnes from NEFCO.

EUTROPHICATION

### Less nutrients to the Baltic Sea

**THE DISCHARGES** of phosphorus and nitrogen to the Baltic Sea have decreased by 23% and 18%, respectively, in the past 15 years, shows a new report from the Baltic Marine Environment Protection Commission (HELCOM). According to the HELCOM nutrient reduction scheme, for example the Baltic Proper received around 55,000 tonnes less nitrogen annually during 2010-2012 as compared to the previous reference period 1997-2003. The report was published in May in Tallinn.

ENERGY

### Ivano-Frankivsk upgrades its district heating system

**THE MUNICIPAL** enterprise Ivano-Frankivsk Teplokomunenergo in western Ukraine and NEFCO have signed a loan agreement aimed at modernising the city's district heating system. The demonstration project will focus on the installation of 39 individual heating substations in the Dovga-Karpatska district in Ivano-Frankivsk.

The investment is financed by Ivano-Frankivsk Teplokomunenergo, DemoUkrainaDH and NEFCO. DemoUkrainaDH is a funding programme established by NEFCO in cooperation with E5P, Sida and the Ministry of Regional Development, Construction and Municipal Economy of Ukraine.

"There's only one Arctic and all of us must join together to ensure responsible stewardship of this incredible region."

**U.S. Secretary of State John F. Kerry** at the Arctic Council's ministerial meeting in Iqaluit, Nunavut, Canada 24 April



●The St. Peter and Paul Cathedral surrounded by Soviet style architecture in Minsk.

PATRIK RASTENBERGER

LEGAL STATUS

# NEFCO signs framework agreement with Belarus

NEFCO AND THE Belarusian government have signed a framework agreement acknowledging NEFCO's status as an international financial institution in Belarus. The signing of the agreement will pave the way for a substantial increase of NEFCO's lending operations in the country, not least within the municipal sector.

NEFCO has financed environmental projects in Belarus since 2007. However, these operations have been rather limited due to the lacking framework agreement, which has prevented NEFCO from financing ventures such as municipal energy efficiency and wastewater treatment projects. NEFCO has so far only approved EUR 9.3 million for the financing of 12 private sector projects in Belarus.

"We hope that this agreement will inspire Belarusian municipalities and municipal enterprises to invest in energy efficient technologies by utilising the loans that we can provide for such investments," says Senior Investment Manager Ulf Bojö, who is in charge of NEFCO's lending operations in Belarus.

The Belarusian loans currently account for 3.9 per cent of funds disbursed by NEFCO's two main financial instruments, namely the Investment Fund and the Nordic Environment Development Fund. Last year NEFCO's Board of Directors approved five projects for Belarus. The bulk of these investments relate to energy efficiency improvements in the private sector.

SHIPPING

## Support for LNG-fuelled containerships

NEFCO AND the Finnish company Containerships Ltd have signed an agreement on a convertible capital loan aimed at purchasing two new LNG-powered container vessels for traffic in the Baltic Sea. The ships in question will mainly be transporting goods to and from Russia. The investment in usage of liquefied natural gas will reduce emissions of sulphur and nitrogen oxides by at least 99 per cent. Moreover, the project is expected to cut emissions of carbon dioxide by some 8,000 tonnes annually.

REPLENISHMENT

## Belarus pledges new funds to NDEP

THE GOVERNMENT of Belarus has decided to pledge its second voluntary contribution of EUR 1 million to the Northern Dimension Environmental Partnership (NDEP). The decision was announced by Deputy Prime Minister Vladimir Semashko in May.

DISSEMINATION

## Seminar on energy efficiency in Kiev

IN MARCH, NEFCO and the Consultancy Agency FIATU LLC hosted a seminar in Kiev on the newly established Nordic Energy Efficiency and Humanitarian Support Initiative Fund. The seminar was attended by municipal decision-makers and included presentations on upcoming projects in a range of cities in Eastern Ukraine. NEFCO's loan application procedures were highlighted by Chief Investment Adviser Julia Shevchuk.



●Climate smart agricultural practices in Kenya.

HELI SINKKO

GREEN GROWTH

# NCF signs new agreements

FIVE FURTHER AGREEMENTS on inclusive green growth have been signed under the Nordic Climate Facility's fourth call.

The agreements are the second batch of 12 approved projects that have been selected for funding under NCF4. Three agreements were signed in late 2014. The total budget for the five new projects is EUR 1.8 million; 60% is covered by NCF and the rest by the project partners.

The Nordic Climate Facility is funded by the Nordic Development Fund (NDF) and administered by NEFCO. The facility provides grants up to EUR 500,000 with co-financing requirements for climate-related projects in low-income countries in Africa, Asia and Latin America.

"The business and finance communities must turn climate action into "an opportunity for employment, against poverty and for democracy."

Ségolène Royal, French Minister of Ecology, Sustainable Development and Energy at Climate Week Paris, 21 May 2015

## ENERGY

## Substantial energy savings in Dnipropetrovsk

**NEFCO AND** the public joint-stock company Dneprotiazhmash have signed a loan agreement aimed at upgrading the manufacturing process at the company's factory in Dnipropetrovsk. JSC Dneprotiazhmash produces machinery primarily for the ore mining and processing industry.

The project envisages the installation of new gas burners as well as a centrifugal compressor and a scroll compressor equipped with a frequency converter. Moreover, the investment will enable the company to reconstruct its heat treating furnace.

These measures will help JSC Dneprotiazhmash to reduce its gas consumption by around 237,000 cubic metres annually. This in turn will generate favourable environmental results in the form of reduced emissions of carbon dioxide by around 3,478 tonnes per year.

## GRANTS

## New funding for feasibility studies

**THE NOPEF** credit committee has since January 2015 approved to fund 30 feasibility studies to be carried out by Nordic small and medium-sized enterprises. The total value of these grants is EUR 969,000.

Nopef has currently 30 projects in the pipeline that will be evaluated by the end of June.

The average length of a feasibility study is 1.8 years, after the granted company decides whether it will establish local presence in the project country, for example through a subsidiary or joint venture. Nopef gives priority to projects that support the development of environmental technology and renewable energy.

The Nordic Project Fund (Nopef) was established by the Nordic countries in 1982 and is today administered by NEFCO and financed by the Nordic Council of Ministers.



SHUTTERSTOCK/M.SHCHEBYVA

## CARBON CREDITS

## NorCaP contracts ten projects

**A TOTAL OF** 18.86 million certified emission reduction units (CERs) have been contracted from ten projects under the Norwegian Carbon Procurement Facility's first call. The contracted projects were selected from 232 project proposals. The key criteria for the selection were vulnerability and cost effectiveness.

NorCaP was established by the Norwegian Government in September 2013, with NEFCO as the Facility Manager. The principal objective of NorCaP is to prevent the reversal of emission reduction activities by procuring

credits from projects whose survival or continued emission reductions depend on a higher carbon price than achievable under current market conditions ("vulnerable projects").

A second call was launched in September 2014, which received 112 proposals from 27 countries by December last year accounting for some 107 million CERs offered. A number of project proposals have been selected and are currently under due diligence review with the aim of being contracted at the latest during the second half of 2015.

## INVESTMENT

## Loan for energy efficient piping solutions

**NEFCO AND THE** Danish company Salling Plast A/S have signed a loan agreement aimed at establishing production of shrinkable casings, fittings and assembly bends for pipes to be used in district heating and wastewater treatment projects.

A new production line will be set up in Orsha in eastern Belarus to boost the company's production and provide

sustainable piping solutions for the Belarusian market. The environmental benefits from the investment will arise from reduced thermal heat loss when the piping solutions are put into use. Moreover, Salling Plast relies on recycling in the production. For example the polyethylene high-density residues are granulated and reused in the production process.

## Polluter pays or voluntary trading of nutrients?

Director Marjukka Porvari from John Nurminen Foundation calls for measures aimed at mitigating discharges of nutrients in Belarus.

**RECENT YEARS HAVE** been a rewarding time in the protection of the Baltic Sea. Improved wastewater treatment in St Petersburg and actions taken to prevent the discharge of phosphorus at the fertiliser factory on the Luga River in Russia are now bearing fruit. In just a few years, it has been possible to reduce phosphorus loading in the Gulf of Finland by more than 60%. Observations made by research bodies, ordinary people with summer homes and yachters alike all bear testimony to the impacts of the "Gulf of Finland miracle". For example, not even the hot weather in summer 2014 triggered massive blue-green algal bloom in the eastern part of the Gulf of Finland and the water remained clear and algae free throughout the summer.

**THIS CHANGE FOR** the better in the state of the Baltic Sea during our own lifetime is a great achievement, which tells that it pays to act strategically in environmental protection and to have clear performance targets in mind. It is easy to define the indicator in the successful combat against eutrophication: fewer tonnes of phosphorus and nitrogen.

**THE "POLLUTER PAYS"** principle is often referred to in environmental protection. However, it's not worth going down that path as regards protection of the Baltic Sea. Studies show that both Finland and Sweden, which are also among the wealthiest states in the catchment area, suffer most

from the consequences of eutrophication. The treatment of wastewater in St Petersburg was improved largely with Russian money, although also the Finns and Swedes invested their own small share in the improvement. The result is a clear Gulf of Finland, the ensuing recreational benefits of which are far greater than the costs involved. Activities have thus been rational on all sides, a kind of voluntary emis-

sions trading scheme where the benefit gained in the form of increased recreational value of the Baltic Sea is far greater than the resources used.

**REDUCING POINT-SOURCE LOADING** – i.e. discharges of municipal and industrial wastewater – is still the quickest and most effective way to reduce nutrient loading of the entire Baltic Sea. Populous Poland and the Baltic States can still do much

to treat wastewater as effectively as possible with new treatment plants built with EU support. The difficult political situation and decline of the rouble have hampered environmental co-operation with Russia, but from the viewpoint of the state of the Baltic Sea, political relations will not diminish Russia's key significance here. Cleaning the wastewater discharges originating from the Kaliningrad and Leningrad regions is a key issue as far as the sea is concerned.

**SIMILAR LARGE-SCALE POSSIBILITIES** to reduce discharges can also be found in Belarus – a poor state without access to the Baltic Sea and no benefits whatsoever from improvements in the state of the Baltic Sea. However, reducing the nutrient load from Belarus is crucial especially for the Baltic Proper. Thus it makes sense for us inhabitants along the northern coast of the Baltic to support measures aimed at mitigating the point-source loading in Belarus.

**IN PROTECTING THE** Baltic Sea, helping a neighbour, albeit a more distant one from our own perspective, is often the most sensible course of action. Let's call it trading of discharges or just neighbourly help. During trying political and economic times, co-operation is more challenging, but nevertheless it is worth remembering its importance for the Baltic Sea.

"It has been possible to reduce phosphorus loading in the Gulf of Finland by 60%."



Marjukka Porvari

Director  
John Nurminen Foundation

# Waste transformed into energy in Vitebsk

The nauseating stench of rotting food scraps is unmistakable – and the gulls have come to the same conclusion as they swoop around us in large flocks in search of easily-caught food. “One man's meat is another man's poison” as the saying goes. We are at the landfill site outside Vitebsk in north east Belarus. Project Manager Jesper Nyqvist from the Swedish company Vireo Energy is showing us round to demonstrate how they produce electricity from rubbish.

PHOTOS PATRIK RASTENBERGER

## WASTE MANAGEMENT

**ONLY A FEW** days ago, this same site was flooded by the intense spring rains. That wetness has now turned into a sloppy mud that has to be trampled down by rubber boots – which isn't really the type of equipment you think to pack in your small cabin baggage. Thankfully Vireo Energy has a few pairs of overflow boots precisely for lending to inappropriately-dressed visitors, thinking they could visit the landfill site in smart shoes and a suit.

**“HERE YOU CAN** see the wells where we pump up the methane stored in the depths of this site,” says Jesper, pointing to a number of pipes creating a semi-circle in the furthest section of the landfill site. “We started with several test pumps at five different locations which took around two months. The pumping activity showed that there was plenty of methane and great opportunities to produce electricity,” he adds.

**ROTTING ORGANIC MATTER** and food waste, with its anaerobic oxygen-poor conditions, creates methane, which is a key contributor to climate change. After carbon dioxide, methane has the greatest impact on the greenhouse effect. One kilo of methane has the same impact as 21 kilos of carbon dioxide. A proportionally large share of the global methane emissions occurs at landfill sites. As the methane is dewatered and incinerated and fossil fuel is

● **Project Manager** Jesper Nyqvist is in charge of Vireo Energy's investment in methane extraction at the landfill in Vitebsk.





“We run a business dealing with recycling of paper, glass, card and plastic.”

**Sergey Makarov**  
CEO  
Vitebskaya Musoro-sortirovotchnaya Stantsiya

replaced by electricity from the landfill, climate-changing emissions are reduced. In other words, there are considerable environmental gains for the landfill site in Vitebsk.

**VIREO'S BIOGAS REACTOR** in Vitebsk is estimated to produce around 6,000 megawatt hours of electricity per year. The company has the capacity to produce and sell both heat and electricity, but for now they are only selling electricity to the regional electric grid company. "There is a newly-built housing suburb only a few kilometres from the site. You can see the apartment blocks over there on the left, on the road to Orsha," says Jesper pointing to a cluster of tall roofs. "We could have delivered heating to the apartments in the new area, but at the moment the infrastructure and pipes aren't in place, and so the local construction companies benefit from relying on imported natural gas instead," he explains.

**THE PROJECT IN** Vitebsk is not Vireo's only achievement in Belarus. The company's CEO, Robert Domaradzki explains via email that Vireo has successfully completed similar projects in Orsha and Gomel. Final commissioning of a newly built plant has been done in Novopolotsk to lay the ground for production of renewable energy. All projects have been realised with the help of loan financing from NEFCO. Swedfund has also

contributed with financing of Vireo's operations in Belarus. "According to our calculations, these projects will reduce methane emissions to the order of 32,000 carbon dioxide equivalent units," says Senior Manager Karl-Johan Lehtinen who runs NEFCO's environmental department in Helsinki.

**LAST YEAR, VIREO** signed investment contracts for equivalent projects in Grodno, Brest and Mogilev. "In many respects, Belarus is an emerging market for energy companies and firms in the cleantech industry. There is huge potential to increase the share of renewable energy in this country," says Jesper. "However, the opportunities to extract methane are not unlimited. It is not possible to produce heat and electricity at every single landfill site - there has to be enough rubbish that has been there for decades in the same location. There must be at least 1-2 million tonnes of rubbish in order to create a single megawatt hour of electricity. In reality, this means that this type of business is only profitable when it is close to larger towns and cities with at least 100,000 inhabitants."

"We intend to be the leading producer of renewable energy in eastern and central Europe," says CEO Robert Domaradzki at Vireo Energy."



➤ **Around 300** trucks visit the waste disposal site in Vitebsk every day.

→ **Vireo's biogas** reactor is estimated to produce around 6,000 megawatt hours of electricity per year.



**DESPITE VIREO'S PROJECT**, with its efficient and effective methane recovery, waste management at the site in Vitebsk is far from optimal. Persistent organic environmental toxins, paints, electronic scrap, medical waste, entrails from slaughterhouses, furniture, and waste from the construction industry are all collected in the same space at the same landfill site - all in one foul cocktail. A steady stream of lorries and waste disposal trucks drive in and out of this large expanse. Around 300 such trucks visit here every day. Videotapes, computers, keyboards and collapsed sofas simply lie in the corner of the site, next to rusty paint tins and pierced aerosols. The Western culture of disposability has also found a foothold here in Belarus. A stone's throw from the site is a small gurgling brook; perhaps part of the catchment flow to the Baltic Sea.

"It's essential for people to start sorting rubbish - it would also benefit our business. If there is too much rubbish and industrial waste amongst the organic waste, then the levels of methane are insufficient and so we cannot produce electricity from that," says Jesper.

**BUT THERE ARE** rumblings of change in Vitebsk. At the entrance to the site, in a brick building, we can see frantic efforts to sort rubbish. Small business owner Sergey Makarov runs a business dealing with paper, glass, card and plastic.

"We sell all polymer plastic to a factory in Novopolotsk. They pay around USD 200 per tonne of plastic that we send to them," says Sergey. "We also bale up cardboard and send those bales to a paper factory paying around USD 70 per tonne," he adds.

**A TONNE OF** glass will get a million roubles from the local companies, equivalent to around USD 65. Sergey's tiny company only employs 13 people, most of whom stand at the conveyor belt and sort the rubbish by hand. In one day, they can successfully sort, bale and deliver around 10 tonnes of rubbish for recycling. Their sorting is only small-scale, and the company lacks capital to expand its operations. Sergey tells us about his time spent in Germany, gesticulating wildly, and explains his plans to import German technology to upgrade his recycling operations.

**CLOSE TO THIS** facility is Vireo's buzzing biogas reactor. The reactor does not take up much space, as it is encased in a blue container in a small space, surrounded by a fence.

"**THIS IS A** heat exchanger, and over there you can see the equipment where we dewater the methane before it flows to the generator. If there is an oversupply of methane, we can flare off the excess," explains Jesper as he shows us round.

**VIREO ENERGY HAS** successfully established a presence on the Belarus market. An expansion and internationalisation of the business is already underway. Last year, the company started up an equivalent project in Gatchina, Russia. "We intend to be the leading producer of renewable energy in eastern and central Europe," says Robert Domaradzki. ↗



● **On the factory floor.**  
Keramika produces bricks, blocks and drainage pipes from burnt clay.

# A brick in the wall

German heavy metal music booms from the car's speakers as we approach Vitebsk, north-eastern Belarus. The beautiful natural landscape flickers past the windows whilst the singer's hoarse roaring voice hurls us back to the urban reality. We have been picked up in the car by consultant Mikhail Vasilevich in Minsk and are on the way to the OJSC Keramika factory in Vitebsk to take a look at the local reality of what happens on the factory floor.

PHOTOS PATRIK RASTENBERGER

## ENERGY EFFICIENCY

**OJSC KERAMIKA MANUFACTURES** bricks and drainage pipes for the construction industry in Belarus and Russia. A few years ago, the company sold almost 70% of its products to Russian customers. Now the financial crisis and the Russian ruble's drop in value have messed up businesses to the east. Today, exports to Russia only account for 25-30% of the company's turnover, which has forced Keramika to find new sales markets for their products. Construction is an industry that is sensitive to economic fluctuations. You have

to always be one step ahead and make continuous risk assessments. Currently, it is bricks for houses or large ceramic walls that are selling like hot cakes. There is also need for construction materials for a wide range of new buildings going up in the large cities, where high-rises are taking shape thanks to the governmental stimulus policies and financial backing from the Belarus government.



“We aim at investing around EUR 25 million in the modernisation of our production lines by 2017.”

**Pyotr Prizhitomsky**  
CEO of Keramika

**LAST YEAR, KERAMIKA** made an average of around 450,000 bricks per day. Demand for Keramika's products is particularly constant in summertime, as people renovate and build new properties at a rate of knots, both in respect of dacha second holiday homes and construction in the cities. However, competition is tough, and it is essential to get the right price point on products. Keramika is fighting for its place in the sun with six other competitors on the Belarus market.

"Local fuel prices have recently gone up by 26%, which has a knock-on increase for our production costs, making our competitiveness harder to maintain," says Keramika's CEO Pyotr Prizhitomsky.

**ELECTRICITY AND HEATING** costs have previously comprised around 32% of the company's costs, but now these prices are expected to sky-rocket, impacting on profitability and mess up company management. This is why Keramika has decided to improve its electricity production using a loan from

NEFCO's Facility for Cleaner Production. This investment has enabled a modernisation of the ventilation system and the installation of a new gas-fired cogeneration plant and two hot water boilers, generating cash in the kitty.

"The investment has helped us to avoid procurement of expensive grid electricity by around 7,538 thousand kilowatt-hours per year. Keramika's electricity consumption is now fully covered by our own production," says a contented Chief Energy Specialist Nikolai Bizunkov.

**THE SAVINGS FREE** up capital, which in its turn is used to repay the loan. According to the preliminary calculations that have been made, the loan will be repaid in full to NEFCO within four years. We are on a walkabout through Keramika's factory areas to take a look at the new boiler. Keramika is relying on German technology with a Viessman boiler.



➤ **Keramika's** electricity consumption is fully covered by its own production.

← **Presence.** The company has 1,110 employees.

← **Keramika** makes an average of around 450,000 bricks per day.

"At one stage we were considering installing a boiler that could burn biomass, but we realised it would be difficult to obtain chips or pellets, so instead we installed a boiler that uses gas. Our heating plant is entirely automated. We produce both electricity and heating for domestic use, which is an efficient way of providing the buildings with energy," says Nikolai Bizunkov.

**THE AVOIDANCE OF** expensive grid electricity also provides environmental benefits in the form of reduced emissions of carbon dioxide, sulphur dioxide, nitrogen oxides, carbon monoxide and volatile organic compounds. The courtyard area outside the plant is cluttered with multiple neat

“The investment has helped us to avoid procurement of expensive grid electricity by around 7,538 thousand kilowatt-hours per year.”

piles of bricks, as far as the eye can see. In one of the factory buildings, bricks are sorted and loaded onto wooden pallets, awaiting pick-up by a forklift truck. The sunlight streams through the dusty windows to cre-

ate a magical illumination, as we track the back-breaking work on the conveyor belt.

**IT IS RARELY** worthwhile to rest on your laurels in the business world. This summer, Keramika is already planning to open a new shop in order to reach even more customers. Company management intends to modernise the production lines to begin comprehensive production of porcelain-coated bricks. The furnaces will be modernised and the production lines will be automated.

"We estimate that we can implement the project by the end of 2017. The investment costs look to be around EUR 25 million," reveals Keramika's CEO Pyotr Prizhitomsky. ♣



# BNB-Bank sets the wheels in motion

The Belarusky Narodny Bank (BNB-Bank) head offices in Minsk have had a fresh facelift. The newly-renovated building is wedged between grey high-rise blocks around a neat courtyard, a stone's throw from Kalinin square next to one of the city's main streets.

PHOTOS PATRIK RASTENBERGER



**T**HE BANK IS HARSH on the eye with its garish orange colour theme. All its signs, publications and fluttering flags at the entrance have a splash of orange. To be seen is to be heard. And judging by BNB-Bank's reputation, the bank is relatively well-known in the capital city, despite its business being still rather small scale.

"In 2013 we were ranked as Belarus' most dynamic bank, by an independent classi-

fication organisation," says the bank CEO Constantine Tseretel, proudly.

**THE CEO MEETS** us wearing a dark, well-tailored suit without a tie, and comes across as informal as he shows us the details of the bank's key figures. Last year's loans amounted to a total of USD 146 million, which places BNB-Bank in thirteenth place in the country's banking sector in terms of the lending volumes. BNB-Bank currently has over twelve branches, and has more

than 400 employees throughout Belarus. The main clientele are small and medium-size businesses plus well-off private individuals. The bank's financial backbone is supported by the influential financiers Bank of Georgia and the International Finance Corporation (IFC), which together own 99.98% of the shares in BNB-Bank. Bank of Georgia is itself a key player in its own territory of Georgia, where the bank's total assets amount to an impressive USD 3.4 billion.

“The joint fund lends capital to companies interested in modernising their machinery and purchasing new fuel-efficient lorries.”

**IN 2013, NEFCO** and BNB-Bank founded a joint fund to promote green, environmentally-friendly investments in the transport sector. NEFCO granted a loan of EUR 1.5 million to the joint fund, which lends capital to companies interested in modernising their machinery and equipment, and purchasing new fuel-efficient lorries. Belarus is a transit country for international freight of goods and foodstuffs, which means that the transport sector and goods traffic have significant standing in the country.

“Up to now, we have granted 16 loans for these kinds of projects, but we hope to be able to sign more similar loans this year. The macro-economic crisis last year did have a negative effect on the influx of project queries and loan applications, including for this type of investment,” says Tsereteli.

**HOWEVER, THANKS TO** rigorous risk management and long-term planning, BNB-Bank successfully managed to ride out the worst of the storms during the financial crisis. A replenishment of financing to the tune of USD 18 million from the syndicated loan facilities arranged by EBRD and IFC also contributed to the bank’s economic stability.

“Our net income reached record levels in December 2014 and January 2015, which indicates that we clearly did something right,” says Tsereteli with a wide grin.

**OUR INTERVIEW IN** the bank’s meeting room is coming to an end, and it will soon be time to research fuel-efficient lorries. Leading Specialist Katsiaryna Stain takes us to the outskirts of the city to meet with the bank’s clients. Stain is responsible for the bank’s international relations, and, like Constantine Tsereteli, speaks fluent English. The car journey takes us through bustling busy streets and ring roads, to a petrol station where OOO Progsib’s CEO Aleksandr Aleksievich meets us for a quick chat. He poses willingly in the lorry’s cab and looks confidently into the camera. OOO Progsib has specialised in the transport of dairy products from Belarus to the Russian market. Progsib’s lorries are loaded with cheese, milk and cream cheese products, so it must be ensured that the cold chain is in order.



➤ “We have successfully squeezed our annual fuel consumption down by 15%,” says CEO Aleksandr Aleksievich from OOO Progsib.

← “Our net income reached record levels in January 2015”, says CEO Constantine Tsereteli at BNB-Bank.

← To be seen is to be heard. The BNB-Bank bank is harsh on the eye with its garish orange colour theme.



“We collaborate with two dairies in Belarus and one in Russia. The financial downturn in Russia has unfortunately reduced demand of the products we transport, which has also impacted on our income,” Aleksievich explains.

“Under the circumstances, it is therefore necessary to review the company’s fixed costs, and reduced fuel costs can be one way of improving profitability. OOO Progsib has replaced two of its fourteen lorries thanks to a loan from BNB-Bank. A more comprehensive upgrade of the company’s vehicles is expected in future. The company estimates replacing one or two lorries each

year, or as long as the capital flow permits. It costs specifically around EUR 86,000 to purchase a new lorry of the same size used by the company.

“Our lorries use an average of 28-32 litres of fuel per 100 kilometres. Thanks to our move to more modern and fuel-efficient vehicles, we have successfully squeezed our annual consumption down by around 15%,” Aleksievich concludes.

**NEFCO’S COLLABORATION WITH** BNB-Bank is just one link in the systematic work to increase contact networks and loans to commercial banks. There are similar set-ups,

for example in Ukraine where NEFCO has created joint funds with Megabank and Bank Lviv to promote investments in energy efficiency. As a best case scenario, the good experiences with BNB-Bank’s loans in Belarus will also set the wheels in motion for Georgia.

“We are currently discussing with Bank of Georgia on the opportunity to create an equivalent fund which could lend capital to Georgian environmental investments, including the transport sector,” explains NEFCO’s Senior Financial Manager Thor Thorsteinsson. 🍀

GUEST COMMENTARY

# Nordic Climate Finance Opportunities – the NCF Case Study



The Nordic Climate Facility (NCF), financed by the Nordic Development Fund and administered by NEFCO, offer good examples of practical Nordic climate actions in developing countries. At the same time, the NCF highlights opportunities for novel approaches to climate finance and partnerships between Nordic and developing world stakeholders.

PHOTO © DENNIS HAMRO-DROTZ, ALLECO OY

**NORDIC FUNDING AIMED** at mitigating or adapting to climate change in developing countries needs to be upgraded in such a way that good pilot projects can be upscaled and replicated. Moreover, additional private finance is needed to ensure sufficient funding of climate projects in low-income countries. These are the main findings of a new report named "Nordic Climate Finance Opportunities – The NCF Case Study" that has been financed by the Nordic Council of Ministers.

## Nordic climate finance and effects in the developing world

**ALTHOUGH NORDIC INSTITUTIONS** provide a wide range of support for climate projects and programs, much of the support is still built around thematic silos for development funding, export support and climate/carbon finance supporting specific climate change mitigation activities. This creates a barrier for providing a more holistic support scheme. Nordic climate finance is, furthermore, currently not anchored to any formal Nordic governance structure that would dictate how new approaches in climate financing emerge in the region.

**CLIMATE FINANCE, HOWEVER,** offers a theme around which co-operation could naturally be built; e.g. between NDF (through NCF) and private sector companies, between development programs and carbon finance specialists, or between clean technology export networks collaborating with development funds. There are only a few examples of such collaboration across the established silos between institutions.

**IN THIS REGARD** NCF is seen as an enabler of projects, mobilising private sector finance, reducing the financial risk and helping to prove the viability of projects. As noted by Shira Bayigga Mukiibi, Manager of the Renewable Energy Incubator in Uganda, "NCF is successful in filling the funding gap that is a common challenge for early investments."

**THE FACILITY ALLOWS** for testing a project concept or technology in a specific geographical setting, ensuring the acceptance of the solution by the involved stakeholders, as well as creating an initial demand for a specific solution. This can be linked to higher-level national, regional,

and international policies for replication and scaling up the solution. Once pilot projects have proven successful, it is also possible for stakeholders to look for other types of funding, including loans and equity investments.

**THE INVOLVEMENT OF** the private sector also seems to increase the impact and sustainability of the projects. One example is an investment in Tanzania that taps into the charcoal market with briquettes made from agricultural waste, decreasing rates of deforestation by reducing the demand for traditional charcoal. Another example, which also includes technology transfer, is a project in rural Kenya that involves the development community (the Danish and Kenyan Red Cross), the private sector (Grundfos AS) and local communities. In this case, a new and innovative idea that provides clean drinking water to rural communities, combines hardware developed and manufactured in Denmark, with local software applications. Both projects generate revenue to ensure their sustainability in the long run.

**"NCF is successful in filling the funding gap that is a common challenge for early investments", says Manager Bayigga Mukiibi."**

**PROJECTS INCLUDED IN** the analysis also have a strong development agenda with related co-benefits, highlighting the need not to separate development and climate programs into silos of their own, but rather try to integrate these two financing opportunities in developing countries. Martha Gitau, local Project Manager for a Swedish project solution for energy efficient cleaning of water, notes "important secondary effects, such as improved health among family members, increased school attendance by children, as well as increased savings per household because of reduced running expenses for traditional fuels and medical costs are reported by project beneficiaries."

## Building on existing structures

**THERE EXISTS A** clear demand for 'next step' funding, following the financing of successful pilot projects. A key challenge is to create bridges between bottom-up, smaller scale projects on the one hand, and large-scale international top-down climate finance programs on the other. We believe that addressing this need should become a central theme for Nordic climate finance institutions. Examples could include partnering with National Development Finance Institutions to offer project owners expansion funding using debt, equity or mezzanine financing, or include projects as part of national climate funding programs.

**SCALING AND REPLICATING** successful projects also enables new sources of funding, facilitates private sector participation and ultimately provides larger mitigation and adaptation impacts. Scaling smaller projects to a meaningful size however, needs to be anchored to local policy demands, which in turn need to meet the demands of the global policy framework to improve access to climate finance resources – a task that is easier said than done.

**THE IMPORTANCE OF** greater private sector involvement in developing and financing future solutions in climate mitigation and adaptation must also be acknowledged. All parties involved, including existing Nordic technology export programs and clean technology networks, could benefit greatly from better access to new and emerging flows of climate finance. There has been little coordinated overlap between export promotion and development and climate financing. Given the natural fit between the promotion of clean technologies and the goals of climate financing, this is an under-used opportunity in the Nordic countries.

Dennis Hamro-Drotz, Alleco Oy

Kristian Brüning, ClimateWedge Ltd.

## STAFF

# Retirement

Vice President Torben Vindeløv retired in March 2015 after having worked for NEFCO for over 14 years. Torben has, among other things, been a member of NEFCO's Management Committee and worked as Country Manager in charge of NEFCO's investment portfolio in Ukraine. We met him for an interview before he moved back to Denmark.



PATRIK RASTENBERGER

### What added value do you think NEFCO brings?

"The predominant added value – seen from the client's viewpoint – is NEFCO's risk-taking ability, its willingness to provide project finance and ability to finance smaller projects. From our owners' point of view, the added value is NEFCO's ability to improve environmental conditions in our neighbouring countries in Eastern Europe. NEFCO is seen as a good instrument for implementing the Nordic countries' environmental policies."

### What will you miss from your career at NEFCO?

"The challenge of working with private entrepreneurs and nudging projects towards the direction where they perform well to benefit both business and the environment."

### Is there any particular event or journey that you remember the most?

"When I started working at NEFCO in 2001, I had very little hands-on experience of work in Eastern Europe and Russia, and I had to learn by doing. My first trip to Murmansk was a challenge, as I did not know that I had to change airport in St. Petersburg. With-

out being able to communicate in Russian, this airport change became a bit of a hassle. Having finally arrived in Murmansk, I was impressed by the hospitality of the people. It was this that made up for the return trip in the company of chickens and large shopping bags on an old propeller plane."

"Moreover, my work of establishing NEFCO in Ukraine, opening an office and securing our status agreement has been full of memorable and good experiences, and I consider the staff in Kiev as part of my family by now."

### Despite your retirement, you have decided to work for us as a Consultant. Is it hard to loosen the grip?

"Yes, and I am thankful that I can continue to work on the boards of the companies I have established during my almost 15 years at NEFCO."

### When will you chill out and focus on the easy chair back home?

"The easy chair can wait. I have many things to keep me busy. The motorbike is now registered in Denmark and I am looking forward to many trips this summer."

IRINA LYASHENKO



• From left to right: Alexey Kapustinskiy, Mykhailo Senchuk and Alexey Doumik at NEFCO's office in Kiev.

## STAFF

# New appointments at NEFCO

NEFCO HAS STRENGTHENED its Kiev office through new recruitments. Mykhailo Senchuk has been appointed Assistant as of March 2015. On top of this, the Kiev office relies on Consultants Alexey Doumik and Alexey

Kapustinskiy in the technical assessment of various projects to be financed by NEFCO. In Helsinki, Project Officer Aliona Fomenco has returned to NEFCO's Carbon Finance and Funds department after maternity leave.

## ANNUAL REVIEW

## Healthy environmental results for 2014

NEFCO'S FINANCIAL accounts for 2014 show tangible environmental results. The climate investments last year reduced carbon dioxide emissions by some 5.2 million tonnes – a figure corresponding to the amount of CO<sub>2</sub> emitted by 6.58 million persons travelling

from Stockholm to Rome and back by aircraft. NEFCO's energy efficiency projects reduced electricity consumption by 11,430 gigawatt hours during the period. This corresponds to 67% of the annual electricity consumption in Iceland.

## PROJECT APPROVALS

### Board meeting in Copenhagen

NEFCO'S BOARD of Directors convened in Copenhagen, Denmark 10 June. The Board approved a range of indications of interest and one new project in Russia. A seminar on green growth was also arranged in conjunction with the meeting. The seminar was hosted by the Danish Export Association and The Trade Council of Denmark together with NEFCO.

## VIDEO PRODUCTION

### New video on biogas production in Belarus

NEFCO HAS produced and published a new video on methane extraction and biogas production at the waste disposal site in Vitebsk, Belarus. The project has been co-financed by NEFCO's Investment Fund. The video can be watched at youtube.com/nefcofinland.



## This is NEFCO

NEFCO is an international financial institution established by the five Nordic countries. NEFCO finances green growth investments and projects primarily in Russia, Ukraine and Belarus as well as climate projects across the world. NEFCO's main focus is to generate positive environmental effects of interest to the Nordic region.

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**BELARUS**

## **Green investments**

**A RANGE OF LOCAL** enterprises in Vitebsk in north-east Belarus have joined forces with NEFCO to invest in energy efficiency and upgraded production. Energy is currently being produced at the city's waste disposal site thanks to efficient extraction of methane. Waste can generate revenues.

● **THE VITBA RIVER** runs through the city centre of Vitebsk. The city, that was founded in the 10th century, has largely been reconstructed after the second world war. Today, it's the fourth largest city in Belarus.

PATRIK RASTENBERGER

