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Cleantech leads the way

IT'S PRETTY SIMPLE, really, I mean the cleantech concept. Clean, advanced environmental technology creates revenues and benefits the environment. However, it has not been quite that easy to translate this concept into a successful trademark that can spawn innovation and, consequently, inject new life into industrial clusters that focus on the environmental investments of business and industry.

TODAY CLEANTECH IS a well-established concept – a generic name for companies that manufacture goods and provide services in ways that are less taxing on the environment. In real terms, these companies either help to reduce emissions of substances harmful to the environment or decrease energy consumption. It is estimated that Finland alone boasts around 2,000 cleantech firms. The sector includes companies specialising in energy efficiency, recycling, renewable energy, clean production processing, waste management, sewage treatment, or the filtering of airborne emissions. When we look at NEFCO's list of approved projects in 2010, there are many common denominators.

A MAJOR PART of this newsletter is devoted to a range of cleantech investments in Russia and Ukraine. The cleantech sector in Eastern Europe is expected to grow at an annual rate of over six per cent, with aggregate sales amounting to around EUR 12 billion. In other words, there is a lot of money to be made by investing in the environment. Mr Santtu Hulkkonen of Cleantech Finland writes in his column that there is huge growth potential in this sector in Eastern Europe. And Nordic companies are well-placed to succeed in the competition.

WE WILL TAKE a look at two new projects in which Nordic firms and NEFCO are investing in clean technology by building new factories in Russia and Ukraine. Slowly but surely, a plastics factory is taking shape in Kaluga, Russia. It will replace local production of PVC plastics. Another factory is being erected in Odessa to manufacture water-based paints. Both projects make use of advanced environmental technology and Nordic know-how.

CURRENTLY THE CLEANTECH sector gives work to millions of people across the globe. Environmental investments are no longer the exclusive concern of a closely-knit society of mutual admiration; instead, they are becoming a necessary prerequisite for successful business. Greenwash is on the retreat, while cleantech is becoming an indispensable part of mainstream business thinking. The environment has become hard currency.



MIKAEL SJÖVALL
Communications
Manager
NEFCO

“The cleantech sector in Eastern Europe is expected to grow at an annual rate of over six per cent.”

Russia allocates EUR 10 million to the Arctic Council

■ **The Russian government decided in May to allocate EUR 10 million to the Arctic Council over the next two years. The funds will be allocated to the Arctic Council's Project Support Instrument (PSI), which is administered by NEFCO.**

The PSI, which was established by the Arctic Council in 2005, is a financial initiative that aims to focus on actions preventing pollution of the Arctic. Potential projects eligible for financing from PSI include cleaner production and improved energy efficiency at co-generation plants, the prevention of PCB emissions and reduction in mercury or dioxin and furan emissions from industrial facilities in Northwestern Russia.

Arctic Council member states and observers have pledged contributions to the PSI.



Dioxin discharges at the Novodvinsk pulp and paper mill are a cause of concern for the Arctic Council.



Block of flats in Kiev. The E5P will promote modernisation of district heating systems in Ukraine.

The multilateral programme on energy efficiency begins operation in Ukraine

■ **THE EASTERN** Europe Energy Efficiency and Environment Partnership Fund (E5P) is moving ahead in Ukraine after the country's First Vice Prime Minister Mr. Andriy Klyuyev signed an agreement with the European Bank for Reconstruction and Development (EBRD) in March.

E5P IS A EUR 90 million multi-donor fund managed by the EBRD designed to promote energy efficiency investments in Ukraine and other eastern European countries. The fund was set up under the initiative of the Swedish government during its presidency of the European Union in 2009.

THE E5P WILL complement energy efficiency loans provided by financial institutions including the EBRD, the European Investment Bank, NEFCO, the Nordic Investment Bank and the World Bank Group.

GRANTS UNDER E5P will be allocated to four priority areas: district heating, other energy efficiency projects,

environment projects in Ukraine as well as additional projects in other eastern European countries. In addition to promoting energy efficiency in district heating projects, funding will also support other investments aimed at making substantial energy savings. Environmental projects, such as wastewater or renewable energy, will also be within the scope of the grant funding.

NEFCO INTENDS TO finance several district heating projects under the E5P programme, and at the moment a project worth some EUR 2.75 million is being planned with the municipal district heating company, Teplotransservice, to upgrade the heating system in Rivne, Western Ukraine. The investment is expected to reduce the consumption of natural gas by 1.3 million cubic metres a year and the payback period is estimated to be around 4 years.

New subscriptions to the NEFCO Carbon Fund, “Kyoto Plus” Tranche

■ **NEFCO has achieved and exceeded its targeted capital raising for the second Tranche of its global carbon procurement facility, the NEFCO Carbon Fund (NeCF). It had targeted EUR 30 million, but has secured EUR 58 million from EPV Energy, GDF Suez and Vapo. Ash Sharma, Vice President and Head of NEFCO's Carbon Finance and Funds Unit stated “The additional capital commitment allows NeCF to support further emission reduction efforts under the Clean Development Mechanism, and we expect to achieve approx. 6 million tonnes of carbon dioxide savings in developing countries with this amount.”**

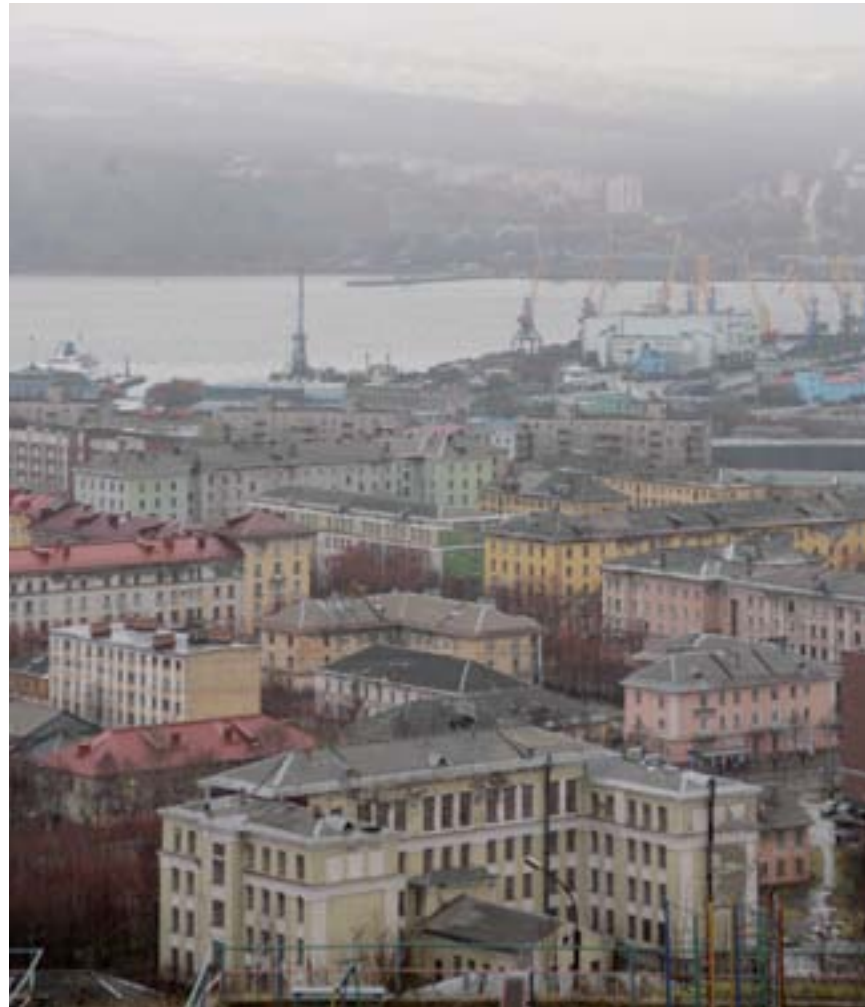
NeCF continues to develop clean energy portfolio

■ **The NEFCO Carbon Fund has signed three contracts to purchase emission reductions from small hydro-energy projects in Viet Nam (2) and Laos, with a combined installed capacity of 38 MW. The latter is the first NeCF project in a least developed country (LDC), and one of the few projects in that country.**

During the first half of 2011, the facility has also entered into preliminary agreements with project owners for seven small hydro projects in Viet Nam and Indonesia, and energy efficiency projects in the cement and steel sectors in Viet Nam and Ukraine, respectively. The CFF team is busy taking projects through the UN's project cycle to achieve registration under the Clean Development Mechanism before the end of 2012.



Senior Representative, Kimmo Siira from NEFCO, maps out a hydro plant in Viet Nam.



Murmansk city centre. In 2010, NEFCO's Investment Fund approved a loan of EUR 4 million for upgrading the city's wastewater treatment facilities.

Sida and NEFCO to invest in Ukrainian energy efficiency projects

■ The Swedish International Development Cooperation Agency (Sida), together with NEFCO and Ukrainian authorities have jointly agreed to set up an investment programme aimed at promoting energy efficiency projects in Ukraine.



Flammable! Ukraine is heavily dependent on gas deliveries from Russia

The programme, which is called DemoUkraine, will receive SEK 35 million from the Swedish government via Sida, which will be used to finance local district heating projects. NEFCO, for its part, will administer the programme and, among other things, ensure cost and energy consumption efficiency by consulting and sourcing professional district heating expertise.

According to the terms of the agreement, ten municipal district heating projects will be financed with grants from Sida and loans from NEFCO. The maximum loan and grant size for each project will be EUR 400,000 and EUR 300,000, respectively.

NEFCO's financial accounts for 2010 show significant reductions of carbon dioxide emissions

■ NEFCO'S FINANCIAL accounts for 2010 show positive environmental outcomes. In particular climate investments undertaken by the corporation achieved encouraging ecological results. On the whole, direct and indirect reductions of carbon dioxide emissions in the projects financed by NEFCO in 2010 amounted to some 3 million tonnes.

ALL IN ALL, 62 new projects were approved and administered by NEFCO in 2010, a year in which the corporation also celebrated its 20th anniversary. During the period NEFCO signed project agreements worth EUR 72.7 million. Most of these projects involved renewable energy, installation of energy efficiency technologies, and the modernisation of existing wastewater treatment plants.

NEFCO'S FINANCIAL ACCOUNTS for 2010 show a EUR 458,000 surplus after reserving EUR 1.9 million for the Nordic Environment Development Fund, which finances cleaner production technologies and energy saving projects in Eastern Europe.

"WE ARE DELIGHTED by the fact that we have managed to increase the number of projects and broaden our scope of activities with the help of new loan facilities, which were established last year. This clearly shows that there is a considerable demand for the financial services provided by NEFCO, says NEFCO's Managing Director, Magnus Rystedt.

Prevention of Arctic oil pollution mapped out in new pilot project

■ NEFCO, in cooperation with NPA-Arctic, and via the Barents Hot Spot Facility (BHSF) has funded a pilot project, which was intended to assess and evaluate the current status of oil transportation in the Russian Arctic.

The project, which has been carried out by OOO Rambøll Barents, included an analysis of the main shipping routes, identification of the most hazardous areas and the types and quantities of oil transported as well as predictions of the likely consequences of oil spills. The project also evaluated the national ability and readiness to respond to an Arctic oil spill.

The recommendations from the results of the project have been useful in developing measures to enhance the Russian national oil spill response system and ensure a satisfactory level of preparedness to cope with an Arctic spill.

The BHSF is managed by NEFCO on behalf of the governments of Finland, Iceland, Norway and Sweden. The Facility's main task is to provide grants to finance technical assistance, typically key pre-feasibility and feasibility studies, business and financing plans as well as environmental impact assessments. BHSF has assets worth EUR 6 million and, so far, over 50 projects and other activities have been approved for allocations from the facility.



Bread sales from a kiosk in Ukraine.

New loan for bakery modernisation in Ukraine

■ NEFCO HAS signed a loan agreement from its Facility for Cleaner Production to modernise a bakery in Dnepropetrovsk, Ukraine. The client, Open Joint Stock Company Dnepropetrovsk Bakery No 9, controls 14 per cent of the market for bakery and confectionery products in the Dnepropetrovsk region.

THE LOAN WILL be used to reconstruct the boiler house, modernise the drying chamber and recover heat from the baking ovens, a process that will slash the company's energy consumption costs considerably.

"THIS IS OUR fourth bakery project in Ukraine in which we have lent money to businesses in the sector to purchase new production equipment and save energy. Investments like this allow sav-

ings that boost companies' net profits, says NEFCO's Chief Investment Adviser, Julia Shevchuk, in Kiev.

THE REFURBISHMENT OF Bakery No 9 will reduce the consumption of gas by some 393 thousand cubic metres per year and save the company over EUR 117,000 annually. The environmental benefits include reduced emissions of carbon dioxide, sulphur oxides, nitrogen oxide and dust. Reductions of carbon dioxide emissions alone will amount to some 816 tonnes per year.

NEFCO CURRENTLY HAS some 99 ongoing projects in Ukraine. Last year, the corporation approved eight new projects to be financed by the Facility for Cleaner Production in Ukraine.



Sea vessels at the Port of Murmansk.



Rani Plast's construction site in Kaluga in April 2011.

The road leading into Kaluga – a city some 200 kilometres south-west of Moscow – is flanked by a string of factory buildings. Western trademarks flicker on the windscreen as we approach the heart of the city. Clearly, Kaluga's city council has been successful in its attempts to attract foreign investors to the region.

Production of environment-friendly plastics

AMONG THE NEWCOMERS setting up factories in Kaluga and its surroundings are Volvo, Volkswagen, Stora Enso, Mitsubishi, Samsung and Peugeot & Citroën. Kaluga offers companies cheap land, the necessary utilities as well as tax reliefs. It costs up to 20 per cent less to establish a new factory in Kaluga than in Moscow, where price levels have, in many respects, run away and are now beyond the reach of many investors.

ONE OF THE companies responding to the siren song of Kaluga is Rani Plast of Terjärv, Finland. The company manufactures a wide range of plastic films for use as packaging materials in the industrial and agricultural sectors, such as for wrapping bales of hay.

"WE'VE BEING EXPORTING our products to the Russian market for a long time. By building a new factory here in Kaluga we'll be able to relocate part of our production to Russia and cut down on the cost of transport and customs clearance," says Project Manager Juha Hakala.

NEFCO CO-FINANCES THE project by extending a EUR 3 million loan. The other investors are Rani Plast, EBRD and Finnfund. The factory is being built in an industrial estate established by Lemminkäinen, a Finnish construction company. Located some 20 kilometres from Kaluga's centre, the estate is known as 'I-park Lemminkäinen'. The long-term plan is to have 20 to 30 companies build new factories in the area. Lemminkäinen assumes responsibility for the infrastructure meaning electricity and water supply, sewage treatment, access roads and web connections. Rani Plast has signed a turn-key contract, under which Lemminkäinen not only builds the infrastructure but also takes care of all paperwork and contacts with the local authorities.

"PRIMARILY, OUR MARKETING efforts target companies representing the cleantech sector. Companies that choose to establish here will save twelve to eighteen months as they will not be required to use resources for building the infrastructure required for the factory," says Managing Director Mika Sandin of Lemminkäinen Invest.

"Manufacturing will be based on a closed-circuit production process with all the surplus plastic being recovered for re-use."

THE RAW MATERIAL for the plastic products to be made by Rani Plast in Russia is polyethylene, a more environment-friendly alternative to equivalent films made of polyvinylchloride (PVC). The latter is a common product available in Russia for packaging purposes. PVC production involves the use of various phthalates as plasticisers which pose a number of risks to the environment. The EU has classified certain phthalates as toxic substances that can cause hormonal disruption in humans.



During the initial stage, the new plant will recruit some 30-40 workers, mainly from the village of Vorotynsk.



The new factory is expected to produce 16,000 tonnes of plastic film per year.

ADDITIONALLY, MANUFACTURING WILL be based on a closed-circuit production process with all the surplus plastic being recovered for re-use. As a result, the consumption of raw materials will be reduced. Because the factory will make use of the best available technology, energy consumption will also be much lower than in equivalent Russian production facilities. According to the calculations made by NEFCO and Rani Plast, the factory's annual carbon dioxide emissions will be 10,750 tonnes less than those of Russian competitors.

"MOST OF THE workforce will be recruited from the village of Vorotynsk located near the factory. We're initially looking to hire 30 to 40 factory workers who will come to Finland for training in the summer," says Juha Hakala.

HE UNDERLINES THAT it is important for Rani Plast to offer the local employees competitive wages and terms of employment to encourage them to commit to the job long term. Rani Plast's Kaluga factory will have six production lines with the personnel working round the clock in three shifts. Hakala says that the factory will be able to produce close to 16,000 tonnes of plastic film with this concept.



Business and Development Director, Alexander Pitukhin, and Project Manager, Juha Hakala, are in charge of the construction of the new plant.

WHILE MOST OF the raw materials used for Rani Plast's products are based on fossil oil, efforts are already under way to develop optional biologically degradable products. Product development is carried out by Rani Plast's laboratory in Terjärv, home to the owners, the Ahlbäck family.

"A NUMBER OF biologically degradable alternatives based on potato starch, for example, are already commercially available, but it's hard to produce industrial packaging materials on a large scale when access to raw material is not ensured," says Hakala.

BUT THE MARKET is changing. For example, much of the toilet paper packaging used in Europe is being made of biologically degradable raw materials. When the use of equivalent packaging becomes more widespread, it pays to be ready.

"IT'S IMPORTANT THAT the Kaluga factory is based on the same technical concept as the Terjärv facility. It will enable us to adjust production to demand and the availability of biologically degradable alternatives," concludes Hakala. **N**

Ms Julia Shevchuk is the Chief Investment Adviser and Office Manager at NEFCO's newly established offices on Velyka Vasylkivska Street in Kiev, Ukraine, which she shares with three other colleagues.



Julia Shevchuk works as Chief Investment Adviser at NEFCO's office in Kiev.

NEFCO strengthens its presence in Ukraine

JULIA HOLDS A Masters degree in economics, and before joining NEFCO she worked as a consultant and also has considerable experience from the wastewater treatment sector. We met Miss Shevchuk in April for an interview.

WHAT DOES A NORMAL DAY LOOK LIKE HERE AT THE OFFICE IN KIEV?

As you have noticed, the phones are ringing all the time, and we spend a great deal of time answering questions about NEFCO's funding activities. Our clients and local business leaders are quite keen to find out the terms and conditions that have to be met before submitting their loan applications. And our staff members regularly participate in different business conferences and seminars where they market NEFCO investment services to business enterprises and other stakeholders. Currently NEFCO has a hundred investment projects going on in Ukraine and that, naturally, demands time and energy.

WHAT IS THE MOST COMMON SALES ARGUMENT THAT YOU USE WHEN SELLING NEFCO SERVICES TO UKRAINIAN CLIENTS?

I try to emphasise the fact that NEFCO is a corporation owned by the Nordic governments because this implies that we are a stable and trustworthy business partner. I also point out the efficient administration we have in place to handle loan applications. Less bureaucracy means more efficiency.

WHICH INDUSTRIAL SECTOR DO YOU CONSIDER TO BE THE MOST PROMISING ONE IN TERMS OF BUSINESS OPPORTUNITIES FOR NEFCO?

I think that all projects related to energy saving and energy efficiency have a huge potential in Ukraine, and most of the projects financed by NEFCO in this country are in that sector. Saving energy means saving money and, of course, money talks both in the municipal and corporate sectors.

WHAT ABOUT RENEWABLE ENERGY?

NEFCO has already financed a number of projects that utilise renewable energy in Ukraine particularly in the agricultural sector where pig manure is being used to produce biogas. Another good example is the use of rapeseed to produce biodiesel. We are also quite keen to finance wind and small scale hydropower projects as well as biomass schemes. Despite this, challenges still remain until we have sufficient feed-in tariffs to stimulate investments in, for instance, wind power.

YOU HAVE RECENTLY CARRIED OUT A MARKETING CAMPAIGN IN UKRAINE. WHAT WAS IT ABOUT?

We approached hundreds of companies, mainly in the food and agricultural sectors, in order to market our Facility for Cleaner Production. The direct mail campaign has now been finalised and the next stage is to do the follow-up. We have already received a number

of inquiries related to this campaign and, thanks to the fixed interest rate for these particular loans, it has been fairly easy to get new clients.

TO WHAT EXTENT CAN YOU ASSIST THE CLIENTS IN MEASURING THE ENERGY CONSUMPTION BEFORE AND AFTER THE PROJECT?

From time to time we do offer them concrete assistance to ensure that the expected energy savings are realistic and that we get the projected environmental results from the project. As a small financial institution, there are of course limits to how far we can stretch ourselves in providing concrete assistance on the ground, but we do our best.

The new investment programme DemoUkraine, which was established by the Swedish government for financing district heating systems, will enable us to also offer technical assistance to our clients in this sector and this will undoubtedly make it easier to market these kinds of loans in the future. **N**

Finnish cleantech expertise needed in Russia

The cleantech market will increase this year by nearly 10 per cent. As the cleantech business is very capital intensive, more flexible financing mechanisms are required to secure future growth.

IN MID-MAY 2011, Cleantech Finland Smart Days were held in St. Petersburg, Russia. Four Finnish companies presented their solutions and partnered up with their Russian counterparts in the field of energy efficiency and water management. It seems that tighter international competition and new energy efficiency laws in Russia have triggered a huge market opportunity for efficient energy solutions. To this end, Dmitry Medvedev, Russia's President, promised a minimum of USD 300 billion investments in energy efficiency. Russia's natural environment also provides excellent potential for sources of renewable energy.

CLEANTECH FINLAND AIMS to bring together expertise from Finland's clean technology. The network consists of the top 100 Finnish cleantech companies. Cleantech Finland enhances the cooperation between Finnish companies and the Russian cleantech sector. Good examples are the Cleantech Finland for Russia project with Vodokanal of St. Petersburg and the partnership with the Finnish-Russian Energy Club. Russia and China are rapidly taking over as the most important export markets for Finnish energy and environmental solutions and will do so by 2015. Currently, however, Germany is still the number one market by volume. The total turnover of Finland's 100 major cleantech companies was EUR 17.9 billion in 2010, according to a survey commissioned by Cleantech Finland. The cleantech market grew almost 6 per cent in 2010, and the growth forecast for this year is nearly 10 per cent.

"The cleantech market grew almost 6 per cent in 2010, and the growth forecast for this year is nearly 10 per cent."



COLUMNIST
SANTTU HULKONEN
Executive Director,
Cleantech Finland

THE SURVEY REVEALS that energy efficiency is contributing almost half of the turnover of the Finnish cleantech companies. Energy efficiency offers the most potential to make operations more efficient, cut costs, reduce emissions and develop new business. Companies forecast that renewable energy production, distribution and transmission will become the fastest growing sectors in the cleantech market, also in Russia. Finnish traditional strengths are based on heavy industries - energy, forest, metal and mining - coupled with related automation and ICT. Finland is also recognized as a country with the most efficient and reliable district heating systems, and is the world leader in the usage of combined heat and power (CHP).

FUTURE AREAS TO watch are second generation biofuels, smart grids, the electrification of transport, resource efficiency and new advanced materials from the forest industry. It is worth noting Finland's dedication to the cleantech innovation - our public R&D spending tops EUR 1 billion annually, which is by far the highest in the world per capita.

WE SHOULD BE able to channel and scale up this expertise in greater volume to cope with the vast energy efficiency and environmental degradation challenges throughout Russia and Eastern Europe. In Finland and the Nordic countries, we still have a globally competitive edge in various areas of clean technologies. In order to ensure that we stay top in development, we must focus on the transfer of expertise and be well-partnered with local winner companies.

THE CLEANTECH BUSINESS is very capital intensive. More flexible financing mechanisms are needed, particularly for the project development phase - the key for ensuring optimal expertise and solutions for successful projects. I would like to see Nordic companies taking a bigger role in the service business. Joint operations of large-scale energy, water and waste utilities would secure a profitable business for decades to come. **N**

For a country endowed with huge oil and natural gas reserves, energy conservation has never been a top priority in Russia, but things are changing and energy efficiency is finally being recognised as a viable ecological and economic option. For Nordic energy companies operating in the country, this means new business opportunities.

Energy efficiency in Russia

NEFCO'S SENIOR INVESTMENT Manager, Ulf Bojö, who is responsible for the corporation's business operations in Russia, gives an overview of energy efficiency initiatives in the country and their implications for Nordic energy companies.

Energy efficiency remained a priority on Russia's political agenda in 2010. How is this reflected in the financial sector?

I have noted a strong surge in interest on energy efficiency at all political levels as well as in the business community. In the private sector, companies frequently take a more active interest in energy efficiency measures because there is a direct relationship between the measures taken and the effect they have on their companies' profitability.

There is a great need for investments in energy efficiency within the private sector, mainly because most of Russia's energy intense machinery is outdated and does not comply with present energy consumption standards. One obstacle for project implementation remains within the Russian banking system, which, in general, has a very limited experience of financing energy efficiency projects. Most of the credits offered by these banks is normally short term and does not leave much room for larger investments.

On a general level, Russian authorities have declared their intention to reduce energy consumption in the country by 40% in 2020, which is a realistic and achievable target.

A new law on promoting energy efficiency was approved by the Russian parliament in 2009. What has happened on the ground as a result of this new law?

Under the law, energy efficiency plans are outlined on local, regional as well as national levels. One of the key tasks of the recently established Russian Energy Agency (REA) is to assist the relevant authorities in this task and enhance energy efficiency efforts at all administrative levels.

In the housing sector, all buildings must have an energy certificate and national building regulations on energy efficiency are to be revised every five years. During renovations, buildings must also be upgraded to comply with modern energy efficiency requirements, which require the installation of water, heat, gas and electricity consumption meters. So, there is a strong desire to monitor energy consumption, and this is an important step towards the development of a more consumer controlled energy supply chain.

The incentives for investing in green, renewable energy are, however, still modest in Russia. Why?

The Russian economy is so heavily dependent on oil and gas, and energy conservation has never been a priority. Things are changing though, and there is now a feed-in tariffs (FIT) system for renewable energy in place, but tariff levels are still very low. For the foreseeable future, the driver for increased production of renewable energy in Russia will still be the export market. If



Senior Investment Manager Ulf Bojö is NEFCO's Country Manager for Russia.

the demand for green energy increases in the EU, Russia will correspondingly increase its supply. Only later will the Russian domestic market for renewable energy begin to grow.

What is the sales argument you use when marketing loans for Russian energy efficiency projects?

I normally stress the savings which can be achieved by investing in energy efficiency. Secondly, I emphasise NEFCO's expertise in project preparation, implementation, technology and legal matters. The tenure of the loans is another important aspect, as also is the fact that we can take on some risks that ordinary banks cannot handle.

Where do you see the highest potential for making energy efficiency investments in Russia in the future?

In the short term, the main industrial energy users will most likely start investing in energy efficiency on a larger scale. In the country's district heating systems, there are huge gains to be made by converting the systems from production to consumer orientation. In particular, tariff systems need to be adjusted to reflect real cost as an important part of motivating Russian district heating companies to improve their energy efficiency. **N**

The term NAMAs (for Nationally Appropriate Mitigation Actions) has become commonplace in the lexicon of the international climate change negotiations. Ash Sharma, Vice President at NEFCO describes the new financing mechanisms and presents NEFCO's contribution to the evolution of NAMAs.

What's in a NAMA?

NAMAs ARE PROGRAMMES which aim to mobilize large scale climate financing, and can include national climate change mitigation policies and measures, regulations or financial incentives such as tariff support. They can be broadly categorised as (i) unilateral NAMAs (funded by the host country); (ii) supported NAMAs (funded by direct international support) or (iii) crediting NAMAs (funded by market-based mechanisms).

THE SO-CALLED "CREDITING NAMAs" are effectively based on earlier concepts of sectoral crediting and trading, whereby baselines or targets are set at an aggregate level, for example in an industry sector or transport emissions in a country. The NAMAs are typically targeted at middle income countries with significant emissions and adequate institutional capacity compared for example to emissions-light and resource constrained least developed countries where the project specific Clean Development Mechanism (CDM), where NEFCO is highly active, is likely to continue.

Scaling up will take time and work

THE KEY DIFFERENCE compared to CDM is to move beyond project level interventions, to scaled up mitigation actions. In this respect, sectoral mechanisms have some important advantages including the potential use of upfront financing to mobilize investment as credits could be received ex ante.

GIVEN THE RELATIVELY early stage of these developments, full scale implementation of NAMAs will not be feasible until the middle of this decade. A lot of work on market readiness through capacity building, implementation support and pilots will be required, for example in data management and monitoring, reporting and verification (MRV).

The NEFCO response

IN AUTUMN 2010, NEFCO, together with the Nordic Committee on Global Climate Negotiations (NOAK) launched the NOAK-NEFCO Partnership Initiative to explore and demonstrate how cost-efficient and effective implementation of scaled up NAMAs in developing countries within the framework of UNFCCC could be developed. In a bottom-up approach, the initiative seeks to establish concrete cases to NAMAs, supported and enabled by technology, financing and capacity-building. The goal of the initiative is to test and learn how a future market-based mechanism could be designed for providing support for up-scaled mitigation action. This programme should be seen as input into the UNFCCC framework of exploring "new market mechanisms", alongside initiatives from the World Bank and bilateral actors such as Germany and the UK.

THE INITIATIVE STARTED with a feasibility study in January 2011. After conclusion of the feasibility study (summer 2011) it is planned to proceed to a Nordic Pilot Programme for NAMA readiness, in which technical assistance is provided for the possible implementation

"Up-scaled mitigation action in Viet Nam's cement sector and in Peru's solid waste sector were selected as potential options."

of a real, full-scale crediting scheme. The feasibility study is exploring the potential for implementation in Peru and Viet Nam, working closely with governments to identifying the best candidates for a Pilot Programme. The host countries and candidate sectors within the countries were selected by the NOAK-NEFCO Project Group based on discussions with host countries, and their stated priorities. Based on a desk study and host country missions attended by NEFCO staff, up-scaled mitigation action in Viet Nam's cement sector and actions in Peru's solid waste sector were selected as potential Pilot Programme options based on criteria such as host country priorities, greenhouse gas mitigation potential, replication and demonstration potential, potential to utilise new market mechanisms, and potential to bring added value beyond existing mechanisms. **N**

THE AIMS OF THE NOAK - NEFCO PILOT PROGRAMMES ARE TO:

- **improve readiness for NAMAs through technical and financial assistance.** The Pilot Programmes should enable the host country to prepare for full scale implementation of a clearly specified NAMA, which could attract international finance through the carbon market and potentially otherwise.

- **pilot design elements of new market-based mechanisms**

- **provide critical and concrete insights for the negotiation process.** International climate negotiations are considering design issues of NAMAs and new market-based mechanisms to mobilise financing for up-scaled mitigation action; timely pilot programmes, such as this Nordic Initiative, are crucial for the process.

- **encourage other countries to take similar actions.**

The Right Time to Develop Market Readiness

In light of the difficulties in reaching a binding climate deal at the COP 17 conference in South Africa, the role of NAMAs and other scaled up market mechanisms takes on a heightened importance. Now is the time to develop market readiness and test these new approaches at a country level, and NEFCO is pleased to be leading this effort from the Nordic perspective.



Most of the raw material for Eskaro's new plant will be transported via the Port of Odessa.



Technical Director Anatoly Gnezdovsky from Eskaro monitors the construction work in Odessa.



The new plant will double Eskaro's overall production from 25,000 to 50,000 tonnes of paint annually.

Anatoly Gnezdovsky's handshake is firm. The straight back and posture are testimony to a seafaring past in the navy. Today, Technical Director Gnezdovskys' eyes are instead watching over a cargo vessel on the Black Sea that will soon deliver raw materials for his new employer, Eskaro, which manufactures water-borne paint for the East European markets.

New splash of green on the Ukrainian colour palette

THE COMPANY HAS four factories which manufacture paints in Finland, Estonia, Russia and Belarus. Total annual production in these factories is around 25,000 tonnes. Now Eskaro has set its sights on expansion on the Ukrainian market, where it is building a new factory in the port city of Odessa in southwest Ukraine.

WE ALREADY HAVE A SEVEN per cent market share in Ukraine. Locating production here in Odessa means that we can cut transport costs and customs duties, as well as speed up deliveries to our Ukrainian customers. We reckon that perhaps within five years, we can capture around 20 per cent of the Ukrainian paint market," says Anatoly Gnezdovsky.

NEFCO IS HELPING to finance the new factory and project with a loan of EUR 2.2 million. The project's other backers are Swedfund and Eskaro's parent

company, Eskaro Group Ab. The total investment is around EUR 6.7 million.

THE NEW FACTORY is being built on the outskirts of Odessa. Ground preparation was in full swing when we visited the site at the end of April. The actual landmark and foundation stone are still missing, but the sign with the project's name and financiers has already been put up at the main entrance to the site where the factory will be built. The muffled noise of the motorway to Kiev could be heard in the background. The infrastructure and good connections contributed to the factory's location.

IMPORTS OF RAW materials will most take place via the vibrant Port of Odessa. Transport of end-products can be by road via the motorway that links Odessa with other cities in Ukraine. Thanks to a reduced need to transport Eskaro's products from Belarus and Russia, the new factory will cut the need for long-haul transport by around 230,000 kilometres a year. This translates into an

"The new factory will cut the need for long-haul transport by around 230,000 kilometres a year."

annual reduction of around 800 tonnes in carbon dioxide emissions.

A VISIT TO an ironmongery on the outskirts of Odessa shows why it is a lucrative idea to increase paint production in Ukraine. Huge industrial halls with kilometre-long aisles filled with cans of paint and interior design accessories attract affluent consumers from near and far. Similar shopping centres are springing up like mush-



The Eskaro construction site in Odessa in April 2011. The new factory will utilise closed circuit production techniques.

rooms after the rain and demand for DIY (do-it-yourself) services is currently showing steady growth in Ukraine. A study of the statistics for paint consumption in Eastern Europe definitely shows growth potential. In Finland, consumption is around 21 litres a year per capita, whereas the corresponding figure for Estonia is 8 litres and for Ukraine 3 litres.

"WE WILL FOCUS on the manufacture of water solvent paints and a closed cycle for production. To put it plainly, this means that production will not result in the release of any environmentally harmful emissions to the surrounding watercourses," says Anatoly Gnezdovsky.

ONE OF THE advantages of manufacturing water-borne paints is that it elimi-

nates emissions of volatile organic compounds (VOC) which are released from oil-based paints. Certain VOC released in vapour from paints can cause cancer. VOC also contributes to the formation of ground-level ozone, which in turn can damage plant growth. It is estimated the project in Odessa will indirectly reduce VOC emissions by around 870 tonnes a year.

ESKARO HAS OPERATED a Sustainability Programme for a number of years. Among other things, the Programme focuses on rational use of resources, investments in modern environmental technology, minimising hazardous waste and certification of Eskaro's products. Eskaro is the only company in the Baltic States to have been certified with the EU's Ecolabel, a flower logo.

ANATOLY GNEZDOVSKY POINTS at one of the posters near the road leading to the building work and says that a start has already been made on marketing the new factory and Eskaro's paints. The campaign will be stepped up in various stages during the course of the year.

"SLOWLY BUT SURELY, the cleantech concept has beached also here in Ukraine. In pace with the demand for environmentally-friendlier products, it will also be easier for us as a company to profile ourselves. We will highlight that we can offer Ukrainian customers an environmentally-aware alternative when we formulate our marketing campaign," says Gnezdovsky. **N**

The climate crisis – a Nordic priority

The Nordic Council of Ministers is heavily engaged in the climate agenda and climate is also the main theme of our current Finnish chairmanship. Our climate policy supports a number of initiatives both in the Nordic region and globally.

RIGHT NOW OUR FOCUS LIES on green growth and how the Nordic countries can contribute to the re-shaping of the world economy. Nordic institutions like NEFCO are key players in this work. The Nordic Prime Ministers decided a few years ago to refocus a number of activities under the Nordic cooperation umbrella through the so called Nordic globalization projects. They aim at positioning the Nordic region more firmly on the global scene and climate issues are a prioritized area in this context.

THE GLOBAL CLIMATE negotiations are too important to fail and the Nordic countries have a common commitment to create solutions that can move the world forward towards more sustainable energy use and a greener economy.

ONE OF THE first Nordic globalization projects was the formation of a group of climate experts now named NOAK (Nordic Committee on Global Climate Negotiations) created in the run-up to COP15 in Copenhagen. It has the task of facilitating the global climate negotiations by gathering key countries and trying to bridge the gap where the parties stand apart.

RESEARCH PROJECTS HAVE also been initiated to document the consequences of climate change on the natural resources in the Nordic region. Other initiatives focus on climate friendly construction, on energy and transportation as well as the continued integration of the single Nordic market for power and electricity and the work with energy saving smart grids.

MOST IMPORTANTLY, a joint research and innovation programme has been initiated – the so called Top-level Research Initiative – led by NordForsk, Nordic Innovation Center and Nordic Energy Research. The aim is to create climate, energy and environmental solutions for the Nordic and global market. With more than EUR 60 million in seed money, this is the biggest initiative by the Nordic Council of Ministers to date.

PRACTICAL ACTIVITIES ALSO join hands with the more long term research and innovation investments and the Nordic countries cooperate in venues around the world to promote



COLUMNIST
HALLDÓR
ÁSGRÍMSSON

Secretary General
of the Nordic
Council of
Ministers

Nordic technology and know-how, such as World Expo in Shanghai and Building Green in Chicago.

NEFCO IS AN important player in the increased Nordic focus on climate issues. Not only has NEFCO over the last twenty years funded a number of successful environmental projects in the Baltic Sea Region, they also stand behind two major new initiatives in the climate arena.

"NEFCO is an important player in the Nordic focus on climate issues."

ONE IS THE Nordic Climate Facility – in cooperation with the Nordic Development Fund – helping new projects that have a potential to combat climate change and reduce poverty in low-income countries. The other is the so called NOAK-NEFCO Initiative, which aims at finding ways to optimize the global carbon trade system through pilot projects in developing nations.

THIS IS A good example of how the Nordic countries can generate results through the pooling of activities and know-how via the Nordic Council of Ministers and its institutions like NEFCO.

NEFCO WAS CREATED as a result of the decision of the Nordic countries to try to increase environmental awareness in Eastern and Central Europe. Today this mission is as important as ever, but has widened in scope to cover the Arctic and developing countries.

ENVIRONMENT, COST EFFICIENCY and capacity building is still the main focus for NEFCO's operations and today NEFCO's concept can be used in a global context. I am proud to say that NEFCO today continues to be a very effective and unique example of Nordic cooperation creating the greatest of Nordic synergies. **N**

Fresh bread and margarine are not one of the first things that come to mind on a visit to the OJSC Kiev Margarine Factory located not far from the city centre of Ukraine's capital.

Revamping improved margarine factory's profits

THE PRODUCTION PROCESS has been automated to the extent that the golden mass bubbles under the surface in silver-coloured pipes and cisterns completely out of sight until we enter the packaging department. Here an army of women in white are standing along the conveyor making sure that the blocks of the end product are neatly wrapped in aluminium foil and then placed in cartons ready to be delivered to shops and restaurants across the country.

THE OJSC KIEV MARGARINE FACTORY accounts for about 30 per cent of the domestic output of margarine in Ukraine. The company also makes cooking oil and mayonnaise. One of its best known brands is Olkom, a name that adorns the margarine packets in shops. Even in the throes of a recession and financial crisis, demand for this type of basic commodity remains relatively steady generating a solid cash flow for the company. Last year, the company's turnover reached EUR 38.3 million.

RECENTLY, THE OJSC Kiev Margarine Factory was modernised by replacing the existing heat exchangers, installing new low-energy pumps and upgrading the sequential control system. Most of the technical equipment for the project was supplied by Alfa Laval of Sweden.

"It was Alfa Laval that recommended NEFCO when we were exploring the options for applying for a loan to finance the project," says Chief Engineer Alexandr Kravchenko.

NEFCO EXTENDED A loan of EUR 350,000 for the project from its Revolving Facility for Cleaner Production. Repayments are based on the savings to be generated by the project. The Fund is authorised to finance up to 90 per cent of the total investment costs of similar projects that help save energy and reduce emissions harmful to the environment. In this case, the project contributed to lower emissions of mainly carbon dioxide, sulphur and nitrogen oxides.

"Thanks to the upgrade to the production process and reduced power consumption we're able to save over EUR 79,000 per year. As an additional bonus, we've been able to improve production efficiency to the extent that today we produce 100 to 120 tonnes more margarine than before," explains Kravchenko.

"Thanks to the upgrade to the production process and reduced power consumption we're able to save over EUR 79,000 per year."

THE COMPANY ALSO recovers production residue, for example by selling fat to local soap makers. In doing so, they follow the same regime as applied by many factories in the West. But the Finnish and Ukrainian margarine cul-



Chief Engineer, Alexandr Kravchenko, from OJSC Kiev Margarine Factory.



Olkom margarine on its way to the consumers.

tures diverge on at least one point. My questions about the local debate on cholesterol levels and the effect they have on the company's product development efforts raise a laugh.

"We don't really have that sort of debate here in Ukraine - I can't remember any customer ever asking for a low-cholesterol or cholesterol-reducing margarine," concludes Kravchenko with a wide grin. **N**

New staff at NEFCO



■ **MS MAGDALENA SVENSSON**, from Sweden, has been appointed Senior Adviser at NEFCO. Before joining NEFCO, Svensson worked as a Programme Manager for environmental and energy services at the Swedish International Development Cooperation Agency.



■ **MS EKATERINA POLOVNIKOVA** has been recruited as an Assistant on consultancy basis in Russia. Before joining NEFCO, she worked as a Project Coordinator tasked with the development of municipal water services at the Arkhangelsk Oblast Energy Efficiency Center in Archangel, Russia.



■ **MS IRINA LYASHENKO** from Ukraine, has been hired as an Assistant at NEFCO's offices in Kiev, Ukraine. She holds a Masters degree in international economics from the Kyiv Politechnical Institute.



■ **MR PETER HENNINGSEN** joined NEFCO as Program Manager last autumn. Before joining NEFCO, he had worked with different technology and innovation companies within the Finnish ICT sector. Peter is a Danish-Brazilian who holds a Masters degree in international business and his main responsibility at NEFCO is to work on issues related to the corporation's Facility for Cleaner Production.

New publications from NEFCO in 2011

• **Annual Report 2010 (Bilingual report in Swedish and English)**

• **Brochure on the Facility for Energy Saving Credits (In English and Russian)**

• **Brochure on the Facility for Cleaner Production (In English and Russian)**

• **Operational Review on NEFCO's Carbon Finance and Funds 2010**

This newsletter is also available in Russian. If you would like to order any of the above-mentioned publications, please send an e-mail to: info@nefco.fi.



This is NEFCO

The Nordic Environment Finance Corporation, NEFCO, is an international financial institution established in 1990 by the Nordic countries – Denmark, Iceland, Norway, Sweden and Finland. Its primary objective is to finance cost-efficient environmental projects in its neighbouring areas in Eastern Europe. NEFCO provides financing for projects which aim at reducing environmentally harmful emissions and discharges.

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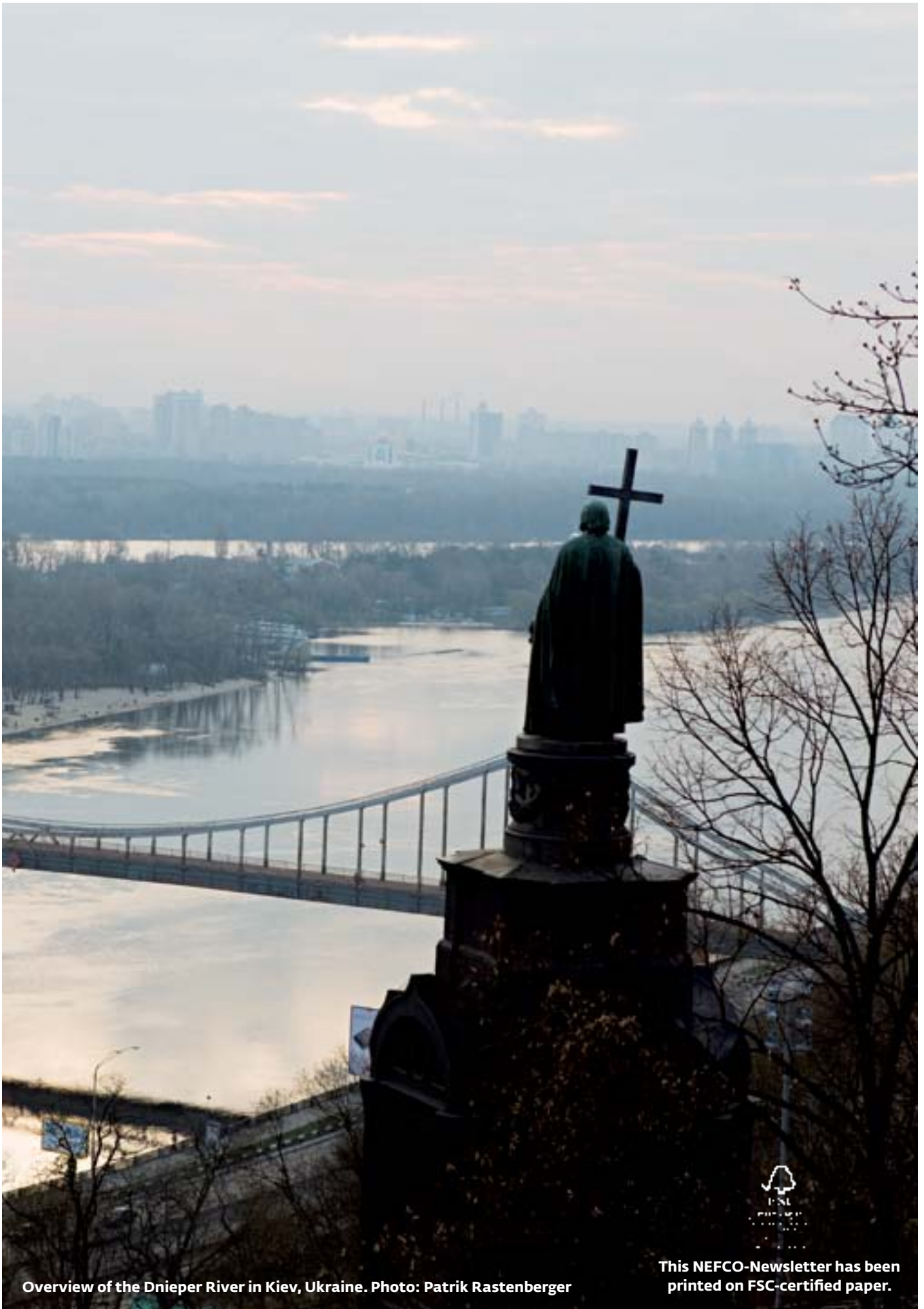
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Overview of the Dnieper River in Kiev, Ukraine. Photo: Patrik Rastenberger



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