

# Newsletter

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## The beavers are back!

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# Threat scenarios and opportunities

**T**HE OIL CATASTROPHE in the Gulf of Mexico demonstrates how vulnerable the marine ecosystem is to large-scale emissions of hydrocarbons and toxic substances. An equivalent accident in the Baltic Sea would lay waste to our sensitive inland sea for the unforeseeable future. The leak and capsized oil rig sent shock waves right across the Atlantic up to northern latitudes, underlining the importance of improving the capabilities for containing any future oil spills in the Baltic Sea.

A MAJOR PART of NEFCO's investments are geared to anticipate worst-case scenarios and enable a hands-on response to acute environmental problems. For the same reason, we have been involved in financing the manufacture of oil spill response equipment for sale to Russian buyers.

IN THIS NEWSLETTER, Ilkka Herlin, a columnist who heads the Baltic Sea Action Group, addresses the importance of the ethical responsibility to be assumed and examples set by companies in their efforts on behalf of a cleaner environment. According to Herlin, the prospects are best for companies who are able to translate their core business into innovative, environment-friendly products and services.

*"Innovative entrepreneurship lays the foundation for the opportunity to enjoy a clean environment"*

WE AT NEFCO believe in Herlin's vision, a position shared by our customers who address environmental problems out of the limelight and beyond media attention. We will take a look at a Danish company that took over a pig farm in Russia and is currently investing in improved manure processing in Nurma, a village just east of St. Petersburg. In St. Petersburg, Vodokanal, the local water works, is drawing up plans for upgrading ten small wastewater treatment plants in order to reduce eutrophicating emissions to the Gulf of Finland.

AFTER A TOUR of the Danish settlement in Nurma, we paid a visit to the Swedish bus maker Scania that sold its first vehicle to Russia already in 1910. The wing-beats of history are also felt in a story on the district heating system in St. Petersburg now due for modernisation, partly with foreign funding. Parts of the project will be implemented in the quarter in which Russian engineers had the world's first district heating pipeline laid along the Fontanka Canal.

Environmental catastrophes can widen perspectives and teach us lessons. Yet it is the gruelling daily efforts and innovative entrepreneurship that lay the foundation for the opportunity to enjoy a clean environment.



MIKAEL SJÖVALL  
Communications  
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## New loan for cleaner production at Ukrainian biscuit factory

NEFCO has granted a loan for cleaner production at the Yarychiv Biscuit Factory. The factory, which is situated near Lviv in western Ukraine, accounts for 2.1 per cent of the country's total biscuit production.

The loan, which amounts to EUR 350,000, has been disbursed from NEFCO's Facility for Cleaner Production. The purpose of the loan is to replace the existing sugar biscuit production line, which uses 105 gas burners, with more energy efficient and environmentally sound equipment.



Biscuits heading for the oven at Yarychiv Biscuit Factory in Lviv.

According to a recent energy audit, the Yarychiv Biscuit Factory will, thanks to the loan, be able to reduce its gas consumption level by some 230,000 cubic metres per year. This reduction will generate close to EUR 69,000 in net savings for the company every year. The project will also reduce the annual emissions of carbon dioxide and nitrogen oxides by 437 and 3.5 tonnes, respectively.

The facility for cleaner production promotes technological investments in industrial projects in order to curb the emission of harmful substances into the environment. The facility can finance up to EUR 350,000 or 90 per cent of the investment cost for such projects.



Neatly folded clothes at a day-care centre in Northwestern Russia.

## Support for Olenegorsk's energy saving scheme

EIGHT SCHOOLS and six day-care centres in Olenegorsk, which is situated in Northwestern Russia on the Kola Peninsula, will benefit from a comprehensive energy saving scheme financed from NEFCO's Facility for Energy Saving Credits.

The project will involve the installation of automated heating sub-centrals as well as balancing and thermostatic valves in 14 buildings, which are owned by the city's education department.

Currently, heating for all these buildings, which are utilized by more than 8,000 children, teachers and day care personnel, comes from coal. The city of Olenegorsk will also partly finance the energy saving scheme.

THE ENERGY SAVING measures will benefit the environment in many ways. Carbon dioxide emissions will decrease by some 1,990 tonnes per year, and annual emissions of sulphur dioxide and nitrogen oxides will be reduced by some 15 and 2 tonnes, respectively.

The financial benefits derived from the project for the city are also quite substantial as Olenegorsk is expected to reduce its heating costs by an estimated RUR 2.7 million per year.

"This is our 46th municipal energy saving project in Russia, and there seems to be a buoyant demand for our energy saving loans in other parts of Russia, particularly within the Barents and Karelian regions", says Elisabet Paulig-Tønnes, a Senior Manager at NEFCO.

UNDER THE TERMS of the facility, NEFCO may finance up to 90 per cent, or a maximum sum of EUR 260,000 of the investment costs, in projects, which receive funds from this credit program.

Last year the Russian parliament approved a new law, which makes it mandatory for all municipalities to prepare detailed plans on how to promote energy efficiency within the municipal sector.

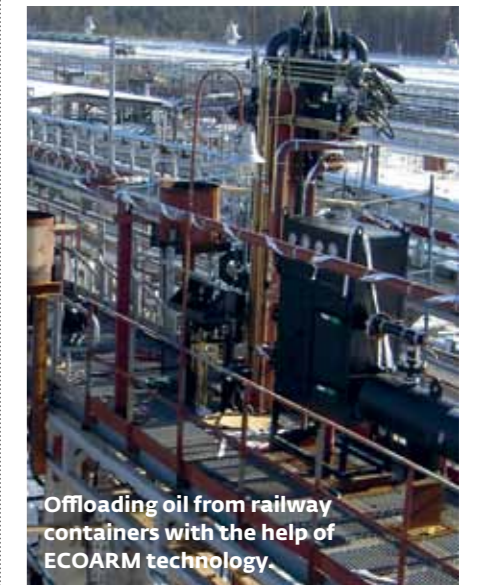
## Cooperation on oil offloading ventures

NEFCO and Neste Jacobs have reached an agreement to finance and implement projects to ensure the safe offloading of oil products at terminals in Russia, Ukraine and Belarus.

Under the terms of the agreement, NEFCO will fund the operations while Neste Jacobs will provide the oil offloading technology and its engineering services.

Neste Jacobs, which is the leading provider of engineering services for oil, chemical and biotechnology companies in the Nordic region, has considerable experience in supplying oil offloading equipment and its ECOARM technology is highly regarded in the industry. The system, among other things, effectively prevents leakages and discharges of oil products into the environment during the offloading process from railway containers.

ECOARM products, which include pumping heads, jet pipes, heat exchanger units and hydraulic units are partly manufactured and assembled in Finland by PMC Polarteknik.



Offloading oil from railway containers with the help of ECOARM technology.

NEFCO has previously financed projects to reduce discharges of hazardous chemicals and oil products into the environment in Eastern Europe. The corporation has also financed delivery of oil spill response equipment to ecologically vulnerable areas in Russia. Through its Barents Hot Spots Facility, NEFCO has financed feasibility studies to rehabilitate soil at contaminated oil terminals.



## Nordic Climate Facility about to complete evaluation of proposals

■ The Nordic Climate Facility (NCF), which was established in September last year, has screened a total of 138 initial applications, which were received by the end of January. The applications were almost equally divided between climate change adaptation and mitigation. Some proposals combined both elements.

All in all, final applications for grants from the NCF were handed in by 30 shortlisted companies in the beginning of May, and the evaluation is expected to be completed in June. NCF plans to sign most of the grant agreements in the third quarter of this year. The total funding is EUR 6 million for the first call for proposals.

NCF provides grant financing to innovative climate projects in developing countries to be implemented in co-operation between a Nordic and a local partner. The Nordic Climate Facility is funded by the Nordic Development Fund (NDF) and administered in partnership between NEFCO and NDF. Further calls for proposals are under consideration by NDF.



Salad cultivation in Senegal. One of the major aims of the NCF is to address environmental threats to water and agricultural resources.

*“We hope that this project will generate a demonstration effect, which will trigger interest in similar projects elsewhere in Ukraine.”*

## Investment in paint factory in Ukraine

■ IN APRIL, NEFCO invested EUR 2.2 million in a project, aimed at establishing a paint factory which will produce waterborne paint in Odessa, southern Ukraine.

The factory will be built by the Swedish company Eskaro and the total project value will be EUR 10.6 million. The project will also be financed by Swedfund and the Eskaro Group.

The new factory will replace local production of oil based paint. Production will be based on a closed circuit, which will not cause environmentally harmful discharges into surrounding waterways.

“ONE OF THE advantages in producing waterborne paint is that one can avoid discharges of volatile organic compounds (VOCs), which are emitted from oil based paint. This project is expected to reduce discharges of VOCs by some 870 tonnes per year,” says Karl-Johan Lehtinen, Senior Manager at NEFCO’s environmental unit.

Some VOCs can cause cancer. VOCs also contribute to the creation of ground-level ozone, which in turn can harm vegetation in the ecology.

THE NEW FACTORY in Odessa will reduce dependency on paint transports from Eskaro’s other factories, which is expected to reduce carbon dioxide emissions by some 800 tonnes annually.

“Eskaro has sold waterborne paint in Ukraine for over 15 years already. The political stability and improved financial situation in the country have inspired us to make the final move and start up our own production in Ukraine, says Pertti Pihlström,” Chairman of the Board at the Eskaro Group.

“We hope that this project will generate a demonstration effect, which will trigger interest in similar projects elsewhere in Ukraine. We are, in other words, inviting Ukrainian companies to make use of our financial instruments in order to expand environmentally cleaner production in the country,” says Torben Vindeløv, Vice President at NEFCO.

NEFCO’s Ukrainian project pipeline currently comprises 56 projects.

## NEFCO Carbon Fund supports small hydro projects in China

■ THE NEFCO Carbon Fund (NeCF) has signed two agreements to procure emission reductions from two small hydro power projects in Sichuan province, China. The renewable energy projects will be implemented under the Kyoto Protocol’s Clean Development Mechanism (CDM).

Kimmo Siira, Senior Representative of NEFCO’s Carbon Finance and Funds Unit, based in Singapore, visited the sites in South-Western China.

“The power stations will have an installed capacity of 20MW and 16MW

of approximately 226,000 tonnes of CO<sub>2</sub> equivalents in the period up to end of 2012, and significantly greater savings over the project lifetimes. The combined capital investment is approximately EUR 25 million.

“We are pleased to support these renewable energy projects through the provision of carbon financing. In addition, the NeCF is currently evaluating a number of deals in the area of renewable energy in India (small scale wind power), three South East Asian countries (all small hydro, not



The two separate projects will displace power currently drawn from the Sichuan Provincial Power Grid, a sub-grid of the Central Power Grid which is currently dominated by fossil fuel sources” he stated.

*“The NeCF currently has access to financial resources of EUR 100.6 million.”*

THE PLANTS WILL generate 85 and 61 gigawatt-hours of clean energy, respectively per year leading to estimated combined annual emission reductions

exceeding 20 megawatts) and Mexico (large scale wind). All the projects have a significant post 2012 element, said Ash Sharma, Head of the Carbon Finance and Funds Unit.

THE NEFCO CARBON Fund has to date 7 signed emission reduction purchase agreements, plus a further 9 projects are at the Letter of Intent stage. Its first project, the Xiangshui 201MW wind power project in Jiangsu province in China, was registered in March 2010.

The NeCF currently has access to financial resources of EUR 100.6 million. The purpose of the facility is to procure high quality carbon credits for compliance purposes under the EU Emission Trading Scheme and the Kyoto Protocol.

## NEFCO to chair Northern Dimension Environmental Partnership

■ NEFCO will assume chairmanship of the Northern Dimension Environmental Partnership (NDEP) on 1 July 2010. Specifically NEFCO will manage the activities of the organization’s Steering Group, which is responsible for initiating and implementing environmental development projects in the Northern Dimension Area of Northwestern Russia.

At the moment the NDEP, which complements project funding supplied by international financial institutions, has some 16 active environmental projects in the pipeline.



NDEP was one of the financiers of the Southwest Wastewater Treatment Plant in St. Petersburg.

Apart from NEFCO, the NDEP’s Steering Group has representatives from the World Bank, the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Nordic Investment Bank (NIB), the European Commission and Russia.

NEFCO’s Managing Director, Magnus Rystedt, will be the chairperson of the Steering Group until the end of June 2011.



Showing off at the beach in Kronstadt, St. Petersburg.

Embraced by the Gulf of Finland, Kronstadt bathes in sunlight. Several kilometres away, its cathedral is dimly silhouetted against the horizon.

# Upgrading of sewage treatment plants

**A**S A NAVY BASE, it has always occupied a militarily strategic position at the mouth of the Neva River, but now that the new ring road links the island of Kotlin to the Karelian isthmus, Kronstadt has opened up for the public at large. The southern leg of the road is still awaiting completion. With a population of close to 43,000, Kronstadt gives the impression of a well-faring town.

We are visiting Kronstadt to take a look at a wastewater plant that is part of an extensive project which, according to preliminary decisions, will be financed by Vodokanal of St. Petersburg, NEFCO, the Northern Dimension Environmental Partnership (NDEP), and the Finnish Ministry of the Environment. A total of ten minor treatment plants in St. Petersburg will be upgraded during the course of the project, which will also involve the procure-

ment of equipment required for chemical phosphorus removal.

“We’ve already started chemical phosphorus removal on a small scale at this plant, but as you see, part of the technology is outdated. We have to upgrade the technology to be able to process wastewater more efficiently than today. Among other things, it means that we will build new aeration tanks and install new compressors,” says Olga Lominoga, Vodokanal’s site manager in Kronstadt.

All in all, the investment will affect close to 410,000 people whose sewage water currently by-passes the plants now to be modernized. It is a question of processing a total of 175,000 cubic metres of wastewater on a daily basis. The project is expected to reduce emission of eutrophication phosphorus by around 40 tonnes per year, which is equivalent to unprocessed wastewater produced by over 53,000 people.

**TODAY, VODOKANAL TREATS** nearly 92 per cent of all wastewater generated by St. Petersburg. When the northern collector and treatment plant go on stream next year, the share of processed wastewater will reach 95 per cent.

*“I hope that we’ll be able to scratch St. Petersburg from HELCOM’s list of Baltic Sea’s biggest point sources of eutrophication emissions.”*



Kronstadt's wastewater treatment plant will upgrade several aeration tanks.



Director Dmitry A. Karlik wants St. Petersburg removed from HELCOM's list of environmental hot spots.



Every day Kronstadt treats wastewater from 43,000 people.

"It's a major step forward since the 1970s when practically all wastewater from St. Petersburg went into the Gulf of Finland unprocessed. Simultaneously with untreated wastewater discharges closure, we have to solve the question of increasing the efficiency of wastewater treatment. It's here that the smaller wastewater plants play an important part," says Dmitry A. Karlik, Vodokanal's Director for Development Projects.

The financing plan for the project was drafted already 18 months ago. Now the efforts to secure funding also seem to be coming into fruition. The project's objective is to meet the recommendations issued by the Baltic Marine Environment Protection Com-

mission HELCOM specifying that the amount of phosphorus should not exceed 0.5 milligram per litre of sewage water.

"We'll upgrade seven small treatment plants and close down three others that will instead be connected to the northern sewage plant. The project will take one to two years, and once the modernisations are completed I hope that we'll be able to scratch St. Petersburg from HELCOM's list of cities with so-called "hot spots" – the biggest sources of eutrophication emissions," adds Karlik.

**VODOKANAL OF St. Petersburg** is an environmental success story in Russia. Its executive management has made

determined efforts and strategic investments to improve the efficiency of the city's wastewater treatment processes and to engage local and foreign financiers in related projects for over two decades.

"We have together with the consultancy company LLC Ecovod and NEFCO organized seminars and training programmes for the personnel of other wastewater companies to share their experiences and help colleagues in other regions to improve their sewage treatment performance. One of the issues discussed at these seminars is how investment projects can be implemented with NEFCO's support," concludes Karlik. **N**

## The role of environment in company strategies during recession

One doesn't have to be a fortune teller to realize that environmental affairs will be at the forefront of all major future business decisions and developments.

**F**ROM A CORPORATE POINT of view this means that the most successful companies will be the ones that will be able to use their core competences and business logic to solve the environmental problems we are facing.

**SUCCESSFUL COMPANIES ACKNOWLEDGE** that the problems the world is facing today are varied and complex and can not be easily solved by the traditional reliance on public and interstate mechanisms. What is needed, instead, is an all-hands-on-deck approach- everybody's contribution is needed. This applies to the saving of the Baltic Sea as well.

**IN MANY CASES** it actually turns out that companies that have earned a bad reputation from their links with the environment are the ones best equipped to find optimum solutions.

**I DO NOT ADVOCATE** that work to rehabilitate the Baltic Sea should only be undertaken by certain kind of organizations. It's a question of attitude. When organizations view their operations from a different perspective, new angles emerge, and the challenges of the Baltic Sea can be seen in a different light.

**IT IS QUITE CLEAR THAT** if companies do not undertake a common effort to confront environmental problems, the negative consequences will affect us all. The death of the Baltic Sea will mean the loss of an operational environment for many organisations. We are here talking about serious problems, which are, nevertheless, solvable.

**SIMPLY PUT, THIS MEANS** that the early birds will catch the first, juiciest worms. Inaction will imperil everyone.

**OUR SUCCESS IN TACKLING** the environmental problems of the Baltic Sea will offer a lasting example to the global community on how a major environmental challenge can be solved by determined cooperation. Nowadays public and private sector cooperation has become widespread, and this trend is set to continue well into the future.



COLUMNIST  
**ILKKA HERLIN**  
Chairman of  
BSAG Foundation  
& Cargotec  
Corporation

**THE BALTIC SEA ACTION GROUP**, which I'm here representing, is actively working together to bring together resources and expertise in order to come with lasting and concrete solutions for the Baltic Sea and the surrounding regions.

**THIS EFFORT** has been given tremendous boost by the launch of the Baltic Sea Action Summit-process (BSAS-process), which has been undertaken by the BSAG Foundation and given the blessing and support of the Finnish President and Prime Minister. The BSAS-process culminated into a high level Baltic Sea Action Summit in Helsinki in February 2010 where we brought together all the 150 actors who made a commitment to action. Companies, together with NGOs, as well as heads of states made a firm commitment to solve the outstanding problems of the Baltic Sea. The process has started and new commitments are being made.

*"If companies do not confront environmental problems, the negative consequences will affect us all"*

**COMPANIES DOING WORK** with the Baltic Sea will accumulate knowledge and experience, which spurs innovations. I strongly believe that corporations at the forefront of this process will emerge as winners from the current economic downturn.

**COMPANY REPRESENTATIVES** know very well that winners from the coming economic boom will be determined now. During difficult periods companies should have the guts and optimism to invest for the future. A special feature and challenge of the next economic boom will be sustainability and how to make it a part of everyday business life. The Baltic Sea work offers an excellent opportunity to realize this objective, and this is a unique chance, which no company would want to miss. **N**



Pig manure storage. The NEFCO-financed lagoons have a capacity of 60,000 cubic metres.

The car drive from Pulkovo airport to Nurma some 55 kilometres east of St. Petersburg takes us through Ingermanland. The Finnish-sounding names of the villages and rivers testify to a Finno-Ugric past that continues to thrive in the region where JSC Rurik Agro, a Danish company, has chosen to set up its pig farm.

## Manure project lures beavers back to the river

**T**HE GIGANTIC PIG FARM in Nurma is a former 'sovkhoz' - a collective farm established during the Soviet era in 1973. After the collapse of the Soviet Union, the farm was converted into a private company in 1992 and carried on operations until 2008 when it was acquired by JSC Rurik Agro.

"From the very beginning, we were keen to upgrade manure processing on the pig farm to prevent any ecological problems," says the company's Vice President Tatyana Sharygina.

Past emissions of pig manure to Igolinka River led to eutrophication in the surrounding watercourses and had a negative impact on biodiversity. As the region is located within the Baltic Sea's catchment area, the releases from the previous pig farm also had an adverse effect on the condition of the

Gulf of Finland. With the help of a loan from NEFCO, Rurik Agro has now had three membrane-lined lagoons with a total capacity of up to 60,000 cubic metres installed on the farm. As a result of the investments, the farm now satisfies the environmental criteria applied within the EU.

**"THE LOCAL PEOPLE** I've talked to say that the Igolinka River has recovered quickly and the water has become cleaner lately. Fish catches have increased, the river no longer smells as bad as it used to, and the villagers have spotted beavers that have returned to the river," says Tatyana.

NEFCO estimates that the newly installed lagoons will reduce phosphorus emissions by around 129 tonnes per year. At the same time, the project will save around 230,000 cubic metres of



Offloading liquid manure in Nurma.



"We're keen to expand operations elsewhere", says John Hybel, CEO at JSC Rurik Agro.

explore possibilities to purchase land for similar pig farms elsewhere here in Russia", says John Hybel, CEO of the company.

At the time of our visit in May, upgrading of the pigsties was in full swing. Thanks to an automated ventilation and feeding system, the company has succeeded in cutting down on energy substantially.

"Considering the huge amounts of sand and cement we buy to modernise the pigsties, you'd think we're building a skyscraper," chuckles Tatyana before hurrying away.

*"The Igolinka River has recovered quickly and the water has become cleaner lately."*

**CURRENTLY, THE PIG** farm in Nurma employs 336 people, many of whom worked on the farm already at the time when it was a Soviet sovkhoz. Local ties are important to Rurik Agro, as without knowledge of the local conditions and local contacts, it would be hard to run a business and recruit labour in the region. The farm also has 17 Danish employees. Tatyana admits that internationalisation has led to a few clashes of culture.

"But the best way to address such clashes is with a touch of humour. And there's one thing we are in full agreement about - so far nobody has come up with an idea of how to raise pigs that smell of roses and produce manure that evaporates into thin air!" laughs Tatyana. **N**

water annually. After separation and eight months' settlement in the new lagoons, the solid fraction from the manure can be mixed with peat and delivered to local gardens, dachas and parks.

As far as the liquid manure is concerned, it is delivered to local farmers who can use it as a toxin-free fertilizer in their fields. "Many farmers report that they have resumed field cultivation after a ten-year break now that they have access to free fertilizer," explains Tatyana.

**RURIK AGRO ALSO** rents fields from local growers who receive free fertilizers in return. All in all, the company owns 3,100 hectares of fields. The transportation of manure requires both human resources and careful planning - solid manure alone is enough to fill 70 trucks each month.

"We have already consolidated our position in the local market and achieved full production with almost 80,000 pigs on the farm here at Nurma. Once the reconstruction of our pigsties has been completed in September, we're keen to expand operations and



"Our farm fulfils the EU environmental criteria," says Vice President Tatyana Sharygina.

## Challenges ahead for Russia's energy efficiency legislation

It has been estimated that Russia could still save up to 45% of its total primary energy consumption with a comprehensive reform programme. Inefficient energy use practices inherited from the Soviet system can be explained by the abundant domestic energy reserves and the absence of tight budgetary controls within the planned economy.

**E**ARLY ATTEMPTS IN 1996 to introduce energy efficiency improvement policies failed, largely because energy prices were too low to encourage savings and investment in the sector, and the administrative system was dysfunctional. In November 2009, Russia introduced a new overarching legislation to promote energy efficiency. However, in order for the law to be implemented, it has to be backed up by a series of by-laws and regulatory guidelines.

**THE NEW LEGISLATION** consists of three main types of policies: regulations and targets, information-based measures and economic incentives. The regulation and targets component includes issues such as building regulations, regional programmes, energy efficiency improvement targets for government agencies as well as a ban on the use of incandescent light bulbs. The information-based measures focus on the introduction of energy metering, energy audits and the energy efficiency labeling of appliances. The economic tools component consists of energy saving contracts, tax breaks and grants.

**ALTHOUGH THE PROPOSED** policy package appears to be comprehensive, many of its elements, at least energy metering, regional programmes, energy audits and energy saving contracts (ESCOs), were already included in the previous energy efficiency law, but never implemented in full. Because the Russian economy has developed significantly towards a market-based system, and energy prices have been increasing in real terms, there could be more opportunities and incentives to implement the energy efficiency legislation now.

**HOWEVER, MANY POTENTIAL** problems with implementation have been identified. Firstly, economic incentives, which are the key to energy saving, are still considered weak. Energy prices are still too low to motivate consumers to save energy. Furthermore, the tax break system envisaged by the legislation does not clearly define the potential beneficiaries. The uncertainty of energy tariffs over time, and thus

payback periods of investments, causes particular problems for ESCOs. In addition, in the governmental sector the most cost-efficient energy saving opportunities could be adopted to comply with the efficiency improvements required by the law (at least 3% per annum during 2010-2015); finding business opportunities beyond this potential may depress the profit-seeking motives of the ESCOs.

*"There could be more opportunities and incentives to implement the energy efficiency legislation now."*

**THE TIMETABLE FOR IMPLEMENTING** the ban on incandescent light bulbs has raised fears of a technological lock-in. The Russian industry should avoid investing in the capacity of manufacturing the current fluorescent light bulb technology, just when the global market is on the threshold of adopting the more efficient and competitive next generation of this technology.

**FINALLY, ESTABLISHING THE** by-laws and regulatory guidelines required to facilitate the implementation of the framework law is likely to be laborious. This may put a burden on the already over-burdened administrative units involved. Furthermore, the Russian administrative system is likely to suffer from the lack of capacity to conduct a detailed analysis of the impacts of its policy-decisions prior to their adoption. **N**



COLUMNIST  
ANNA KORPPOO

Programme  
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During rush hours, Moscow's streets are often converted into parking lots. What would Moscow be without its public transport system? The underground and buses offer a lifeline amid the jam-packed chaos of traffic in which around 14 million residents struggle to find the fastest way to work, home or school.



We're interested in selling buses powered by natural gas, says Hans Tardell, General Director at Scania in Moscow.

# Scania upgrades bus services in Russia

**H**OWEVER, WE HAD AN EASY time as we headed for Scania's offices on Ulitsa Obrucheva. The impending Victory Day on Sunday 9 May offered an extended weekend, a signal for many of Moscow's residents to flee to their dachas leaving, albeit briefly, less congestion in the underground and fewer traffic jams in their wake.

General Director Hans Tardell greeted us in Scania's offices adorned with light-coloured wood panelling and a Scandinavian-style interior.

"A couple of year ago we signed an agreement with Autoline, Moscow's biggest public transport operator, to replace the company's minibuses with more environment-friendly buses supplied by Scania," says Tardell.

**THE JOINT PROGRAMME** involved a total of 175 Scania buses that replaced around 875 petrol-driven minibuses. NEFCO financed the purchase of 27 Scania buses to reduce the emissions of sulphur oxides, carbon dioxide, carbon oxide and volatile organic compounds (VOCs). For example, carbon dioxide emissions decreased by around 2,000 tonnes per year in the part of the project funded by NEFCO.

**LESS THAN 10** per cent of the bus services in Moscow have been privatised, which limits Scania's opportunities to expand its operations and take over more bus routes in the city. Additionally, bus companies have been hard-hit by the recession. For the past two years, Autoline has not bought any new buses.

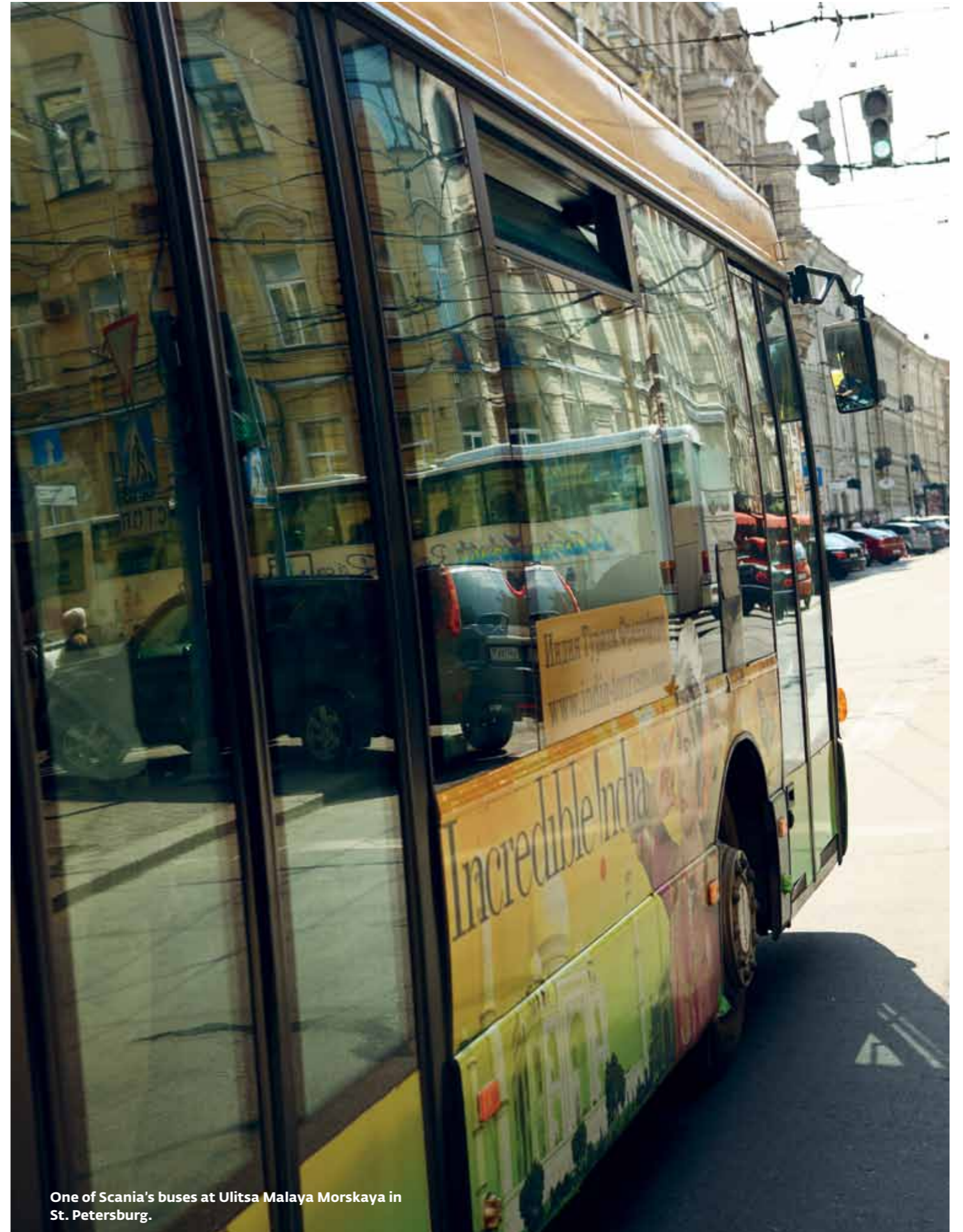
"However, we see opportunities for new projects - in waste management, for example. So far we've delivered fuel-efficient garbage trucks to Sochi, St. Petersburg and Yekaterinburg. But if we are to promote the sorting and recycling of waste, we'll need support from municipal councils and external financiers," maintains Tardell.

*"We see opportunities for new projects in waste management"*

"We're also looking into the possibilities of focusing on the sales of buses powered by natural gas. After all, there is huge potential for such projects here in Russia," he adds.

**SCANIA EMPLOYS CLOSE** to 500 people in Russia. A fair number of them work at the company's St. Petersburg factory that has so far manufactured around 1,000 buses for the Russian market. In addition, the factory started manufacturing lorries this year. Production is carried out in accordance with the same environmental criteria as elsewhere in the world.

Thanks to local production, Scania is a well-known brand and its hard-working sales force has succeeded in securing a 23 per cent share of the market for western makes sold in Russia. But then, Scania has had a lot of time on its hands to achieve this position: the company's first lorry delivery to Russia took place one hundred years ago. The lorry sold to St. Petersburg in 1910 was used to maintain the city's tram lines that are still in operation today. **N**



One of Scania's buses at Ulitsa Malaya Morskaya in St. Petersburg.



New investments in the environment always call for an institutional backing. Such backing is provided to by the Cleaner Production and Sustainable Development Centre located in Moscow.

## Cleaner production with Norway's support

**T**HE CENTRE, WHICH has been funded by the State of Norway since 1994, provides training for local entrepreneurs in order to promote environmental investments and the instalment of environmental technology to the industrial sector in Russia.

"We've provided instruction for around 1,800 engineers who have taken part in a range of training programmes coordinated by this Centre," says Deputy Director Yan A. Tsygankov who is the head of the office.

**ASIDE FROM THESE** training programmes in which NEFCO has also participated, the Centre provides consultancy services, for example for the forest industry in Komi and the metal industry on the Kola and Taimyr Peninsulas. One important frame of reference for the work carried out by the Centre is the Arctic Council's hot spots list identifying acute environmental problems and major emission sources in the Barents and Arctic regions. Since its establishment, the Cleaner Production Centre has implemented no



Deputy Director Yan A. Tsygankov.

fewer than 99 projects designed to promote cleaner production practices and reduce environmentally harmful emissions by Russian industry.

The interest for the Centre's training programmes remains strong. "This year we are for instance providing the 7th training programme in cleaner production for the metallurgical and mining company Norilsk Nickel at their Transpolar Branch in Norilsk. This training is paid for by the company itself", says Tsygankov.

*"We need effective tools for steering investments in environmentally friendly technologies."*

"**WE'D NEED MORE** effective tools for steering investments in environmentally friendly technologies in Russia. Another prerequisite for such projects is that directors at individual companies have the drive and determination to cut down on environmentally harmful emissions from industrial facilities," maintains Tsygankov.

Tsygankov favours sanctions and substantial fines for firms that violate the country's environmental laws. He also advocates the continual measuring and monitoring of industrial emissions or energy consumption. As it is, companies are not rewarded for their pioneering efforts in investing in environmental technology, which would cut electricity consumption for example", says Tsygankov.



The Centre was awarded the 2007 National Environmental Prize.

"At present many companies prefer paying fines for polluting the environment instead of investing in new technologies, as it is much cheaper to pay fines than to invest in cleaner production. We need special amendments in the legislation, which would favour companies investing in modern, environmentally friendly technology, concurs Olga Viktorova, who is in charge of the Centre's training programme.

**NEW ENVIRONMENTAL REGULATIONS** are, however, on the cards for Russian industry. Viktorova reports that the Russian government is planning to introduce new legislative norms to significantly increase the fines imposed on companies, which pollute the environment. This will, no doubt, stimulate growth in cleaner industrial production and set a demand for the services the Centre provides. **N**

**The Cleaner Production and Sustainable Development Centre was awarded with the national environmental prize in 2007. The prize was established by the Russian parliament, the Duma and the Vernadsky Foundation in 2003.**

The NEFCO Carbon Fund (NeCF) has been active in the global Clean Development Mechanism (CDM) market since its inception in April 2008.

## NEFCO's Carbon financing activities prioritise clean energy in 2010



Construction of a small hydro power plant in Southwest China.

**I**N 2010, ITS PROJECT activity has increasingly focussed on renewable energy technologies, with an emphasis on small hydro-power projects (below 20MW of installed capacity) and wind power generation.

### SIGNED CONTRACTS

**SO FAR IN** 2010, the NeCF has signed five emission reduction purchase agreements (ERPAs) for projects located in northern Vietnam (3 projects, with a combined installed capacity of 37MW) and Southwest China (2 projects, totally 36 MW). All these investments will displace fossil fuel fired power production from the grid. Globally, hydro projects (including large hydro) represent 27% of the 5,122 active CDM projects according to the UNEP Risoe CDM/JI Pipeline Analysis as of May 1st 2010 and are amongst the most reliable of project types in terms of credit issuance, generating 93% of the expected emission savings.

Ash Sharma, Head of the Carbon Finance and Funds (CFF) Unit at NEFCO believes that renewable energy has an important role to play in meeting ambitious climate change mitigation objectives currently under international negotiation in the run up to the UN's Cancun climate conference.

"Investment now in the clean energy technologies is essential if we are to meet long term targets. Carbon financing has demonstrated that it can play its part in unlocking some of the huge capital flows required, particularly in the developing world" he stated.

Renewable energy projects comprise 8 out of 10 of ERPA stage projects in the NeCF portfolio. In total, these invest-

*"Investment now in the clean energy technologies is essential."*

ments involve installation of 311 MW of clean power, of which over 200MW is now registered under the CDM.

### NEW ACTIVITIES

**THE NECF HAS** also been entering new territories in Asia and Latin America, with a number of Letters of Intent signed in 2010. These include small hydro projects in Laos and Indonesia (total installed capacity of 21MW), a 7.5MW wind project in India and over 320MW of wind power in Mexico. All these projects are undergoing detailed

due diligence at the time of writing, and will include a significant post 2012 component.

The CFF team has built up its experience through evaluation of renewable energy projects in Eastern Europe, Asia, Africa and latterly in Latin America. In addition, NEFCO staff have been evaluating a large number of mitigation and adaptation projects from least developed countries, principally in Africa and Asia, for grant funding under the Nordic Climate Facility, operated jointly with the NDF.

A notable milestone for NEFCO's carbon funds was the registration in March of its first CDM project, a large wind power investment in China. The project is estimated to generate 1.1 million tonnes of CO<sub>2</sub> equivalents of emission savings by the end of 2012.

NEFCO continues to promote its carbon financing activities in international fora. It was again asked to participate at the 2010 Carbon Bazaar in New Delhi, where a presentation was made on practical experiences in carbon transactions and also was an exhibitor at the Carbon Expo in Cologne, the largest global event of its kind, in May. **N**

It is hard to describe today's district heating production in St. Petersburg without feeling the wing-beats of history. The world's first district heating pipeline was laid to the address Fontanka 96 in St. Petersburg in 1924.

## Improving energy efficiency in the historical quarter of St. Petersburg

**T**HE PILOT PROJECT was launched because the local engineers wanted to experiment with ways of reducing smoke and particle emissions in the city at a time when most homes were provided with wood-fired stoves.

Fontanka is a seven-kilometre long river that flows past the historical quarter. In the 19th century, the fountains in the summer garden of the imperial family were fed with water drawn from the River Fontanka. In the 1920s, the building to which the world's first district heating pipeline was laid, used to house a print shop that put out Bolshevik publications such as the newspaper Volga.

The local company TGK-1 is currently planning to install a new transfer pumping station fitted with frequency converters in order to improve energy efficiency and reduce fuel consumption in St. Petersburg. The new transfer pumping station to be built on the company's inner courtyard will replace the existing electricity works dating back to 1898. NEFCO is co-funding the project by extending a loan of EUR three million.

"The investment is assumed to reduce the annual consumption of natural gas by close to 13.5 million cubic metres, which will decrease carbon dioxide emissions by about 25,000 tonnes per year," says Senior Investment Manager Ulf Bojö of NEFCO.

Additionally, the project foresees the installation of new thermally insulated pipelines to address the problems with heat losses. As a result of these measures and the construction of the new transfer pumping station, the project will allow the closure of around 55 outdated heating plants in St. Petersburg.

AT THE TIME of our visit to St Petersburg the district heating market in St Petersburg had just undergone a major reorganisation. The City Administration and TGK-1 decided to establish a purpose-oriented company Tieploseti St Petersburga by merging assets of the City-owned Guptek and TGK-1 owned District Heating Network. Lately these two companies shared market of the city in 50 / 50 proportion.

We met the newly appointed Director of Tieploseti Evgeny Hatchaturov, who now bears the overall responsibility of the project.

"We carried out the reorganisation to improve customer service and develop the existing district heating network. As we are now also responsible for the branch lines to the flats, it's easier to make further investments and upgrade the technology as we can now see the big picture," says Hatchaturov.

Teploseti Peterburga is planning to buy some of the equipment required for the new investments from Germany, which will also guarantee financ-



The first district heating pipeline was laid along the Fontanka Canal in St. Petersburg.



The 112-year-old plant could soon become a museum.

*"The investment is assumed to decrease carbon dioxide emissions by about 25,000 tonnes per year"*

ing from German banks. While a more extensive district heat network will mean more customers and greater financial return, it will also mean major environmental benefits. According to the local regulations, each new flat connected to the district heat network will be supplied by heating plants that co-generate electricity and heating, which will automatically improve energy efficiency.

**BUT THE NEW** investments will also ensure the preservation of the historic quarter targeted for the project.

"We hope to be able to convert the old electricity works into a museum or an administrative office building for use by Teploseti Peterburga once the project is completed," says Sergey Kovtsov who heads the 112-year-old plant. **N**

## New appointments at NEFCO



■ **MR KARI HÄME-KOSKI**, from Finland, has been appointed Manager of NEFCO's Carbon Finance and Funds. Before joining NEFCO, Häme-Koski worked as Senior Consultant at Motiva Oy in Helsinki

on energy efficiency and renewable energy issues. From 2005 to 2009, he worked as Senior Technical Specialist at the World Bank's Carbon Finance Unit's Joint Implementation and Clean Development Mechanism projects under the Kyoto Protocol. He has also been involved with the development of the Green Investment Schemes in Eastern Europe.



■ **MS EMILIE YLIHELJO**, from Finland, has been appointed as Legal Assistant at NEFCO's Carbon Finance and Funds unit. Ms Emilie Yliheljo is currently finishing her

Master of Law degree at the University of Helsinki. She has previously worked as Legal Assistant for NEFCO and has done internships on both the private and public sector.



■ **MS HELI SINKKO**, from Finland, has been appointed as Legal Assistant at NEFCO. She has previously worked for the Nordic Investment Bank as Assistant at the Legal Department and at an international law firm in Helsinki.



■ **MS ALIONA FOMENCO** from Moldova has been appointed as Project Assistant at NEFCO's Carbon Finance and Funds unit. Ms Fomenco holds a Masters degree in corporate environmental management. She has previously worked

in the private sector in the field of environmental consulting in Finland. She has also been involved in assignments related to marketing and exports to Eastern Europe.

## NEFCO's 2009 financial accounts show encouraging environmental benefits

■ NEFCO's financial accounts for 2009 show encouraging environmental results. The corporation's environmental status report indicates that, compared to 2008, the emission of environmentally harmful substances in projects co-financed by NEFCO decreased substantially.

Overall, there were considerable reductions in emissions of carbon, sulphur and nitrogen oxides, phosphorus as well as nitrogen.

**NEFCO-FINANCED DIRECT AND** indirect reductions of carbon dioxide emissions amounted to 2.7 million tonnes, which roughly corresponds to 90 per cent of the City of Stockholm's annual emissions.

All in all, last year NEFCO approved and administered 50 new projects – an admirable feat given the difficult financial environment in the corporation's main operational markets in Russia and the Ukraine.

**LARGELY AS A** result of earnings from its share investments in other companies, NEFCO achieved a healthy EUR 14.7 million surplus in its 2009 financial accounts. The overall capital base for funds administered by the corporation increased by 19.2 per cent to some EUR 290.7 million as an addition to the corporation's own base capital.

## 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 hazardous emissions and discharges.

### NEFCO NEWSLETTER 1/2010

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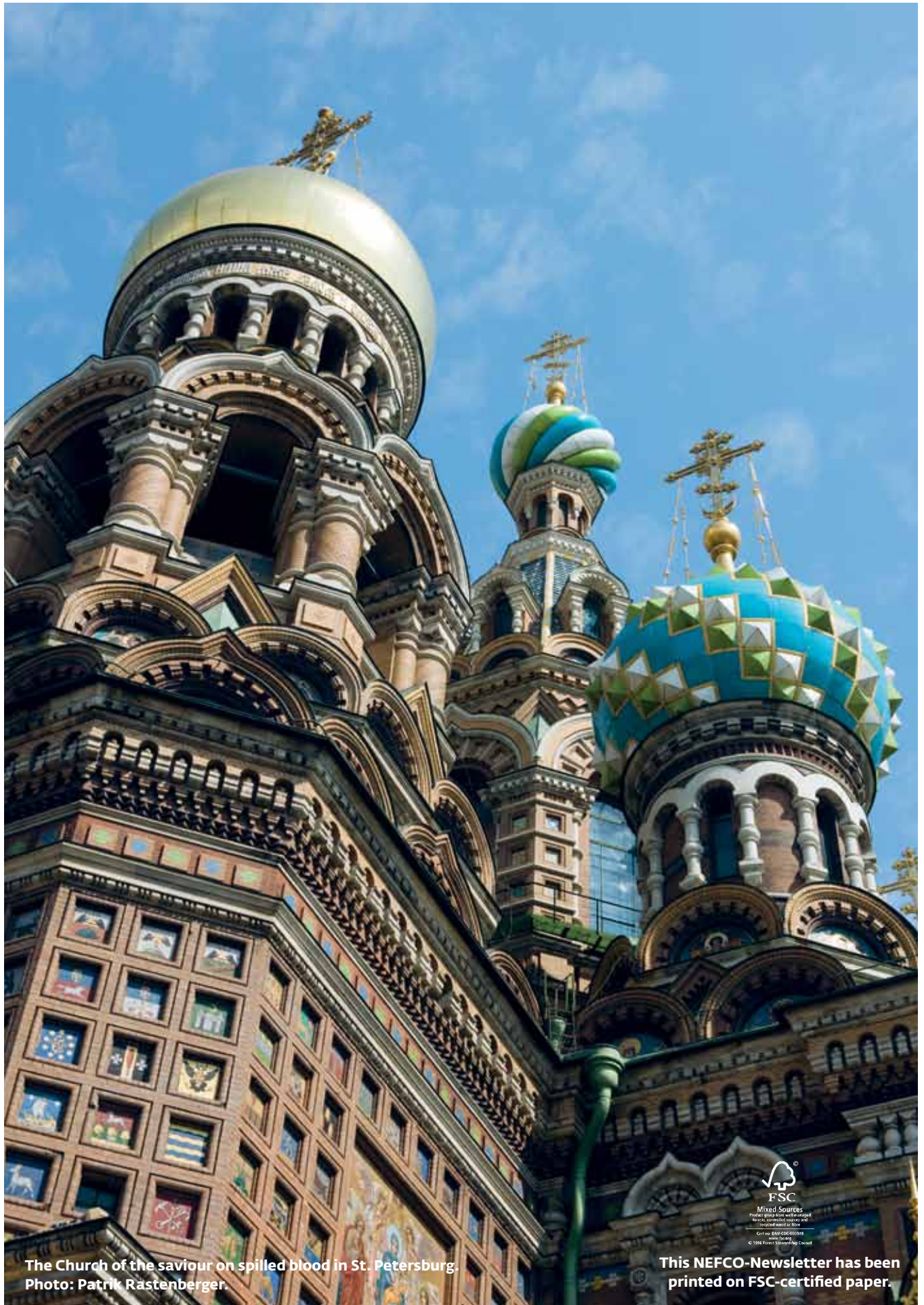
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Maija Saijonmaa (page 17)  
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The Church of the saviour on spilled blood in St. Petersburg.  
Photo: Patrik Rastenberger.



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