Great forces

A glacier front collapsed, and two billion litres of water disappeared. Vidar Riber recently saw the consequences of climate change up close.
The new green economy

Never has the power market been more uncertain, says the chief of Nord Pool Spot Mikael Lundin. He also gives a clear message to let the market work by itself and believes that the EU has failed with its climate policy. However, as we know, the energy markets are all about high-level politics. It is an arena for the struggle between national and international solutions, between old and new economic models and between climate friendly and fossil fuel energy sources. One of the most exciting industry sources at present is the report Better Growth, Better Climate from the independent commission, New Climate Economy. Dimitri Zenghelis emphasizes that it is possible to achieve both economic growth and combat climate change. However, at Statkraft’s Climate Roundtable at Vang Gård recently, he also stressed that time is not on our side. All of the necessary measures need to have been taken within the next 15 years.

For companies like Statkraft, the green shift looks promising. We can create new value through clean energy.
Field trip

THE SWISS ALPINE CANTON OF VALEYS offers more than majestic vistas. The region is also home to the largest pump-storage power plant under construction in Europe, Nant de Drance.

The landscape at Lac d’Emosson, the lower reservoir, is postcard-worthy. The dimensions of the site are also impressive. A total of 17 kilometres of tunnels have been dug, and an equally awe-inspiring 150 metre-long and 50 metre-tall hall in the heart of the mountain.

The Statkraft delegation, comprising Klaas Bauer, Bram Buiss, Stefan-Jörg Gobel, Patrick Koch, and Claus Urbahnke, received extensive insight into how the power plant will be when completed in 2017. At full capacity, in 2018, the Nant de Drance plant will generate about 2.5 Twh of electricity. It is expected that the plant will have a significant impact on the Swiss energy market.

The Statkraft delegation is a significant issue in coun-
yes such as Peru, India, and Albania where looser rock types are more widespread. Sediment that does not sink travels with the water through the power plants, causing wear and tear on turbines and waterways.

The research project is a collaboration between Power Generation and International Hydropower, supported by Innovation Norway’s Hydropower programme. The project aims to spread knowledge and exchange experience, and develop new expertise.

NEW AGREEMENT FOR SMALL-SCALE POWER PRODUCTION

SMÅKRAFT AS will deliver a production-ready power plant at Haukeli-Fjelde in Odda municipality for Hydro Energi AS. The construction of the Meghadas small-scale power plant will commence in May 2015, and the plant will be ready for operation in September 2016. The plant will produce 13.8 Gwh, enough to supply 700 households. “We regard this project as a confirmation of our success in specialising in small-scale hydropower,” says Rein Husebø, managing director of Småkraft AS. Småkraft AS is owned by BKK, Agder Energi, Skagerak Energi, and Statkraft.

Impressive surroundings Patrick Koch, Atle Beisland and the project engineer on their field trip to the Swiss Alps.

NEW KNOWLEDGE

WHAT ROLE do sediments play for Statkraft’s power plants around the world? The research project Future Sediment Handling Strategy seeks to answer this question.

Sediment is coarse and fine loose mass that travels along channels and rivers. All over the world, sediment presents a challenge for hydropower plants, as it often fills up reservoirs and reduces reservoir capacity. This is a significant issue in countries such as Peru, India, and Albania where looser rock types are more widespread. Sediment that does not sink travels with the water through the power plants, causing wear and tear on turbines and waterways.

The research project is a collaboration between Power Generation and International Hydropower, supported by Innovation Norway’s Hydropower programme. The project aims to spread knowledge and exchange experience, and develop new expertise.

A total of 17 kilometres of tunnels have been dug, and an equally awe-inspiring 150 metre-long and 50 metre tall hall in the heart of the mountain.

Sediment research underway

Field trip

Statkraft has applied to the Norwegian Water and Energy Resources Directorate (NVE) for a construction license for the new Nore 1 power plant in the Nore and Uvdal municipality. The new power plant will have an increased production of about 80 Gwh, in part due to a slight increase in the elevation difference for the power plant and improved efficiency of modern turbines. The total new production is estimated at 1280 Gwh annually.

POWER

1280

New global standard

A NEW MANUAL for Operation and Maintenance (O&M) establishes a new global standard for how Power Generation (PG) operates in order to reach its objectives.

“The manual is a summary of our tools and best practice. It provides a template for how we work across technologies and geographies,” says executive vice president of Power Generation, Hilde Bakken.

The manual is based on four principles for PG operations: Safe and prepared, optimised profitability, employees with responsibilities, and continuous learning. The latter implies always striving to improve. When we strive to keep – and maintain – a world-class level, the current situation is never good enough. This is why PG, as a fundamental principle, will always assess and develop new expertise.

The manual will be implemented in 2015.
On Friday 22 August, Lake Nedre Demmevatn was where it always had been. Three days later, all the water – two billion litres – was gone.

Sissel Fantoft  Statkraft and Tommy Andresen

The lake that DISAPPEARED

Two billion litres of water disappeared from here in just three days
In a clear Friday in August, a helicopter flew across the Sima V alley. On board is builder Harald Kleiveland and two of his carpenters, as well as a load of materials. They have been hired by the local trekking association to repair the woodshed at the cabin by Lake Demmevatn.

“From the helicopter we could see Lake Nedre Demmevatn below us,” says Kleiveland, who seized the photo opportunity as a souvenir of the unusual event.
Lifting SAFETY

A construction worker looks with uncertainty for the safety equipment he left behind before he climbed the scaffolding. Meanwhile, a load of sheathing is lifted up over the heads of working colleagues without double protection in place.

Photo: Lars Magnus Günther / Statkraft

President and CEO Christian Rynning-Tønnesen had personally requested that his first visit to the Devoll development project in Albania would also be a Health Safety Environment (HSE) inspection. In line with the company’s priorities for 2015.

Among the things the CEO saw at the site, were unsecured working practices at heights, a crane lift with an improperly secured load, and active workers below the hanging load.

“I am very pleased with the organisation of the construction work and the progress demonstrated. However, I am far from pleased with safety at the power plant construction site,” the CEO told employees of Devoll Hydropower in Tirana after being alarmed by the irregular lifting operation.

“When the CEO of a company arrives at a site, sees something wrong, and then gives a talk about it afterwards, he is sending a very important signal.”

When the CEO of a company arrives at a site, sees something wrong, and then gives a talk about it afterwards, he is sending a very important signal.

“Changing attitudes Garnett thinks it is good that the top executives from Oslo get to experience the realities of construction sites in countries where safety is not given the same high priority as in Western Europe and Scandinavia.

“Incidents like this show the importance of actively involving the sub-contractor’s management on site, and that workers must be allowed to take an active part in the safety work.” Garnett says. “This must improve, and it is improving.”

He admits that progress is slow. Focus is on being visibly present on the construction site, improving safety step-by-step, and changing attitudes and HSE culture at all levels.

“Our HSE efforts to prevent injuries, accidents and undesirable consequences depend on errors being corrected – often that a colleague cares. The ability and will to care is an important part of any HSE culture, and is what will lead to change – at all levels.”

SafETY Boot Camp One idea that came up during the visit was to establish a “safety boot camp”, based on what has been done in Çetin, Turkey. There, all personnel working on site must complete a boot camp focusing on fundamental knowledge, including scaffolding, lifting operations, forbidden areas, and falling accidents. Unless they complete each section, they will not be allowed on site.

“Safety in Albania is still in its infancy,” Garnett says. “Many unskilled labourers...
"A high ethical standard will permeate all of our activities," says president and CEO Christian Rynning-Tønnesen. New guidelines have been prepared as part of the efforts to further develop a safe and open culture for whistleblowing. We are also experiencing increased external pressure relating to transparency and robust systems.

CURRENT AFFAIRS HSE

Albania

THE DEVOLL PROJECT comprises two power plants, Banje (70 MW) and Mogliche (186 MW). They will be completed in 2016 and 2018, respectively. The plants will generate about 730 GWh annually, and increase Albania’s total power production by 17 per cent. The investments in the project total EUR 535 million.

BOTH POWER PLANTS will have separate smaller turbines, able to generate power at the required minimum water level.

THE LICENSE AGREEMENT grants Statkraft the right to sell the power freely, including as export power to adjacent markets.

THE PROJECT is executed by Devoll Hydropower, a fully owned subsidiary of Statkraft, with approx. 70 employees at the offices in Tirana, in Gramsh, and on site.

A CONSORTIUM comprising Turkey’s Limak and AGE is the main contractor for the project, while the units are supplied by France’s Alstom.

DEVOLL HYDROPOWER assumed HSE responsibility from Owner’s Engineer in June, and is currently training seven Albanian employees to UK standards.

ACCIDENT IN PANAMA On Thursday 20 November, Statkraft experienced a new fatal accident when a tank loosened under a crane lift and hit two workers at Agua Imara’s hydropower project Bajo Frio in Panama. One of the workers died, while the other was seriously injured. The accident is a tragic reminder of the importance of good planning and an intensified focus of working safely at our development projects.

HIGH ACTIVITY LEVEL Despite challenges in terms of HSE, the president and CEO also witnessed many positive things. The construction site is teeming with activity, with a constant stream of trucks moving from the upstream riverbed filled with new mass for the dam that grows every day. In little over a year, the 80-metre tall and 900-metre long dam will be complete. The spillway is already completely poured. Down in the construction pit, the Banje power station is taking shape: the outflow pipes are in place, and the pouring of the concrete for the basic building is well under way. The preparations for the largest facility, Mogliche, is under way further up the Devoll valley. Filling of the 15-kilometre long reservoir will begin towards the end of next year. The Banje power plant is expected to start operation in the summer of 2016. By then, replacement roads must be completed to provide residents of the Devoll valley with a new road to the north, as the existing road will be under water. This is the responsibility of the authorities, and an important issue during the talks between the CEO and Albanian government officials during the visit. During the talks, it also emerged that the Albanian government is looking to carry out highly needed reforms in the energy sector. The electricity grid experiences almost 50 per cent loss due to theft, lack of metering, and natural grid losses. It is clear to everyone that something must be done. At the same time, more rapid deregulation and increased power exchange with Albania’s neighbours is needed to attract more foreign investments in the energy sector.

Hectic activity The dam for the Banje power plant is halfway completed. Filling of the reservoir will start before Christmas next year.
Ethics
impact everything we do

It used to be that companies demonstrated corporate responsibility (CR) through sponsorships and charity work. Now, CR is about doing business in an honest and sustainable manner, which also adds value to the company and leads to improved results.

Morten Ryen  Tommy Andresen

Corporate responsibility and business ethics comprise a vast number of fields, and are relevant to all aspects of our business,” says Rachel Groux Nürnberg, head of the CR & HSE unit and integrity officer in Statkraft. She heads a team of 15 people who work closely with a number of experts from the line to support compliance with social corporate responsibility and business ethics. “The unit has an important function in establishing policies, as well as providing the line with advice and support for all of these areas.

NOT CHARITY “In the past, CR could include building a school, drilling for drinking water, or sponsoring local activities,” says Groux Nürnberg. “This is in a very narrow definition and we do not use it any more. Now, CR is an integral part of our enterprise, and comprises everything from the environment and climate, social obligations and human rights, labor rights, health and safety, and health to anti-corruption and combating white-collar crime. It is a very wide field, and Statkraft takes all these aspects seriously.”

INTERNATIONAL CHALLENGES Statkraft has gone from being a predominantly Norwegian company, to having a true global presence: This means new challenges, new cultures, different taxes and regulations— but also increased expectations. “The primary driving force in the CR development is the expectations from partners, banks, authorities, owners and the public. Ignoring corporate responsibility is no longer an option,” says Groux Nürnberg. “Many of Statkraft’s business partners have clear CR and HSE performance and system requirements before entering into a partnership.”

PRACTICAL CHALLENGES “The ethical challenges are different in various parts of the company,” she says. “However, the fundamental principles remain the same across all sections.”

Statkraft regularly meets challenges linked to compliance of CR and HSE requirements. “For example, a hydropower development will usually impact the local population,” says Groux Nürnberg. “That means we have to ensure that any negative consequences of the project are handled well.”

There are responsibility and sustainability requirements for funding of international projects under the Equator Principles, and the World Bank (through the International Finance Corporation) has requirements that must be met before granting loans.

Another relevant example is Statkraft’s challenges related to combating corruption and unethical business practices,” says Groux Nürnberg. “This includes everything from the limits on gifts or advantages from partners, to how we make sure that our contractors comply with our principles.”

A main principle, Statkraft employees should not accept gifts or perks from partners or suppliers, and we also have strict rules for what we can offer our partners in terms of hospitality and business perks.

GET IN TOUCH “We receive many questions on how employees can handle the many grey areas that occur,” says Groux Nürnberg. “As a rule of thumb, we follow the norms that set the highest behaviour standards. You can also contact the HSE manager or one of Statkraft’s integrity managers. You can also get in touch with us to make an assessment.”
Never sit on a case

Money under the table. Harassment at work. A subcontractor dumping hazardous waste. “Anyone who discovers violations of laws, rules or ethical principles has the right and responsibility to report this,” says Tone Skuterud, head of Corporate Audit.

Morten Ryen
Tommy Andresen

S
takraft is like a society in itself, with laws, rules and norms to prevent undesirable, unethical or criminal behaviour. In Statkraft, these are summarised in our own ground rules, the Code of Conduct, which all employees must be familiar with. As in society, someone will break the rules without intending to – sometimes on purpose, other times inadvertently. No matter what, such violations can be illegal and harmful for the company and for individuals. It is therefore important that they are handled well.

NOTIFY “In order to safeguard Statkraft’s strong ethical culture, it is important that we are all aware of our right and obligation to report violations of our ethical principles, laws and rules.” Skuterud says.

“As a main rule, all reporting must be done to someone in the line, either your immediate supervisor, or to other line resources, such as the HR supervisor or integrity managers. If for some reason, you are unable to, or do not want to, report to anyone in the line management, you can contact the independent whistleblowing channel managed by Corporate Audit. The unit has been Statkraft’s independent whistleblowing channel for more than 10 years, and anonymous whistleblowing has been possible by Corporate Audit, ensuring the anonymity of the whistleblower. In order to strengthen the principle of anonymity, Corporate Audit has now made use of a technical solution, which ensures complete anonymity, whether through our intranet “The Streams” or our external website Statkraft.com.

“The technical solution is an improvement, but the whistleblowing principle remains the same,” says Skuterud. “We are naturally aware that different countries have different laws and regulations in connection with whistleblowing, and handling the protection of personal information in connection with investigations. We solve this through our handling of cases.”

HELP FOR MANAGERS “Experience has shown that most reports are submitted to line management, usually to the immediate supervisor. As a result, the line managers have a great responsibility to ensure that the whistleblower’s concerns are taken seriously and handled properly,” Skuterud says.

“The way in which managers handle these situations is decisive for the culture Statkraft is enable to cultivate. “Employees will not raise concerns unless they are confident that their concern will be handled well,” says Skuterud. “A manager who receives a reported concern must always take it seriously and never sit on it.”

Skuterud has prepared new procedures that describe how line managers should act when they receive a reported concern. The new procedure consists of six points that are meant to help managers assess the seriousness of an issue and how to handle it. Leaders can and should always discuss the handling of cases with one of Statkraft’s integrity officers and can also seek the advice from Corporate Audit. As a main rule, minor issues can be handled by the line, while more serious issues must be escalated immediately to Corporate Audit. “The most important factor is that we always take reports seriously, even if it should turn out to be a minor thing or just gossip,” she says.

In order to create the necessary credibility and trust in an investigation, it is important that an independent unit carry out the investigation. Corporate Audit is independent, and has both experience and good procedures. “An investigation is about creating a fair, open and objective process that identifies the facts and secures evidence,” Skuterud says.

ANONYMITY GUARANTEED Everyone involved is guaranteed anonymity if they wish – no matter who files the report, who receives the report, or the subject of the report. “Both managers in general and Corporate Audit need to be aware of their responsibility in this regard,” says Skuterud. “For instance, a manager must safeguard the anonymity of the whistleblower from his or her own supervisor unless otherwise agreed with the whistleblower. Anonymity and strict confidentiality are important, not just out of consideration for the whistleblower, but also in order to protect the individual who is the subject of the report. Here, as in the justice system, the principle is that everyone is innocent until proven otherwise.”

FEEL SAFE Many employees worry that they might get a certain reputation, be threatened or even lose their job if they report. No one should fear such consequences in Statkraft, Skuterud stresses.

“We want a culture of openness, where you can report a concern without worrying that you might lose your job,” she says. “However, I have complete understanding that some might feel unsafe in such a situation, and this is why we have made use of a new technological solution on our website that ensures complete anonymity. No one can track you, and you can monitor the development of the issue without revealing your identity.”

So far, Corporate Audit has not received many reports. This might be seen as positive, that there are not many issues to report, but this is not necessarily the case.

“It is far more likely that we have not received reports, either because there is not sufficient awareness of the whistleblowing channels, or that issues that should have been reported, have been handled locally or archived,” says Skuterud. “This is not what we want. We want a better overview of undevelopable issues, to ensure that we, as a company, are handling them well.”

At the same time, Skuterud is very pleased that a high share of the respondents in the most recent employee survey said they would report violations of the Code of Conduct if they saw them.

“This is the starting point we need. Now we must continue to build on this, and ensure that we increase awareness and understanding of our new whistleblowing routines.” Skuterud says.

CORPORATE AUDIT is an independent and objective quality assurance and consulting function, with the goal of contributing to the continuous improvement of Statkraft’s activities. The head of Corporate Audit is also responsible for Statkraft’s whistleblowing channel, and the first recipient of all issues reported through this channel.

FACT BOX

Statkraft has had a whistleblowing channel for 10 years. In order to strengthen the principle of anonymity, Statkraft has now introduced a new technological solution that guarantees full anonymity. The main principle is that whistleblowing is done to someone in the line, either to your immediate supervisor or other line resources, such as the HR manager or integrity managers. If you for some reason are unable, or unwilling, to go by way of the line, you can file your report via the independent whistleblowing channel managed by Corporate Audit. The channel is open to all. Read more about it on the Intranet or statkraft.com.

www.statkraft.com/about-statkraft/Whistle-blower-channel/
Antonia Rozas, who has been with Statkraft/SN Power since 2008, believes the company has to be consistent in words and action, and be steadfast with its own integrity. “In Statkraft, ethics are non-negotiable.”

**TAKE CARE OF OUR REPUTATION**

“It is very important that we send a clear message to all employees on applicable standards and the expectations we have,” says Rozas. “Our internal reputation does impact our external reputation.”

He says they have made considerable efforts in creating a culture of responsibility in Statkraft Peru, a culture that is so open that people feel safe reporting undesirable behaviour.

“We stress that each employee has a separate responsibility to contribute to a safe and positive working environment, where they can do a good job in safe conditions. It must also be safe to report any nonconformities with rules and laws. All employees must know how to report and notify their immediate supervisors, or if necessary, how to contact the head office. In order to raise awareness and knowledge of this, we have carried out internal information campaigns and drills, something we will continue doing.”

**MANAGEMENT DEVELOPMENT**

Managers are important in order to create the desired culture in Statkraft Peru at all levels, Rozas points out.

“We must ensure that managers are well aware of the whistleblowing rules, and that they have the knowledge and capability necessary to handle this type of issue in a good manner,” he says. “We start during the recruitment process by stressing how important sound business ethics are in Statkraft, and how values and ethical principles govern our enterprise. We also organise workshops each year for managers to hone their knowledge of the ethical principles. We recently held anti-corruption training in partnership with the head office.”

**BUILDING A CULTURE TAKES TIME**

Rozas stresses that building a culture does not happen overnight, or even in a year. It takes time.

“Therefore, one of our goals for 2015 is to strengthen our work to create a culture that promotes individual responsibility,” says Rozas. “We want to create a climate where employees feel safe to openly report nonconformities.”

**IN MARCH**

This year, it was discovered that documents containing confidential HR information in Statkraft Peru had been leaked to unauthorised people.

“What happened was that someone had gained access to a document with sensitive information and distributed this internally and externally,” country manager Juan Antonio Rozas says. “The leak was discovered thanks to loyal employees who reported it as a violation of the Code of Conduct.”

**INVESTIGATION**

Through interviews and reviews of the computer system, the culprit was identified.

“Statkraft’s head office was informed about the issue, and the process was carried out in accordance with legislation and rules,” Rozas says. “Great emphasis was placed on securing the anonymity of the whistleblowers, at the same time as we expressed our gratitude to them.”

**LESSONS LEARNED**

The case uncovered challenges in connection with computer security in the company, and the investigation also identified instances of undesirable and unethical behaviour.

“Management decided on disciplinary action, and some employees were let go,” Rozas confirms. “This leak provided us with the opportunity to once more stress the importance of our Code of Conduct to our employees.”

“It is very important that we send a clear message to all employees on applicable standards and the expectations we have.”
New EU rules will provide more transparency for market transactions and reduce the risk of insider trading and market manipulation. Statkraft’s new market regulations compliance team will ensure that these rules are complied with.

LESSONS FROM THE FINANCIAL CRISIS

It all started in 2008. Many people were unpleasantly surprised when the major American bank Lehman Brothers went bankrupt, and a lack of trust spread in the financial markets.

“The ripple effect was severe for global business and the world at large. In some parts of the market, it turned out that a lack of transparency was the worst enemy of trust. “There was a tremendous sense of fear in the market, which only escalated the crisis,” says Fahs.

In order to mitigate the negative ripple effects of such large bankruptcies, the EU has introduced a number of new regulations for international trade. The regulations apply in part to financial instruments and in part to energy products.

One of the lessons learned was that the many bilateral financial transactions entered into outside of the stock exchanges, which market players enter into as a matter of course, could provide increased uncertainty.

“When Lehman folded, there was speculation about which counterparties Lehman Brothers had entered into such bilateral transactions with,” says Fahs. “What the market was wondering was if Lehman owed vast sums to some of these counterparties, and as a result, if some of these counterparties were also on the brink of bankruptcy. Fear continued to spread.”

PROVIDE INCREASED SECURITY

The new European regulation, which aims to increase transparency and reduce the spread of risk during such economic crises, is called European Market Infrastructure Regulation (EMIR). The EMIR regulation requires market players to trade on clearinghouses. Traditional bilateral trades are still allowed, but now larger counterparties need to put up collateral for such transactions in order to reduce the risk.

All trades must also be reported to a trade repository no later than one day after the trade has been completed.

The EU has also introduced specific rules for the energy market, such as the Regulation on Wholesale Energy Market Integrity and Transparency (REMIT). The objective of REMIT is to create trust in the markets by preventing insider trading and market manipulation.

OUTSIDE THE EU

As Norway is not part of the EU, the regulations do not apply to Norwegian companies yet. The regulations will, most likely, be introduced through EFTA (European Free Trade Association). Meanwhile, Statkraft has chosen to treat the regulations as if they already apply in Norway where it is feasible to do so.

“Statkraft is active in many markets, and does significant business in the European energy market. If we are to achieve an open and fair European energy market, market players cannot be permitted to manipulate the markets or be given market information ahead of others,” says Fahs. “Statkraft is a major player that both produces and trades electricity. Sometimes Statkraft has insider information that may impact the market. For instance, we can’t tell our own power traders that a certain hydropower plant is shutting down without telling the entire market at the same time. We must be completely open and give the same information to everyone – at the same time.”

BE CAUTIOUS!

Insider information is often associated with fraud or market manipulation for profit. However, according to Fahs, there is an equally large risk of an unintended leak. “When a power plant is shut down, insider rules might not be the first thing that springs to mind. Especially in the cafeteria or on the bus it’s easy to forget that you have information that is not yet public,” Fahs says. “It is not always easy to know what constitutes sensitive insider information, and we all make mistakes.

“Statkraft has insider information that is not yet public,” Fahs says. “If we are to achieve an open and fair European energy market, market players cannot be permitted to manipulate the markets or be given market information ahead of others,” says Fahs. “Statkraft is a major player that both produces and trades electricity. Sometimes Statkraft has insider information that may impact the market. For instance, we can’t tell our own power traders that a certain hydropower plant is shutting down without telling the entire market at the same time. We must be completely open and give the same information to everyone – at the same time.”

BE ATTENTIVE!

“When a power plant is shut down, insider rules might not be the first thing that springs to mind. Especially in the cafeteria or on the bus it’s easy to forget that you have information that is not yet public,” Fahs says. “It is not always easy to know what constitutes sensitive insider information, and we all make mistakes.

“What is important is that we create a culture for erring on the side of caution when we are in contact with sensitive market information,” says Fahs. “If you have any doubts on how to handle certain information, or think you might have leaked insider information by mistake, please contact us. We have a team of experts who know the regulations and how to practise them, and we are here to help.”

**Feature Ethics**

**Morten Ryen**  **Tommy Andresen**

**FAC T BOX**

**New EU regulations**

- **EMIR (European Market Infrastructure Regulation)** ensures transparency in the market, and reduces the market risk of bilateral trades with financial instruments.
- **REMIT (Regulation of Energy Markets Integrity and Transparency)** is an EU regulation framework specifically for the energy market. It ensures integrity and transparency, as well as preventing insider trading and market manipulation in the European energy market.
- **MiFID II (Market in Financial Instruments Directive II)** will regulate companies that need licences (in Norway, from the Norwegian Financial Authority) to perform services and trades with financial instruments.

**Team members:**

- Amy Bleserud
- Mark Dal-Canton
- John Fahs

**Core competencies:**

- Internal advice
- Administrative tasks
- Gather and compile information for training
- Create e-learning platform
- Create test modules
- Conduct training sessions
- Ensure adoption of regulations

**REGULATIONS COMPLIANCE TEAM HEADS:**

- John Fahs, Head of the Market Regulations Compliance Team

**BE ATTENTIVE!**

If we are to achieve an open and fair European energy market, market players cannot be permitted to manipulate the markets or be given market information ahead of others. Statkraft is a major player that both produces and trades electricity. Sometimes Statkraft has insider information that may impact the market. For instance, we can’t
A small cockerel in the realm of the condor

The Pacific never gets closer to Peru’s Andes Mountains than in the La Libertad region. Here, the endangered condor flies high above the power plant named after the small, blind cockerel Gallito Ciego. The rainwater collected in the massive dam on the floor of the valley has transformed this arid land into a fertile agricultural landscape.
“Don’t lean on the red button, you’ll set off the alarm!” warns operations manager Fernando Rodríguez. The Gallito Ciego hydropower plant, acquired by SN Power in 2003 and transferred to Statkraft earlier this summer, is fully automated and requires only one person to be working in the control room.

Fernando monitors all the processes on his computer screens. He and his colleague, Jorge Paz, take turns working. They never work at the same time. It makes for lonely hours in front of the many screens.

At the power plant where Fernando used to work, he had to be constantly on the lookout for attacks from the guerrilla movement Shining Path that until a few years ago terrorised large parts of Peru.

“Sometimes it was all a bit too exciting,” he says.

So it’s perhaps not so strange that he appreciates the silence in the peaceful and lush Jequetepeque Valley, framed by majestic mountains.

The drive from the coast cuts through a sandy and rocky desert landscape, but as you enter the valley, you are greeted by grazing cattle, giant avocados and trees full of bananas, mangos and papaya. The river that runs through the valley is why the area is so fertile – the river, and the massive dam that provides both the power plant and the local farms with a regular influx of water.

“Where I used to work, we had to replace the turbines several times in a year, but here there is no need because the water is so clear,” Rodríguez says.

There is not much to do here, other than ensuring that everything is running smoothly. The days have their own pace.

In the mornings, sisters Yemi and Viviana Correa stop by to cook and do laundry before returning to their families in the nearby village. Fernando Rodríguez’ family is far away. He has four grown children. When he is home with his wife, he does not want to go back. But once at work, he quickly settles in.

Deer graze on the shrubbery surrounding the power plant, unaware of the hungry eyes from the impressive condor up in the sky. In the control room of the power plant named after a blind cockerel, Fernando is his own master.
1 | Artificial irrigation is necessary to make the dry landscape fertile. The power plant is located downstream from the Gallito Ciego dam, which is mainly used for irrigation purposes. 

2 | Sisters Yeimi (left) and Yoisael Correa make sure everything is in top condition for the operations supervisors and visitors from the main office in Lima. 

3 | Jorge Pozo is the other operations supervisor. He and Rodriguez never share the same watch. When the shift is over, it is nice to relax in the room.
Various business areas, many countries, and major projects. It goes without saying that an organisation like Statkraft needs good tools to make decisions and execute projects. This is why Stage-Gate was introduced in the company in 2011.

Step by step

All projects in Statkraft, regardless of size and business area, must use the Stage-Gate model. “Stage-Gate is not primarily a project execution model, but an investment and decision-making model, that provides the framework for the necessary decision-making basis at the various stages of a project,” says Pål Otto Eide.

In October, he started in the position as head of the Project Management Office (PMO). One of the main tasks of the PMO is to ensure sound project execution in Statkraft. The framework for this is Stage-Gate.

Stage-Gate is one of the most used formal innovation processes in the world. Canadian Robert G. Cooper developed it more than 25 years ago. Almost 80 per cent of all U.S. companies now use the model. In Norway, companies such as Statoil and Telenor, in addition to Statkraft, have applied it to their activities.

“Our major, international projects face many challenges. It is therefore important that we establish best practice for how to work,” Eide says.

Stage-Gate provides good control. The Stage-Gate model is used to make decisions, both in terms of the design of the project, and the necessary documentation for project approval and the funding needed for execution. “Stage-Gate comprises...”

FACT BOX

PMO

PROJECT MANAGEMENT OFFICE (PMO) is responsible for overall project methodology, project management tools, project-technical training, and transfer of experience among projects in Statkraft.

THE UNIT was established in 2010, and was previously managed by Power Generation (PG), but this spring, it was transferred to International Hydro Projects & Construction (IPC).

PMO has been granted a mandate from the executive management to ensure a common platform for project execution. PMO is supported in this work by a reference group with representatives from all business areas.
Stage-Gate in practice

In order to show how Stage-Gate works in practice, Pål Otto Eide has chosen an international imaginary Statkraft project to work in a project to a Master’s degree in Technology (NTNU) and has worked in the power industry throughout his career, including various management positions in Statkraft.

Pål Otto Eide, head of the Project Management Office (PMO).

In deep water

The number of offshore wind farms is increasing. They provide us with more clean energy, but what about life underwater? Is this development good for crabs and fish? As it turns out, research suggests it may.

I t seems obvious that large, anchored offshore installations impact marine environments to some degree,” says Olivia Langhamer, post-doctoral research fellow at the Norwegian University of Science and Technology NTNU. “But we know very little about how.

However, thanks to a partnership between Statkraft and NTNU, we now have a few answers. Langhamer has looked at the impact the Lillgrund offshore wind farm has on the marine ecosystem in the area.

“Both species we chose to focus on are native species in the area,” says Langhamer. “And we noted a far greater number of crabs and a fish called viviparous eelpout.”

According to Langhamer, the increase in crab population is because the installations function as artificial reefs.

“Wind farm installations that are anchored to the seabed provide crab and other species with hiding places,” she says. “Crustaceans and fish take cover there to reduce risk. The implementation and the board.”

FACT BOX Pål Otto Eide

STARTED in the position as head of the Project Management Office in October.

HAS A MASTER of Science degree from the Norwegian University of Science and Technology NTNU and has worked in the power industry throughout his career, including various management positions in Statkraft.

FOR THE PAST 15 YEARS, he has worked in Norsk Hydro, where he was responsible for major projects, both in Norway and internationally, within areas similar to those he is now responsible in Statkraft.

Read more about the Stage-Gate model on the internet under "The Statkraft Way".

Various phases and assessment points, or Decision Gates, where management at various levels, depending on the investment frame of the project, assess if the project should continue,” says Eide. “The method provides management with good control of project process, and helps create distinct areas of responsibility and objectives.

In order to support the Stage-Gate model, Statkraft has established a general process of project process, and helps create distinct points.

Managing major projects can be exhausting. PMO’s supports the business areas with training.

“We are responsible for tailored training. Those who want to learn more about project management and about projects as a form of work can sign up for various training programs. They range from courses on how to work in a project to a Master’s degree in project management,” Pål Otto Eide says.

FEASIBILITY A project team completing internal and external resources assess all relevant aspects of the prospect. An appraisal report summarises their findings, and makes a recommendation based on identified risk and profitability. A DG1 decision is made to continue.

FEASIBILITY/PERMIT More detailed design studies and assessments are now carried out by a dedicated project organisation. Usually, extensive impact assessment studies will be carried out to secure all permits needed in order to complete the project. The market framework is established, such as power sale agreements. Extensive geohazard surveys are carried out in order to reduce risk. The implementation and contract strategy is established. Recommendation for continuing is given in an appraisal report for DG2.

PRE-CONSTRUCTION/TENDER The project is further mobilised, and the detailed design is developed further. Tenders from suppliers are assessed and contracts awarded. The project is prioritised for a final investment decision (DG3) by the executive management and the board.

CONSTRUCTION An extensive and complicated construction phase can now start. Major project teams are mobilised locally to manage the development. The development is monitored closely by a dedicated owner organisation throughout the construction phase, in parallel with preparations for operations. The power plant is completed and can be transferred to the operations organisation.

WHAT IT IS: Offshore wind farms are a fairly new phenomenon, and we know little about how the foundations for the turbines impact marine life. This is why Statkraft is continuing to research on the area.

SUCCESS A research project has looked at the impact on marine life in the area.

The research results do not tell a dark tale of mass extinction. In fact, it is the opposite! If these subma-

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However, thanks to a partnership between Statkraft and NTNU, we now have a few answers. Langhamer has looked at the impact the Lillgrund offshore wind farm has on the marine ecosystem in the area.

“I chose to focus on the impact of two species, the shore crab, and a fish called viviparous eelpout.” Langhamer says.

Both species were in the area before work on Lillgrund started. They remained during the construction phase and both are still present. “Both the shore crab and the eelpout are common species in most coastal areas and shallow sea areas where there are wind farms, or planned wind farm developments in Europe,” she says. “So it is important and relevant to identify the impact the offshore installations have on their lives.

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AND ANIMALS

A growing number of businesses around the world are implementing sustainability plans, as more and more consumers demand a more responsible approach from businesses they patronize.

HAPPY SALMON HAVE BETTER SEX LIVES, local Norwegian paper Rana Blad reports. The background is the rehabilitation of the Røssåga River in Hemnes Municipality. When the Nedre Røssåga power plant was constructed after WWII, the environment was not a focus. With the construction of a new power station and renovation of the old facility, Statkraft is carrying out several measures to mitigate negative environmental consequences from previous developments. During the 2017 spawning season, salmon and sea trout ready to spawn will once more enjoy good spawning areas in a section of the river that has been overgrown for decades.

AS THE NEW YEAR’S ROCKETS BURST IN THE AIR, Statkraft enters an anniversary. It will then be 120 years since the Norwegian government bought its first waterfall rights, the Paulenfossen waterfalls in Vest-Agder County for NOK 23,245. This purchase is considered the beginning of what we know today as Statkraft.

“We will seize the opportunity to showcase Statkraft’s journey from a hydropower pioneer to a leading renewables company,” says senior vice president, corporate communication Bente Engesland. The 120th anniversary will be marked with conferences in Sauda and London, as well as events around the opening of the hydropower plants Cheves in Peru and Kargi in Turkey.

In connection with Statkraft’s international management conference Pure Leadership, there will be a grand event in the Oslo Opera House in June. The event will feature leading personalities from the energy industry and Statkraft, as well as an appearance by former U.S. Vice President Al Gore. In 2007, he was awarded the Nobel Peace Prize together with the IPCC, for his efforts to raise awareness of human-induced climate change.

“Our ambition is to become a leading international company within clean energy,” says president and CEO Christian Rynning-Tønnesen. “With the current internationalisation of the company, we have a great opportunity to showcase our position and our ambitions, for both our employees and external stakeholders.”

The fourth volume in the series on the electricity adventure that started with the Paulenfossen waterfalls, will be published for the 120th anniversary. The topic is Statkraft’s international journey.

IN BRIEF

TEAM STATKRAFT

Statkraft recently entered into a one-year agreement with Tarjei Bø, former world champion and Olympic champion biathlete. He is the latest addition to a very strong Statkraft quartet ahead of the upcoming season. In addition to Bø, Statkraft sponsors Tjøtta Eckhoff, Synnøve Solemdal, and Emil Hågl Svendsen. The Norwegian Biathlon Association, the junior cup, and the regional recruitment teams make up Team Statkraft.

TEAM STATKRAFT

JUMP-START TO THEIR CAREERS

EIGHTY YOUNG WOMEN AND MEN started their two-year trainee programme in Statkraft in September. Each has a tailored programme based on their education and Statkraft’s competence needs. This year’s class of trainees comes from five different countries, and have degrees and backgrounds primarily in technology and economics. They all share a desire to work in the rapidly growing renewables industry. One of the new trainees is German Laxman Pararasasingam, a chartered engineer in mechanical engineering from University College London. As a trainee, he will be working with wind power analyses. “If you want to work with wind power, Statkraft is the place to be,” he says.

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Claudia Gellert feels comfortable in both maritime and political environments. The relaxation and silence when she is diving balances the busy workdays promoting Statkraft’s interests in German energy politics. We asked her about...

...work. Statkraft’s activities in Germany are increasingly impacted by political decisions. My job is to identify political issues that will affect our field, and to communicate Statkraft’s proposals for solutions to the politicians. I organise the dialogue between Statkraft and political bodies, and also work to position us as a credible partner. The goal is for legislation to provide the best possible framework for Statkraft’s activities.

...inspiration. I am inspired by seeing how the right argumentation can contribute to improving political decisions. In order to make good decisions, you need plenty of effort and insight. Politicians need companies like Statkraft to better understand future developments in the energy market.

...downsides. Downsides are just a part of life, together with upsides. As a young law student I had a rude awakening when I realised that no policy is unaffected of stakeholder interests. Studying law gave me insight into how legislation is made, but in reality there are always additional factors at play, such as the interests of the players in the field in question. I now see this as a chance to influence political decisions in the right direction.

...upsides. Statkraft is establishing itself as an important and respected player in Germany. Statkraft is now being invited to political consultations, and we are asked to develop future integration of renewable energy in the market. This is major progress, and I am proud to be a part of it.

...balance. I strive to find the perfect balance in everything I do – professionally and politically, as well as personally. I enjoy travelling, skiing, and perhaps most of all, free diving all over the world. To be completely immersed by the sea and experiencing the spectacular marine life below the surface is as close as I get to the perfect balance.

...pure energy. I think Statkraft is the perfect company to offer and support the market integration of renewable energy. With our virtual power plant we can offer flexible capacity from renewable sources based on demand. Furthermore, by delivering flexibility in power production and back-up services to Germany Statkraft can create a win-win situation for both the German “Energiewende” and the Nordic power system.
The Market Advocate

“The power market has never been more volatile,” says Mikael Lundin, CEO of Nord Pool Spot, without any room for misinterpretation. As the top executive of Europe’s leading power exchange, he knows what he is talking about.

MIKAEL LUNDIN

AGE: 48 years
POSITION: CEO, Nord Pool Spot
EXPERIENCE: 20 years executive experience in the power sector
EDUCATION: Stockholm School of Economics
FAMILY: Wife and daughter

MARKET INTEGRATION
The weekend is reserved for family time, and he is careful to protect it. If he thinks about work, it is to take joy in the success of the market integration in Europe. Nord Pool Spot has played a key role in the efforts to connect markets in Europe, a process called market coupling.

“With our participation in the efforts to connect markets in Europe, we added a new dimension to our role as a market operator. Instead of simply focusing on the power exchange, we also work to ensure that the markets are as efficient as possible. This has led to a new focus on market integration, which has been a key driver of our growth in recent years.”

A COMPLETE CHANGE
For 20 years in the industry, Lundin has seen the development move from a market-happy deregulation to increased regulations of markets in recent years.

How would you describe the market situation in the Nordic region and Europe?

“After many years in the industry, I must say that it has never been more uncertain than now. It is very difficult to say anything about the future.”

What makes it so uncertain?

“No, exactly. We don’t know the direction. Will we see even more regulations, or will we continue to have a free market? Then we have the green development, with government subsidies of renewables that also increases this uncertainty.”

LET THE MARKETS WORK
It is early November, and 13 degrees C outside the power exchange at Lysaker in Oslo, Norway.

This autumn has been one of the mildest on record and very wet. However, Mikael Lundin is not confident that the politicians will be able to find the most efficient solutions to the climate challenge. He believes the markets would be far better suited.

“We had an opportunity to let the market reign. The politicians could have kicked off the ETS system once more, but instead chose to do the exact opposite. I would go as far as saying that the EU has failed in terms of climate policy. Had the climate policy been based on market forces, it would have been far better suited.”

The power market has never been more volatile, says Mikael Lundin, CEO of Nord Pool Spot, without any room for misinterpretation. As the top executive of Europe’s leading power exchange, he knows what he is talking about.
I would go as far as saying that the EU has failed in terms of climate policy. Had the climate policy been based on market forces, it would have also provided Europe with a competitive advantage.

Mikaël Lundin, CEO, Nord Pool Spot

how do all the small-scale producers on the continent impact the market?

“Currently, the development is very much driven by subsidies. In order for this to work properly, they also need to take their share of the balancing obligations. Security of supply still rests with the system operators and the major companies.”

Statkraft has had success on the continent by offering market access to small-scale producers. “Yes, that is a good example of how synergies for the growth in renewables are realised. This is what I mean when I say that the major companies can regain some of the command they have lost.”

UNCERTAIN, BUT EXCITING Nord Pool Spot has had major success. Will it continue?

“I am very optimistic on behalf of Nord Pool Spot. Trading is moving towards shorter time horizons, and the need for a well-defined reference price has never been greater. The entire smart grid technology is driven by a well-defined spot price.”

You have talked about the uncertainty in the market. How about job opportunities?

“The number of full-time equivalent staff might decrease, but the content of the jobs increases. This uncertainty will lead to even more exciting tasks.”

Lundin glances at his watch. The day’s “magic moment” is drawing near. This is when the invisible, yet efficient, hand of the market will do its thing. Throughout the morning, the various players report their production plans, power demands, and relevant transmission capacity. At 12:42 sharp, the prices are made public in the market.

“For a time I worked with stock portfolio management. The nice thing about power trading is that it is combined with a product that is important for society. Both the employees and I are very proud of this.”

MY DAY: I usually start my day around 04:30 hours, most often at a hotel. At around 0600–0700 I am on a plane, working on my computer on my way to somewhere in the Nordic region, the Baltics, continental Europe or the UK. Then I have meeting until 2000–2100 hours. On this river, in the Corum province in northern Turkey, Statkraft is developing the Kızılırmak hydroplant, scheduled for completion during the first half of 2015.

Turkey’s energy market is the fastest growing in Europe, with an estimated annual growth of 6% per cent leading up to 2020. It is expected that demand for energy will almost double from 211 TWh in 2010 to 400 TWh in 2020, due to increased consumption per capita and population growth. Turkey has made good progress in deregulating the power market. All regional power distributors have been privatised, the private share of power generation is slowly increasing, and more than 100 private companies are active in power trading.

Turkey has 13 entries on UNESCO’s world heritage list.

Leonardo da Vinci planned a bridge across the Bosphorus, but it was never built.

Istanbul’s metro, the Tunnel, is the second oldest in the world. Service started in 1875.

Wolves, brown bears and foxes are among the mammals found there.

More than 400,000 Norwegians travel to Turkey each year.

Müzaffer Kemal Akdag (1883–1938) founded the modern Turkish state in 1922, with focus on restructuring the country. Republic Day is celebrated 29 October each year in commemoration of this.

Turkey is a key market for Statkraft in terms of hydropower generation and power trading. Statkraft’s largest hydropower development in the country, Çetin, is heavily delayed. In November, Statkraft’s board of directors decided to continue the project with a new schedule, new cost frame and new main contractor. When Çetin is completed, Statkraft will have invested more than NOK 1 billion in Turkey. Statkraft’s Turkish venture is managed from the offices in Istanbul and the capital Ankara.
#STATKRAFT
CREATES PASSION

Tag your photos in Instagram with #statkraft