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CEO AND PRESIDENT, STATKRAFT AS

LILLEAKER, 24 NOVEMBER 2009

## **Renewable innovation**

Excellencies, distinguished guests, ladies and gentlemen,

When fresh water runs into the ocean and mixes with salt water, energy is unleashed. Statkraft has developed technology and systems to capture this energy and later today we are opening the world's first prototype of an osmotic power plant.

You will join us at Tofte to celebrate the opening. This picture is a part of our ad-campaign where renewable technologies for the next generations are presented using children's toys as illustration.

We are all very excited about the opening and we are very excited to have so many of you with us at this seminar where innovation and renewable energy are the key topics.

As a leading provider of renewable energy we believe we have a clear mandate and responsibility to develop new clean technologies. Through a joint effort involving government, research institutions and industry Statkraft has developed a stable, renewable and emission-free source of energy.

Osmotic power has a global potential equaling 50 % of the total electricity production in the EU today, it is highly area-efficient compared to most other renewables, and even large-scale development will leave a minimal ecological footprint.

We have a dedicated team working on osmotic power in Statkraft and I would like to thank Executive Vice President Jon Brandsar, Senior Vice President of Innovation and Growth Sverre Gotaas, Vice President Bjørn Holsen and Head of Osmotic power Stein Erik Skilhagen for all their efforts. Perhaps you can stand up so all can see you.

## **Climate**

In less than two weeks the world will convene in Copenhagen to face what has been called the ultimate test of global cooperation.

There is a lot at stake. The outcome of COP 15 – the road FROM Copenhagen – is of crucial importance for our future climate. And in a somewhat narrower perspective – it will also mean a lot for the energy sector.

Still, the prospects of Copenhagen seem highly uncertain.

It is widely accepted that we need to reduce carbon emissions by 50% by 2050 if we want to stabilize the carbon concentration in the atmosphere at a level that would keep the temperature increase below 2 degrees.

To reach this target, the importance of energy efficiency is striking. It is really a useful reminder, even for us who make a living out of producing and selling renewable energy, that the greatest greenhouse gas reduction will be achieved by energy that is not used or used in a more efficient way.

But we also know that the greater greenhouse gas reduction we aim for, the greater the importance of renewables. Our call on Copenhagen is therefore to establish a framework that will unleash the investments needed in renewable power generation. For this to happen we – and the world – need a binding international climate treaty that will put a global price on emissions.

## **Technology transfer**

Another key challenge is to secure financing from rich to poor countries to help them curb their emissions and support economic development. Recently Statkraft joined forces with WWF Norway, The Norwegian Confederation of Trade Unions and the development fund Norfund in launching an initiative to provide direction on the crucial concept of technology transfer. The proposal was handed over to The Norwegian Minister of the Environment and International Development, Mr Erik Solheim, a few weeks ago.

This initiative aims at supporting developing countries in their efforts to reach a sustainable low carbon energy future through massive investments in renewable energy, while providing positive momentum to the international climate negotiations where technology transfer is one of the main issues.

## **EU - 2020**

The European Union is taking a lead in energy and climate policy, and forms a very important framework for our business.

The EU Renewables Directive which was formally adopted in June this year sets a binding target to source 20% of EU energy consumption from renewables by 2020.

The Member States are all obliged to submit their implementation plans for reaching their binding targets by June next year, so things are moving fairly fast from ambition to plans and execution.

Turning back to the topic of the day, we were happy to see the Renewables Directive include osmotic power and other ocean energies in the scope of the directive. We also believe osmotic power has a natural place in the implementation plans and the European renewable energy portfolio of tomorrow.

In Norway, too, ambitions are high.

With a starting point of almost all electricity generation being emission free hydropower, the key challenge is to reduce national emissions through increased use of electricity in petroleum sector offshore, speed up electrification of transport and replace heating oil. Norwegian implementation of the Renewables Directive will also imply binding targets for Norway.

## **The Statkraft world**

Statkraft is today Europe's largest generator of renewable energy, and our ambition is definitely to play a role in this extremely exciting and potent market and to help reach the ambitious targets.

There is so much potential for

- Succeeding commercially
- Helping bring pure, renewable energy to the world and make a difference in the larger picture

Hydropower continues to represent the largest business in Statkraft. A common perception is that the future potential in hydropower is very limited. The fact is that only one third of the global potential has been developed. Today hydropower represents one fifth of the world's electricity supply, so the potential adds up to around 60% of the current electricity production in the world.

A large part of the untapped hydro potential is in developing countries. At the same time we know that more than 90 percent of future increase in energy demand will come from emerging and developing economies . Tapping the potential of hydropower will contribute to cleaner growth in the fastest developing markets. In a world in need for pure energy, the potential of hydro is really worth taking into consideration.

Wind power is another source that holds significant potential, as we see from our experience in developing both onshore and offshore wind projects in Norway, Sweden and the UK. Offshore wind faces several challenges today, both technologically and on the regulatory side, but long term, increasingly more wind power will be developed offshore, where the wind is blowing and space is plentiful. While hydro and wind are great energy sources stand-alone, the combination of the two is even greater. As the wind varies a lot, the vision of a large-scale development of offshore wind power needs flexible hydropower to help secure a stable supply of energy for the days or hours with fair weather.

Solar power is one of the world's fastest growing renewable energy sources, fuelled by incentive schemes, technology improvements and cost reductions. Solar is a new focus area for Statkraft. As we speak, we are building our first solar park in Italy.

## **Concluding remarks**

There is not one single answer, nor is there one sector that can tackle the climate challenge alone.

There is however no doubt that renewable energy and innovation is of crucial importance.

In Statkraft we see tremendous opportunities in the years to come.

In the short term, we can realize the added potential that lies in existing sources like hydro power, wind power and photovoltaics. In the medium term, innovation can help us utilize new high-potential sources like further developing offshore wind power, osmotic power and other new technologies.

A price on carbon and a strong drive for further research and development will be essential for making existing renewable sources competitive, and in pushing early-phase technologies towards commercialisation.

While salt might not save the world alone, we strongly believe that osmotic power will be an important part of the global renewable energy portfolio of tomorrow and we know that innovation will be a key enabler for making the shift to a low carbon economy fuelled by renewables.