

POSSIBILITIES OF RENEWABLE ENERGY DEVELOPMENT



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Abstract: This material describes the possibilities of renewable energy development in the world, how it is possible to form positive public opinion regarding the renewable energy, how Russia can phase out subsidizing conventional energy in order to invest partially to the renewable energy.

Key words: renewable energy, modernisation of economy, investments in energy, energy education, energy security, climate protection.

Hans-Josef Fell was a member of the German Parliamentary Group Alliance 90/ the Greens from 1998 to 2013. He served as spokesman on energy for the Alliance 90/The Greens parliamentary group, a member of the Environmental Protection Committee, substitute member of the Committee on Economics and Technology and substitute member of the Defence Committee. Together with Hermann Scheer, he authored the 2000 draft of the German Renewable Energy Act, establishing the foundation for the technology developments in photovoltaic, biogas, wind power and geothermal energy in Germany. Fell and an internationally renowned energy and climate change advisor, author and

speaker. He is founder and president of the Energy Watch Group (EWG) – an international network of scientists and parliamentarians, which conducts research and publishes independent studies and analyses on global energy developments.

Mr. Hans-Josef Fell gave an interview to «Energy Bulletin», when he took part in the International Congress “Renewable Energy XXI: Energy and Economic Efficiency” REENCON XXI in Moscow.

Energy Bulletin: Why did you come to Russia to participate in this Congress?

Hans-Josef Fell: This Congress is very important for Russia and other countries, because it highlights the possibilities of renewable energy development. In my works all over the world for many years I have promoted the German Renewable Energy Act for the sake of climate protection and saving the world from the conflicts related to fossil energy, nuclear disasters and other problems. I am glad that here, in Russia, there are discussions of these issues. The transition to the renewable energy world has started and many countries have demonstrated a real progress in this field, but some countries have not. However, there is a hope that very soon this will lead to the global process. Therefore, I am here to discuss with Russian people, politicians, parliamentarians, scientists and industry’s representatives the development of renewable energy in Russia and I’ll be happy if they also follow the global trend to renewables.

EB: Your role as one of the key political and public figures in Germany and in the EU, who contributed and continue to contribute to establishing solid conditions for sustainable energy development in your country and in the region, is recognised and respected in the international energy community and especially among those involved in the renewable energy (RE) development. It is well known that you authored the text of the German Renewable Energy Act which was adopted by German Bundestag in 2000. You and your political colleagues have managed to pass this

very important law through your parliament in spite of serious opposition this law which existed at this time in Bundestag. It was a great success inside of the parliament, but how did you manage to form a very positive public opinion regarding the renewable energy and the shift of German energy from traditional to renewable?

H.-J.F.: The support of the population and the society was always very great, since environmental protection movements had existed in Germany for some decades and they wanted to come to the renewable energy. However, at the same time we had an opposition of large utilities which had their business with

great process. A lot of regions in Germany as well as worldwide have established targets for renewables and this movement is increasing very fast.

So if Russia follows, it could reach similar results. In some regions renewables can be much cheaper than conventional energies for people and for industry, which could switch their investments to the renewable energy. In Germany some big utilities of electricity sector which use conventional energy sources like coal, oil etc. like E.ON decided last year to switch completely to 100% renewable energy and to phase out nuclear energy and fossils, and it is expected that other large energy utilities will follow them. When we come together to this strategy,

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a very fruitful cooperation could be organised with the European Union, Germany and Russia to bring modernisation to economies, exchange of know-how, etc.. In other words to establish a partnership with the involvement of industries, universities, private people and others. This will be a basis for prosperity. Russia has a chance of overcoming crises and problems of cheap oil prices and of pollutants from the conven-

tional energy. Russia spends a lot of tax money to stabilise conventional energy. This puts the public budget under pressure. Russia can phase out subsidizing conventional energy in order to invest partially to the renewable energy. This could be one of the best strategies to overcome economic crises due to cheap oil in Russia and my proposal is to make this transition in close cooperation with modernisation in agriculture, transport sector, building sector and others.

nuclear, coal power, oil and gas and occupied an important position in the country. They wanted to go on with their business, instead of changing it, and they feared to be in competition with renewables. The law was supported by population and therefore it was very successful. That is why investments in the renewable energy are being strengthened which have already led to very important results. You should realise that in 2000 the share of renewables in electricity production in Germany reached only 6% , now it is more than 30%. This is a very high increasing rate. It should also be noted that in 2000 renewables were very expensive and we did nearly not have industry of mass production. Now we have it and renewables have become cheaper. Therefore the renewable energy can grow much faster and we see it in Germany. Investments in the renewable energy from private sources and individual people, cooperatives, farmers, etc. are also increasing. This brings a lot of benefits to people since they can earn money from renewables and find new employment. They can also stabilize regional and private economies. We learnt these lessons. Therefore there is a motivation behind this

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EB: As you wrote in one of your articles already published by our magazine the implementation of this Act has led to “energy revolution” in Germany. We assume that this “revolution” is a long –term process which is accompanied by capacity- building for renewable energy in the country, which is closely linked first of all with energy education and training of energy specialists capable to be involved in renewable energy and related sectors of national economy. Could you please say a few words about this process and what changes in the general education and training energy specialists of different qualifications took place in Germany to ensure renewable energy development?

H.-J.F.: In Germany it took about 10 years to change the mind-set of people. Fifteen years ago, in 2000, a lot of people knew very little about renewable energy. Public institutions, NGOs and pioneers in renewable energy did a lot to bring knowledge about renewables to people. They organised education of people. They organized media events and exhibitions particularly at local levels and contributed a lot to making millions of population sensible to renewables and it is necessary to note that local media companies, as well as Internet medias were also behind this process. They are decentralised and close to people – the same could be in Russia. People have learnt about renewables and their benefits. As a result we now see the full support of renewable energy in all polls in Germany. 93% of the country population is in favour of the renewable energy according to the recent poll. This situation is fully understandable since with the renewable energy we shall not have pollutions, we shall have energy security in the country, shall not need to buy energy from others any more. And the people can see this, therefore the people will have. And investments have grown. Now we have industries which can produce necessary equipment for using renewables like photovoltaic stations and others, which become cheaper and cheaper, while the external costs of conventional energy becomes more and more expensive. Even now when oil prices are continuously decreasing investing companies, banks, insurance agencies etc. say that they turn their business to Renewables. We expect that it will be pointed out in Paris* and it demonstrates that investors have lost their interests to deal with conventional energy. Russia should be aware of this. It is understandable that Russia is under the pressure of big companies like Gazprom, Lukoil and others. But if they do not switch its investments towards the renewable energy they will come to the losers of economy and go to poverty. We must open the eyes for all this new development in the world.

EB: Talking about Germany what are the main problems and the main barriers towards developing of the renewable energy development?

H.-J.F.: The German government does not have a clear strategy of energy development. Some

companies like E.ON switch to renewables, but some other companies do not want to change their business. They try to hold on conventional energy business. But they do not have any long-term perspectives. At the moment the government did not set real targets for the renewable energy development as fast as it is possible in the country. Thus, according to the set targets the share of renewable energy in the electricity production should reach 80% by 2050. However if we look at the growth rate of this sector being now demonstrated, we could have 100% of electricity production in the country to be covered by the renewable energy by 2030. Even under unfavourable economic conditions it is possible! We can see the fight between new and old businesses. But I am very hopeful to see how we overcome this fight. Ten years ago E.ON was fighting against renewables, now E.ON supports renewables. We can see that the support of renewables increases, but support of traditional energy is going down.

EB: What can you say about your organisation – Energy Watch Group. What are its latest results and nearest plans?

H.-J.F.: The Energy Watch Group (EWG) goal is to highlight the renewable energy in the world in comparison with traditional energy and we have worked on this for one decade. We have observed the situation with crude oil for the period till 2012 in our last study and we forecasted that the coal peak will be in 2020. But a lot of other studies recently say that it is ridiculous and the peak of coal will be in 2050. But the peak of coal is now.

In the USA also shale oil and shale gas are called revolutionary, but the EWG says, that they is not a revolution. Our analysis three years ago showed that the peak production of shale oil and gas in the USA would be reached in 2015, now we see that the EWG was right. Coal consumption is declining worldwide. It is astonishing for people, but we have used our Energy Watch Group scientific network for this forecast. We also looked into studies and forecasts of the International Energy Agency (IEA) which makes its forecasts for the energy in the world and it advises the governments on these forecasts. These IEA forecasts are wrong in two directions: first of all they overestimated the role of fossils and nuclear energy which will be much less, especially of nu-

* 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21/CMP11), 30 November – 11 December 2015, Paris

clear energy, and they underestimated the growth of wind energy, solar energy and other renewables. Thus solar electricity has increased globally three times more than IEA forecasted in 2010. We can learn from this wrong forecast and the governments can go very fast to renewables and many countries, like China, for example, and Latin America, are doing this. Some of them are doing this very successfully. Costa Rica, for example, has already reached 100% electricity production from renewables and Uruguay follows. Now in Finland we have a big discus-

is no money for this. Seven billion US dollars were invested in Alaska, they are facing bankruptcy. The situation is very serious with falling oil prices for the oil companies. We want to highlight what happens with the oil companies. They do not want to speak about this. They say that there is nothing wrong and business is going on, well they hope to have new financing. We see the real problems with shale oil industry, which has now a debt amounting to some hundred billion US dollars. Nobody knows how to refinance these loans because with low oil prices it is impossible. That is why we see the shale oil industry in USA declining, unemployment growing and bankruptcy of some companies in Texas and in Canada as well.

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sion of energy policy and advise not to make mistakes like in the past. Fifteen years ago this country decided to install a new nuclear power reactor to be commissioned in 2009 with a total operation cost of 3 billion US dollars. Till now they do not have electricity from nuclear power and they expect to have it in 2018. But the construction cost had tripled and we can see that the investments to fossil and nuclear energies bring financial disasters and it is not a success story. That is why there is a big discussion of energy policy in Finland. The EWG studies can highlight the problems under discussions and open the eyes on what is really going on in the world. That is why I'll be happy if "Energy Bulletin" cooperates with us in promoting these ideas.

EB: What are the nearest studies you plan to make in the nearest future?

H.-J.F.: In the near future we plan to undertake two big studies and I hope we could finance them. In the new study we shall look in details of oil companies to understand what is the really economic effect due to the falling oil prices. For example, Shell oil arctic drilling in Alaska is being closed since there

Next year we want to start a new study on the 100% of the renewable energy world on an economic basis. We hope to implement this study with Dr. Cristian Breyer from the Lappeenranta University of Technology in Finland who has already analysed this matter during his doctor and postdoc studies held in some countries of the world and namely in the Northern – Eastern Asia, as well with a very new study for Eurasia.

His studies focused on renewable energy possibilities in Eurasia which have very favourable conditions for the construction of solar power plants, wind farms, bio-energy installations. They could not only produce energy from renewables but also bring electricity to the big cities in Eurasia with price of under 6 euro cents per Kwh for generation, storage and transmission for the electricity. The North East Asia study from the Lappeenranta University is for those interested in China since China fight against air pollution. In China some four thousand people die from air pollution daily. This is mostly caused by coal power and diesel cars and others. In a few weeks there will be the publication on the South-East Asia 100% renewables Study from Lappeenranta University. By the end of the next year we would like to finalise this study with all nations worldwide including Russia. This will be an economical study on how to come to 100% renewable energy. We can show then, that renewables are the cheapest option for energy security and climate protection.