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‘Structural mismatches in economy and the labour markets and the possibilities to tackle them with investments in renewable energy sources’

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The increased energy consumption as well as the danger of reduction of conventional energy resources has created the need for a search of new forms and sources of energy. Thus, renewable energy resources (RES) were put to the fore during the last fifteen years. The character that was attributed to this priority was initially related to the differentiation of the energy supply.

Nowadays, despite the fact that the differentiation of the energy supply prevails as an argument for applications of RES to a great extent, an attempt is being made to encompass RES in the framework of Sustainable Development, as a holistic review with reference to geographical unity.

Present speech comes to highlight the positive contribution of RES not only as far as energy is concerned, but also referring to the economy, society and environment and how investments in RES can support to tackle some structural mismatches in economy and the labour markets. RES are not treated fragmentally, as an achievement of technological evolution, but as a strategic option able to develop through methods and assessment models in terms of the appropriate political, social and investments context. International and national power bodies can support the wide application of RES to the positive effect it has on global peace, improvement of the living conditions for a resident of a Third World Country and the development of social cohesion in a country.

Biomass energy is the most traditional form of RES, with the wind power, geothermal energy, solar power and hydroelectricity being

considered as “new” and the ocean energy and fuel power being characterised as contemporary.

Policy has a profound, positive and lasting effect on driving investment and growth in renewable energy technology and deployment. Regulatory policy that creates financial incentives to invest in renewable energy technologies, or that establishes national and state renewable energy targets and standards, has a direct and proportional impact on the amount of investment in renewable energy by both public and private investors.

Policy has the power to not only create and shape the renewable energy market, but to sustain it as well. Investment is directly proportional to the scale of incentive provided by a renewable energy policy.

In Germany, Denmark and Spain, renewable energy penetration as a percent of total power generation has surpassed through implementation of a series of clearly defined, consistent, long-term energy policies that established targets and incentivized investment in renewable energy development. In fact, consistent renewable energy policies across the European Union created the successful wind energy industry in Europe as we know it today.

In 2001, the European Union Renewables Directive 1 established targets for all EU nations to generate at least 20 percent of electricity from renewable sources by 2010. In 2008, EU Renewables Directive 2 increased the targets for renewable electricity to 33 to 40 percent by 2020.

For a greater development of RES, an emergence of a comprehensive support framework is necessary, including initiatives in five different levels: the political, the institutional, the financial, the level of education, dissemination and intervention in the society and the level of investigative and technological support.

Government policy has an essential role to play in enhancing incentives for investing in renewable energy. Time-bound incentives, notably feed-in tariffs, direct subsidies, and tax credits can make the risk/revenue profile of renewable energy investments more attractive. The proceeds from

carbon or energy taxes or from phasing out fossil fuel subsidies could be used to support such incentives. As far as project financing is concerned, public finance mechanisms, which can range from simple grants to complex conditional funding structures, can be deployed to support R&D, technology transfer, and skill building. These can complement private capital, especially in developing countries, or broaden the market for renewable energy. Governments are increasingly taking action; by early 2010, for example, 85 countries had set national targets for renewable energy, more than half of which are in developing countries.

Ambitious targets imposed on Member states, have led them to adopt national plans to encourage investment in renewable energy sources.

The renewable energy market is expected to expand rapidly, especially in the fields related to solar, wind and biomass industry.

Banking system finance the investment in RES because of a number of factors like a favorable regulatory environment and market, the task diversification, the attractive financing initiatives through running Programs and the characteristics of technological fields and quality of cash flows

According to the recent technological and market dynamics of energy products, the renewable energy **industry** is one of the fields characterized by the most interesting development prospects. Some important and complex aspects in renewable energies are the existence of "alternative" technologies characterized by deep diversity (hydro, photovoltaic / solar thermal, biomass, wind) and the strong reliance on specific rules.

Let's see the economic and financial, convenience to invest in different RES technologies and the opportunities and advantages in economic, social, environmental and rural level with which we can tackle some structural mismatches in rural, national and world economy:

- **Domestic energy consumption (used in production processes) is more convenient for business than the mere transfer to the network and the market.** It is clear that, especially with reference to energy-intensive companies, a country energy market prices, can lead to an advantage in the case of self-production, but it should be noted that the results of the simulations indicate an advantage even by a mere production and reselling of energy.
- Technologies show substantial differences in the normal investment return and above all, in the strong change of these returns in the case of self-consumption and energy transfer to the network.
- **The investment return grows according to its financial structure, which typically requires a specialized banking operator with special instruments.** It is necessary to resort to customized solutions, indeed, often, some companies are established. They are economically participated by the entrepreneur that limits its exposure to capital, and financed by the banks for the remaining part.
- Renewable energy presents major economic opportunities. **Investing in renewable energy is becoming increasingly viable as technology advances and costs decrease.** For 2010, new investment in clean energy is estimated to have reached a record high of US\$243 billion, up from US\$186 billion in 2009 and US\$180 billion in 2008. The growth is increasingly driven by non-OECD countries, especially large emerging economies including Brazil, China, and India. With increasing scale, renewable energy offers important new employment opportunities. Furthermore, renewable energy can be a cost-effective solution to reaching the energy poor in many situations.
- Greater investments in renewable energy, as well as energy efficiency, are required now because the costs of inaction are high. The energy sector is directly responsible for climate change whose costs in terms of adaptation are estimated to reach US\$50-170 billion per year by 2030, half of which will be borne by developing countries,

affecting the poor disproportionately. To achieve a “two degree” world, the corresponding cumulative investments in renewable energy under the IEA’s main scenario would have to amount to US\$1.7 trillion by 2020. Every year of delay in bringing the energy sector on the 450 ppm trajectory would add US\$500 billion to the global costs for mitigating climate change.

- **Renewable energy can make a major contribution to energy security at global, national and local levels.** Most of the future growth in energy demand is expected to come from developing countries, against a background of rising fossil-fuel prices and uncertainty regarding peak oil. The concern is most acute in oil-importing African countries, which spend 30 per cent of their export revenues on imported oil on average, with some spending more than a half. At the local level, renewable energy sources can ensure a more stable and reliable supply either through local mini grids or household level systems such as PV or biogas, reducing disruptions from a centralised grid or fuel supply.
- We have to put renewable energy to work in rural areas. This implies **a new paradigm for rural development.** Reducing the use of spatially blind incentives, introducing a flexible policy framework, and taking into account the characteristics and specific needs of hosting economies, could be a way to capitalise on the investment in renewable energy in terms of economic development. Potential backward and forward linkages with rural industries such as forestry or manufacturing should be developed through an integrated approach to renewable energy deployment. Collective action should be stimulated through intermediate institutions active in rural communities and policy makers should aim at involving a larger number of stakeholders in policy interventions to stimulate sustainable development and improve local support.
- **Renewable energy sources can play an important role in a comprehensive strategy to eliminate energy poverty.** In addition

to being unsustainable, the current energy system is also highly inequitable, leaving 1.4 billion people without access to electricity and 2.7 billion dependent on traditional biomass for cooking. Moreover, indoor air pollution from using traditional biomass and coal is responsible for more than 1.5 million premature deaths each year, half of them children under the age of five, the rest women, in developing countries. Ensuring access to electricity for all requires US\$756 billion – or US\$36 billion per year – between 2010 and 2030, according to estimates by the IEA and UN. Cost effective solutions include clean biomass and off-grid renewable-energy technologies, such as solar PV, with low operating costs and flexible, small-scale deployment options.

- **Renewable energy technologies are becoming more competitive.** The maturity of technologies and the related “learning effects” have helped make their costs increasingly competitive. In the European context, for example, hydro and wind can already compete with fossil fuel and nuclear technologies, and on-shore wind will soon be competitive with natural gas technologies. Renewable energy technologies have also been advancing, including bioethanol-based transport fuels in Brazil, solar energy for heating purposes in China, geothermal energy in Iceland and El Salvador, and on-shore and off-shore applications of wind energy in many more countries.
- Renewable energy is even more competitive when the negative externalities associated with fossil fuel technologies are taken into account. The combustion of fossil fuels has both pollution and human health impacts. Many renewable energy technologies would become highly competitive if these externalities were factored into the production costs of fossil fuels, and the considerable subsidies for both their production and consumption were removed (globally totalling US\$500-700 billion per year according to IEA, OECD, and World Bank estimates). Cost-reducing innovation in various

renewable technologies is also likely to accelerate as a result of increased investment flows.

- **Increasing investment in greening the energy sector can make a substantial contribution to decreasing carbon emissions.** Modelling for the GER projects that an average investment of approximately US\$650 billion over the next 40 years in power generation using renewable energy sources and in second-generation biofuel production of transport fuel could raise the share of renewable energy sources in total energy supply to 27 per cent by 2050 compared with less than 15 per cent under a “business as-usual” (BAU) scenario. The share of renewables in power generation alone is projected to be 45 per cent by 2050, compared with 24 per cent under BAU. Together with investment also averaging US\$650 billion per year to improve energy efficiency, total fossil-fuel use is projected to be 41 per cent lower in 2050, producing estimated savings in capital and fuel costs averaging US\$760 billion per year between 2010 and 2050. Carbon emissions would be 60 per cent lower than BAU by 2050.
- **A shift to renewable energy sources brings many new employment opportunities.** Due to the higher labour intensity of renewable energy compared with thermal power generation, increased investment in renewable energy would add to employment in the short-term, according to modelling for the GER. In the longer term, employment in energy supply would decline at a rate comparable to that expected under BAU, but with a substantial substitution of jobs in renewable power generation and biofuels production for many of those lost in coal mining and coal-based power plants. Taking into account an estimated 5 million jobs to be created in goods and service businesses required for energy efficiency, direct employment from greening the energy sector could exceed business as usual by about 15 per cent, with moderately positive indirect employment effects. The overall impacts on

employment of investing in renewable energy will vary by national context and deserve careful analysis at that level.

- **Increasing investment in renewable energy requires additional incentives to ensure profitability.** Such investments carry particular risks such as those typically associated with the emergence of new technologies as well as the uncertain effective price of carbon that traditional energy sources will have to pay. In addition, there are issues of high upfront capital costs, access to finance, and the partial public-good nature of innovation. Together these hinder the competitiveness of renewable energy technologies, discouraging private investments in their development and deployment.

In conclusion, we have to say that investments in RES can contribute to tackle the structural mismatches in economy and society in rural, national, European and World levels.

- RES are absolutely compatible with the principles of sustainable development.
- Increasing investment in renewable energy requires additional incentives to ensure profitability
- A shift to renewable energy sources brings many new employment opportunities
- Increasing investment in greening the energy sector can make a substantial contribution to decreasing carbon emissions
- Renewable energy technologies are becoming more competitive
- Renewable energy sources can play an important role in a comprehensive strategy to eliminate energy poverty
- RES is a new paradigm for holistic rural development
- Renewable energy can make a major contribution to energy security at global, national and local levels

- Investing in renewable energy is becoming increasingly viable as technology advances and costs decrease
- The investment return grows according to its financial structure, which typically requires a specialized banking operator with special instruments. Banking system finance the investment in RES
- Domestic energy consumption (used in production processes) is more convenient for business than the mere transfer to the network and the market

And finally, I want to say something for trade unions and trade unionists.

We have to play an another role in the new difficult global economic and political environment.

Clinging to old dogmas and old practices we will not be able to deal with the new data. To be useful to our colleagues, society, countries to our common Europe and the World we dream

We have to support Sustainable Development with respect to social cohesion and the workers' rights and we have to accept that if we want a better life, the pie of growth have to be bigger in a righteous sustainable way.

And Renewable Energy Sources serve to this goal.