INFORSE-EUROPE
International Network for Sustainable Energy

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Implementation of the EU Renewable Energy Directive

Recommandations from INFORSE-Europe[1], April 30, 2010

The EU countries shall by June 30, 2010 finalise renewable energy action plans to implement the renewable energy directive (Directive 2009/28/EC of 23/4 2009), including plans to reach their national renewable-energy targets. This is a very good opportunity to improve the national framework for renewable energy and boost the development away from fossil fuels. The implementation, however, risks to compromise sustainable development, if sustainability is not integrated in the framework.

Therefore INFORSE-Europe has the following proposals for implementation of the directive in progressive and sustainable ways. The proposals include recommendations for fulfilling of targets, for calculations, for administrative issues, for information and training, for network access, and for sustainability of biomass.

Targets (directive article. 3)
The renewable energy action plans shall explain how the countries will reach the national renewable energy targets , ranging from 10% (Malta) to 49% (Sweden) of gross final energy consumption (as defined in the directive), and how the countries will reach a trajectory of increasing renewable energy use in the years 2012 - 2018.
The countries have in their communications from December 2009 informed about their expected renewable energy development until 2020. Most countries have found that they will increase their renewable-energy use so that they will reach, or for some even surpass, the target. This is a very promising fact and it gives the opportunity to go beyond the targets set in the renewable-energy directive. On the other hand, not all countries have put practical measures in place to reach the targets: some countries that expect to fulfil their national target have governmental decisions to do so, but lack several policies and measures to realise the target.

1 International Network for Sustainable - Europe, a network of 74 NGOs working for sustainable energy

Therefore INFORSE-Europe recommends:

- that countries which do not expect to reach the target with current measures, decide upon new measures to increase renewable energy measures to reach or go beyond their national targets.
- that countries plan to implement the targets with national renewable energy sources, and do not use the cooperation measures among countries proposed in the directive. All countries are able to fulfil their targets with national measures, and all the benefits of renewable energy development in the form of industrial development and employment are mostly linked to the place of implementation.
- that countries with decisions to reach their target review their policies and measures to see if they are sufficient to reach the target
- that countries consider to set their national internal renewable energy targets above the target set in the directive.
- that local renewable energy solutions, such as household solar energy, becomes a substantial part of the renewable energy mix.

The countries also have a target for 10% renewable energy in transport, which can be fulfilled with biofuels that meet sustainability criteria and with electricity produced from renewable energy. There is no requirement for intermediate targets before 2020. Renewable electricity used in road vehicles counts 2.5 times biofuel. This factor of 2.5 is included because one unit of electricity used in a vehicle replaces several units of fuels, simply because electric vehicles by nature are more efficient (have higher end-use efficiency) than vehicles driven by combustion engines. Electricity used in electric trains is NOT counted with a factor 2.5, which is an unfair treatment of railway vehicles as they are usually more efficient than road vehicles.

To reach the renewable transport target with electric vehicles can be challenging:

- Only the average share of renewable energy in electricity production counts as renewable, (but the countries can choose between the national average or the EU average). The EU average renewable energy share in electricity production was 15.8% in 2009, but this share will go up with the expansion of renewable energy. An estimation of the share for 2020 is about 27% [2].
- to fulfil the 10% renewable energy target in transport - with estimated EU average electricity in 2020 - will require a share of electric vehicles of 41%[3], even when electricity is counted a factor 2.5.
- to fulfil the increase from the 2010 target of 5.75% renewables in transport to the 10% target in 2020 (+4.25%) with electric vehicles - with estimated average EU electricity in 2020 - will require a share of about 22% electric vehicles.

For countries with a higher share of renewables in electricity than the EU average, the renewable transport target can be fulfilled with less electric vehicles in transport In a country with a 2/3 (66%) renewable share in the electricity supply, it will require 20% electric vehicles to fulfil the 10% renewable transport target just with electric vehicles.

Also renewable hydrogen can be used to meet the renewable transport target; but the guidelines for this are under development by the EU Commission and will only be ready by the end of 2011.

2 In 2005 the renewable energy share in power production was 12.5% and the renewable energy share in gross final consumption was 7%. With the increase of renewable energy of 13% in the gross final energy consumption 2005 - 2020 and the increase is 5% in transport (biofuels) and the rest divided equally a across the other final energy consumption including electricity, the renewable fraction in electricity will be about 27%.

3 If replacement of a share unit of fuel with electricity would increase the renewable share with 17% of the share replaced, it would require that 58% fuel use would be replaced with electricity, but because the transport energy demand goes down drastically with the change, 41% is sufficient.

For the renewable transport target, INFORSE-Europe recommends:

- that only sustainable biofuel is used (see below on sustainability of biofuels) to fulfil the targets, and that special care is taken that imports into the EU is sustainable, given the uncertainty of the sustainability of these fuels. When in doubt about sustainability, imports should be avoided.
- that as far as possible the target is met with renewable electricity
- that eventual plans for hydrogen-driven transport is included, in spite of the missing guidelines
- that renewable electricity used in railways are included with a factor 2.5 similar to electricity used in road vehicles. As railways are more efficient than road transport, even more efficient than electric road vehicles, the railways should not be disfavoured by not allowing them to count renewable electricity with a factor 2.5.

National action plans (art.4 and 6-10)
The national renewable energy action plans shall divide the national target in national targets for the shares of energy from renewable sources in transport, electricity and heating and cooling in 2020 to reach the national targets set in the directive. The targets shall be based on the expected consumption in 2020, including expected reductions based on energy efficiency measures. They shall also include the cooperation with other countries, where one country helps another country to fulfil its target, either via statistical transfers or via joint projects.

INFORSE-Europe recommends:

- that targets are fulfilled with national measures (also mentioned above)

Calculation of Renewable Energy Share (art.5)
It is essential that the renewable energy included is produced in sustainable ways and are renewable.
INFORSE-Europe recommends:

- that only the biomass-based share of energy from waste incineration is included, based on realistic, national assessments of the biomass share in waste
- that only sustainable biomass is included, also requiring sustainability of imported biomass

Joint and Coordinated National Support Schemes (art. 11)
European countries have benefited enormously from exchanging experience of renewable energy support schemes and from adopting support schemes that were well proven in other countries; but much of the value of a national support schemes is lost if the national support (support by the state budget, by energy users, or by others) is not used to increase the national use of renewable energy. Then the support does not contribute to national security of energy supply, development, or employment.

Thus, INFORSE-Europe recommends:

- that coordination and exchange of experience of support schemes for renewable energy is used extensively to optimise national support schemes; but
- that national support is kept within the country, while
- international support is increased via EU and similar bodies to support development and demonstration of new and improved technologies across borders.

Administrative Procedures (art. 13)
Administrative procedures and regulation is essential for success with renewable energy:

- It is essential that administrative procedures are not constituting unnecessary barriers or delays for development of renewable energy
- It is also essential that renewable energy producers have access to electricity and gas networks in a fair and transparent way, and that costs for network connection and use is fair (see also recommendations to art. 16 below)
- building codes have proven very important for promoting building-integrated renewable energy in several EU countries and should be used throughout the EU
- public authorities can be important first movers, if they adapt the use of renewable energy early

Thus , INFORSE-Europe recommends for administrative issues and regulation:

- that permissions for renewable energy is simplified, and as far as possible is made as a "one-stop-shop" where the principle is that an application can be made to one authority,
- that whenever there is a need for environmental impact assessments (EIA), public participation is included in a way that is transparent for the project promoters as well as for the public,
- that land for renewable energy is included in land-use planning, to increase certainty for all and to simplify the administrative work and time for later project development,
- that grid access is fair and transparent and that there is no preferential treatment of existing, usually fossil, power production; for instance with a complete separation between generation of electricity and transmission and distribution,
- that simple administrative procedures are used for smaller renewable-energy installations where there are few planning and grid connections concerns, such as solar PV rooftop installations, small windturbines, micro-CHP etc. In some countries the administrative of burden of connecting such small-scale installations are comparable in complexity to those facing major energy installations.
- that grid owners and operators develops their grid to feed-in renewable energy. Grid extensions and reinforcement that are to be owned by the grid owner shall also be paid by the grid owner, and recovered by grid tariffs for consumers in a transparent way and fair way. This shall include compensation from national regions with less costs for this to those with higher costs.

- that building codes require the use of solar heating in new and renovated buildings, whenever it is cost-effective.
- that the building codes require that the minimum share of renewable energy in new and renovated buildings (art. 13, §4) is set to increase progressively from 2015 or earlier to 2020. The share must be 5-10% or higher by 2015. The share should at least be similar to the share of energy from solar heating used for hot water in the building.
- that the building code require high efficiencies of heating and cooling systems, as expected with the coming building directive, and that countries use the opportunity to set higher efficiency requirements for heat pumps than in the current EU eco-label for heat pumps.
- that district heating and cooling operators are required to increase their use of renewable energy share to at least the same share as required for new buildings.
- that plans are made for public buildings and other public energy use for a complete transition to renewable energy over a period of 20 years or less, with a target for 2020 as an important milestone.

- In general all relevant regulation should be screened for the effects on renewable energy, and when a proposed regulation has adverse effects for the development of renewable energy, it should be changed before adoption

Information and Training (art. 14)
The knowledge and capacity of the renewable energy sector, installers etc. is key for the success of renewable energy. Similarly, free and unbiased information for consumers is essential for a successful large-scale development. In this respect NGOs can play important roles as providers of information. Therefore INFORSE-Europe welcomes the provisions in this article and recommends:

Regarding information:

- unbiased information must be available and targeted to possible users of renewable energy including house owners, small and medium sized enterprises and administrators of buildings (public and private)
- the information must include overview of the solutions available, typical costs and benefits for different users in the country, lists of and contacts to qualified installers, and as far as possible lists of available products that are used by qualified installers.
- the information should be provided via the internet as well as at relevant information places, such as exhibitions, and should be available throughout the country.
- in addition to information materials and websites should be advisers to guide prospective renewable energy users, by telephone, email and in person. Simple advise should be freely available.
- **f**or guidance of planners, architects and heating and cooling engineers free websites in national languages should be available. They must be well maintained, give clear guidance on planning procedures, permissions needed and other legal requirements, design, costs, good practice etc.

The information can be provided by authorities, including local authorities as well as by NGOs (national and local NGOs), and others. It is important that the information is practically useful, precise, and unbiased. In the countries with most successful information activities, both NGOs and other stakeholders are involved. The activities can be funded by a small levy on energy use (on all energy or on fossil energy)

Regarding training:

- for each type of renewable energy, the training of installers must include at least one week of full time theoretical course, as well practical training, preferably on-the-job training. The theoretical training shall cover all relevant information and instructions, including maintenance. Most focus shall be on issues that are directly useful for the installers working in the specific country.
- the practical training must be done together with experienced installers and include installation of at least 5 systems for different purposes and with different technical solutions
- the training must be supplemented with regular refreshing seminars, every 3-5 years.
- the length and costs of the training must not become a barrier to the rapid deployment of renewable energy.
- after appropriate training, certified installers should be able to do a full renewable energy installation of one type of renewable energy on a building (boiler; solar heating; heat pump system; etc.), including work on water and electricity, as far as the work is not significantly changing the electric installations of the house.
- training should allow installers to acquire basic skills and/or to allow work that is normally covered by installers with other certifications (for instance training of plumbers to do simple electric work). This kind of training must be additional to the specific training in the renewable energy solutions.

- the training must include an overview of equipment and technical solutions used in the national market, as well as a supplier-independent overview of benefits and drawbacks of relevant equipment and technical solutions.
- training courses should be available for building professionals, including shorter courses of 1-2 days to make it easier for the professionals to deal with renewables in their daily work, as well as various longer courses for dealing with more complex renewable energy systems.

The training can be organised in a number of ways, involving existing training institutions, practitioners, planners, and designers in the field, including specialised NGOs. In some countries NGOs have good experience with this. The training programmes should initially be either publicly funded or funded by a levy on energy use. Later the funding can gradually be shifted towards the companies that benefit from the training, with training fees.

Regarding training of public authorities:
- administrations that issue building permits should have sufficient professionals with at least basic training in the use of local renewable energy.

Regarding cross-border cooperation on training:
- countries should actively cooperate to ensuring homogeneity and standardisation of training, in spite of particular requirements in each country, for instance by establishing a Pan-European certifying body to certify the different courses in the EU countries.

(Read INFORSE-Europe's full recomendation for training in renewable energy:
http://www.inforse.org/europe/EU_res-directive.htm#training)

Access to and operation of the grids (art. 16)
It is important that electricity networks are developed to integrate renewable energy, with appropriate network extension and reinforcement, as well as with increase of flexibility to integrate more intermittent supply. The increase of flexibility can include increased access to fast responding power production; flexible electricity use with smart metering and price signals to costumers; electricity storage such as hydro pump storage; and introduction of new, flexible consumption that increases the efficiency of the energy system (such as electric vehicles and heat pumps if these have time-flexible power consumption).
The use of gas and heating networks for distribution of renewable energy can be an important additional measure for expansion of renewable energy use.

INFORSE - Europe welcomes the provisions for grid connection in this article and recommends:
- that grid owners and operators (transmission as well as distribution operators and owners) shall only charge for the connection to the nearest power line of the needed tension. Lines and other infrastructure that are to be owned by the grid owner shall also be paid by the grid owner, and the costs shall be recovered by grid tariffs in a transparent way (also mentioned above to art. 13). This will generally include lines and infrastructure that are to be used by other purposes than the direct connection of the renewable energy supplier.
- that each transmission system operator (TSO) is required to develop a grid plan for integration of a large share of renewable energy, establishing a least-cost plan to increase flexibility, including all feasible local measures, and when needed, connections with other TSOs.
- that heat network operators are required to connect renewable heat producers. Under certain conditions waste heat producers should also be connected to heat networks as far as the waste heat delivery does not increase greenhouse gas emissions. Waste heat is, however, not necessarily renewable energy.

Sustainability of liquid biofuels (art. 17-18)
It is essential that liquid biofuels and other biomass is produced sustainably and does not lead to greenhouse gas emissions on a similar level than the fossil fuel it replaces. Therefore INFORSE-Europe recommends:

- harvesting for biofuel production must not lead to degradation of biodiversity or carbon content of wetlands, peatlands, and forested areas.
- biofuel production must not lead to increased pollution from agriculture, compared with the agriculture that it replaces.
- biofuel production must be sustainable, i.e., that agricultural practices must not deplete the soil and its fertility.
- the use of agricultural land for biofuels must not lead to reductions in the availability of foodstuffs or to unaffordable prices of food.
- labour rights must be respected, as established in international conventions.
- sustainability criteria must also be respected by ensuring successful relocation of agricultural and forest production from areas that are used for production of biofuels.
- imports shall only be allowed from countries that fulfil above criteria with certainty. Imports from countries that do not have a secure and un-compromised system to guarantee sustainability must be banned.
- any promotion of liquid biofuel shall promote the biofuel with the highest greenhouse gas reduction, and under no circumstances with less than 50% reduction
- an appropriate control system is established to secure the sustainability of liquid biofuel, including control of imported biomass, paid with a transparent levy on biofuel.
- sustainability of solid and gas biomass is considered in similar way as for liquid biofuels.

(Read more at http://www.inforse.org/europe/EU_res-directive.htm#sustbio)

Public Participation
A successful action plan requires transparency as well as support from the public and from many stakeholders. Therefore INFORSE-Europe recommends that the development of the national renewable energy action plans and the regular reviews of the policies to increase the share of RE should be done in association with independent experts and NGOs and in a transparent way, involving stakeholders.