Germany	**Dr. Christoph Schurr**
Institution	Bautzen County Administration (Landratsamt Bautzen)
Position	Head Dept. Forest, Nature, Waste Management
Field of work	County administration (regional policy setting, law enforcement, services of general economic interest for citizens, support of citizens) Development of added value chains based on energy wood Compatibility of energetic use of woody biomass with nature and forest conservation Implementation of environmental and forest policy Participation in the AgroForNet-project, led by Dresden Technical University (implementation of added value chains based on energy wood in rural areas) Support of small scale private and municipal forest owners Waste management plans & improved utilization of different waste fractions, particularly biomass

Experience	
About the feedstock, processing & conversion	The County Waste Management provides bins for biodegradable waste ("Bio Bin") and collection points for green cuttings. But nevertheless illegal dumping of garden waste in the county leads to eutrophication and enables neophytes through seeds and roots. Partly public clearance is conducted. Biomass from municipal sports fields is transported to collection points and is composted in municipal composting or is stored in municipal materials depots. On behalf of the Department of Nature Protection biotopes are maintained and grass cuttings, shrub removal, and wood from hedgerows and solitary trees accrue. The quantity for planning and implementing this work was explored in the AgroFor Net project, which focused on roadside material, wood from river and lake banks and wood from biotopes. The collection of small amounts of biomass is still a problem in the county. Up to now it depends on the type of material if it is left on-site, leading to eutrophication, neophytes, or if it is collected, transported to collection points for composting, leading to removal of nutrients and lack of biodiversity. The current Waste Management Concept of Bautzen County will expire in 2017/2018. The new Waste Management Concept will include also conditions for the energetic use of organic municipal waste and landscaping material, which is currently composted. Also the collection and pre-treatment of biomass from landscape maintenance will be optimized. Within the county of Bautzen there is a pilot project which established the

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 646443.

use of woody biomass from roadside maintenance for heat production for a school in the village of Cunewalde. Additionally a guide for the utilization of wood from ecologically valuable biotopes (e.g. estimation of amount, ecological guidelines and restrictions etc.) was elaborated.

Policies, finance tools and legal regulations

The following legal regulations affect the biomass before the LCMW:

- Nature Protection Act,
- Forest Act (regarding the woodland area),
- Water Act (regarding riparian zones),
- Plant Protection Act (regarding removal in case of plant pests),
- Roads and Lanes Act,
- Civil Code,
- Agricultural Law (regarding funding regulations)

Following legal regulations affect the biomass after the LCMW:

- Nature Protection Act & Forest Act (leave deadwood in an appropriate extent on-site),
- Waste Management Act,
- Vegetable Waste Disposal Regulation Saxony (energetic use in contradiction to removal of nutrients - Forest Act)

While some laws support positive actions (Vegetable Waste Disposal Regulation, Plant Protection Act, Roads and Lanes Act, Civil Code, Agricultural Law) others support omission of actions (Nature Protection Act, Forest Act). This shows that every single action has to be analyzed for its legal implications and barriers.

The most important information regarding legal regulations concerning LCMW is property (who owns the land e.g. farmers) and thus the responsibility for LCMW.

The county has the duty to maintain roadsides (county, state & federal roads), but depending on the road category the generated woody biomass is property of the county, the state or the federal government.

If farmers maintain biomass from marginal strips, which grow on their agricultural land, the biomass is property of the farmers.

Regarding Water Body Category I the biomass from riparian zones belongs to the states (no matter who owns the area), which are as well responsible for the maintenance. Biomass from riparian zones of water body of Category II belongs to the municipality (no matter who owns the area), which are as well responsible for the maintenance.

Power line operators have the duty for site clearance of line routes, but they have to provide the generated biomass to the land owner, because of the value of the material. Only if the owner withdraws line operators can commercialize the material themselves.

The county is responsible for the waste management and thus has to pay for the treatment of biomass from municipal collection points. However,

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 646443.

the county refinances the cost by charging fees to citizens.

Maintenance of biotopes and woodland areas is funded according to the regulations of Saxony and the EU and is partially financed by the market price obtained for the biomass harvested. The county has the duty to maintain roadsides. Here the aim is to minimize maintenance costs and disposal costs through selling the generated wood. Sometimes the maintenance work is put out to tender and the operating company can make profit from selling the biomass.

Subsidies or grants connected with LCMW are the Directive Natural Heritage - RL NE / 2014, which includes funding for the maintenance of biotopes etc.. Furthermore, farmers get the Single farm payment, which provides farmers approx. 300€/ha independently of the type of agricultural land use. The actual land is detected by satellite monitoring and since the agricultural land is getting smaller through the biomass from bordering marginal strips, farmers cut these plants drastically.

There is no special funding for the biomass from LCMW for energy purposes, but the county supports projects like CHP for public buildings to create the demand for renewable energy and there is funding for e.g. the installation of boilers fired with wood pellets and wood chips (BAFA - Market Incentive Programme Renewable energy: biomass plants (grant)).

Difficulties & barriers

The biggest problems, which hinder the utilization of biomass from LCMW for energy purposes is the fragmented property of land, where the biomass comes from, and the economics e.g. of collection of small amounts and transport over long distances. Local operators of the whole utilization chain are lacking.

Potential drivers & recommendations

Policy can encourage the energetic use of LCMW feedstock definitely not by minimum recycling rates, but through education, consultation and creating knowledge to remove obstacles created by the ideology in nature protection ("utilization of biomass is bad, leaving biomass is good") and by implementing pilot projects like the school in Cunewalde to create examples. Local Administrations are weak in expertise needed for the development of pilot projects. Planning and consultation services (AgroForNet) should support municipalities.

Additionally renewable energy should be included in Waste Management Concepts.

Improvements of the situation are prospected in the county, in the state and in East Germany, but in small steps.

Public acceptance regarding harvesting, processing & conversion

In the case of a project about the establishment of pathways to use biomass from power lines, the fragmented ownership (power lines cross cut small and narrow parcels) and that the material harvested couldn't exactly be assigned to specific owners created acceptance problems. The main obstacle proved to be the bundling of small amounts of low value materials. The regular flow of biomass often is too little to invest into

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 646443.

	supply chains. The project however didn't survive the test because cost was too high related to return.
Good practices of cooperation & *participation*	Interesting power line strips have to be identified, the potential amount of biomass has to be estimated, people interested in materials (e.g. wood energy yards) have to be engaged and potential solutions have to be discussed in advance before testing to facilitate the acceptance of involved stakeholders.
Good governance mechanisms	Sporadically "energy workshops" for interested people, not the general public take place. These workshops are organized together with the county energy agency. The public will be informed by media information about the event.

In general conflicts with nature protection goals, specifically in protected areas (disturbance of habitats, removal of decaying wood) have to be overcome.

Messages

My vision of the future of the energetic utilization of landscaping material is positive, but it is troublesome. To foster the utilization of landscaping material the policy should support municipalities and remove obstacles through education, consultation and creating knowledge, through the deployment of planning and consultation services (AgroForNet) and creative minds and through the inclusion of renewable energy in Waste Management Concepts.

Contact information	***Interlink***
schurr@hs-rottenburg.de	AgroForNet : http://www.energieholz-portal.de/89-0-Abstract.html

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 646443.