

Local Biofuels
Solution for the Baltic States
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The Baltic Sea Region Business
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World Needs Bioenergy

Bioenergy is Our Future



Vapo in Baltic Sea Region

- Vapo is the leading supplier of local and renewable fuels, bioelectricity and bioheat, as well as environmental business solution.
- Vapo Group 2007
 - turnover Eur 661 million
 - 1 800 employees



Vapo Group`s Energy Portfolio 2007



- Peat
 - Energy peat deliveries 22.9 TWh in Finland, Sweden and Estonia



- Wood fuel
 - deliveries 6 TWh in Finland, Sweden and Estonia



- Energy crop
 - deliveries 0,042 TWh
 - 14 000 ha of reed canary grass plantations

Vapo Group`s Energy Portfolio



- Pellets

- deliveries 612,000 tonnes
- main markets Sweden, Finland, Denmark, Holland and Belgium



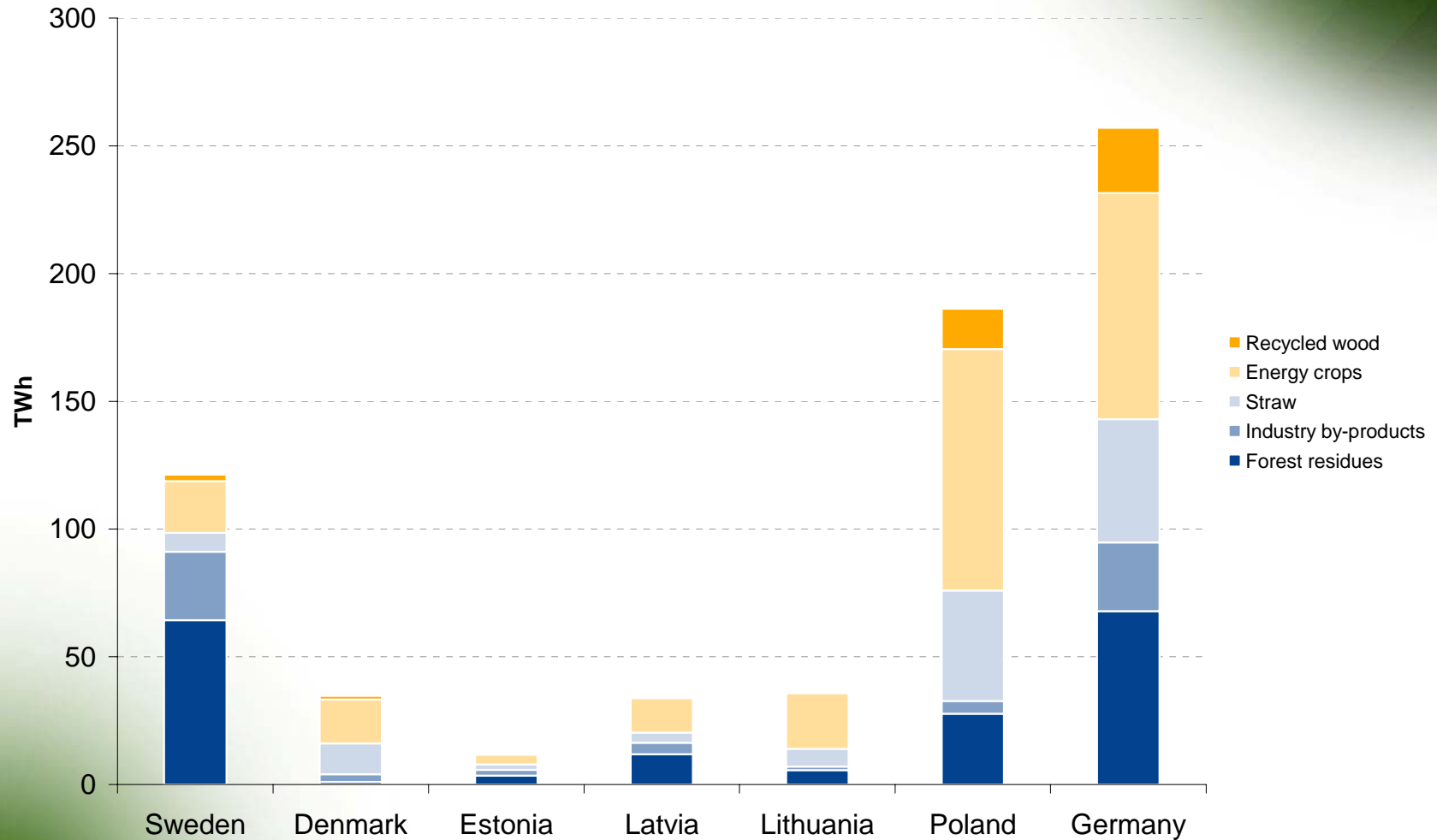
- Heat and Power

- heat deliveries, total 1,395 GWh
- electricity sales (Finland) 301 GWh

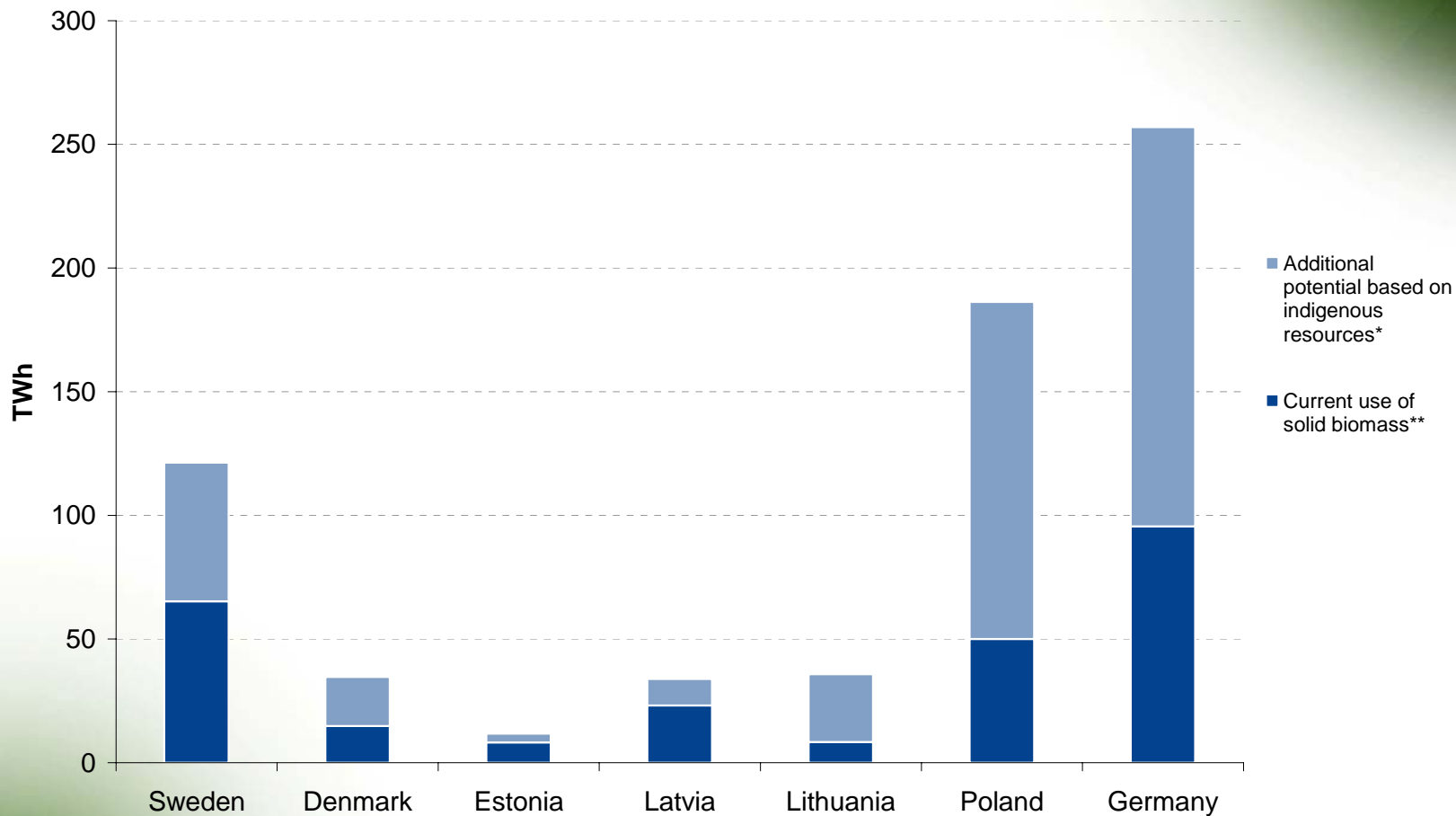
All Sources of Renewable Are Needed

- all member countries have different resources of renewables
- Finland, Sweden and Baltic countries have a lot of forest and peat
- countries located on Southern side of region have better resources of agro energy
- wind offers also possibilities especially on sea
- each country has to develop their own Action Plan based on their own resources
- because of challenging targets all resources of renewable energy are needed

Bioenergy Potential in Baltic Sea Area



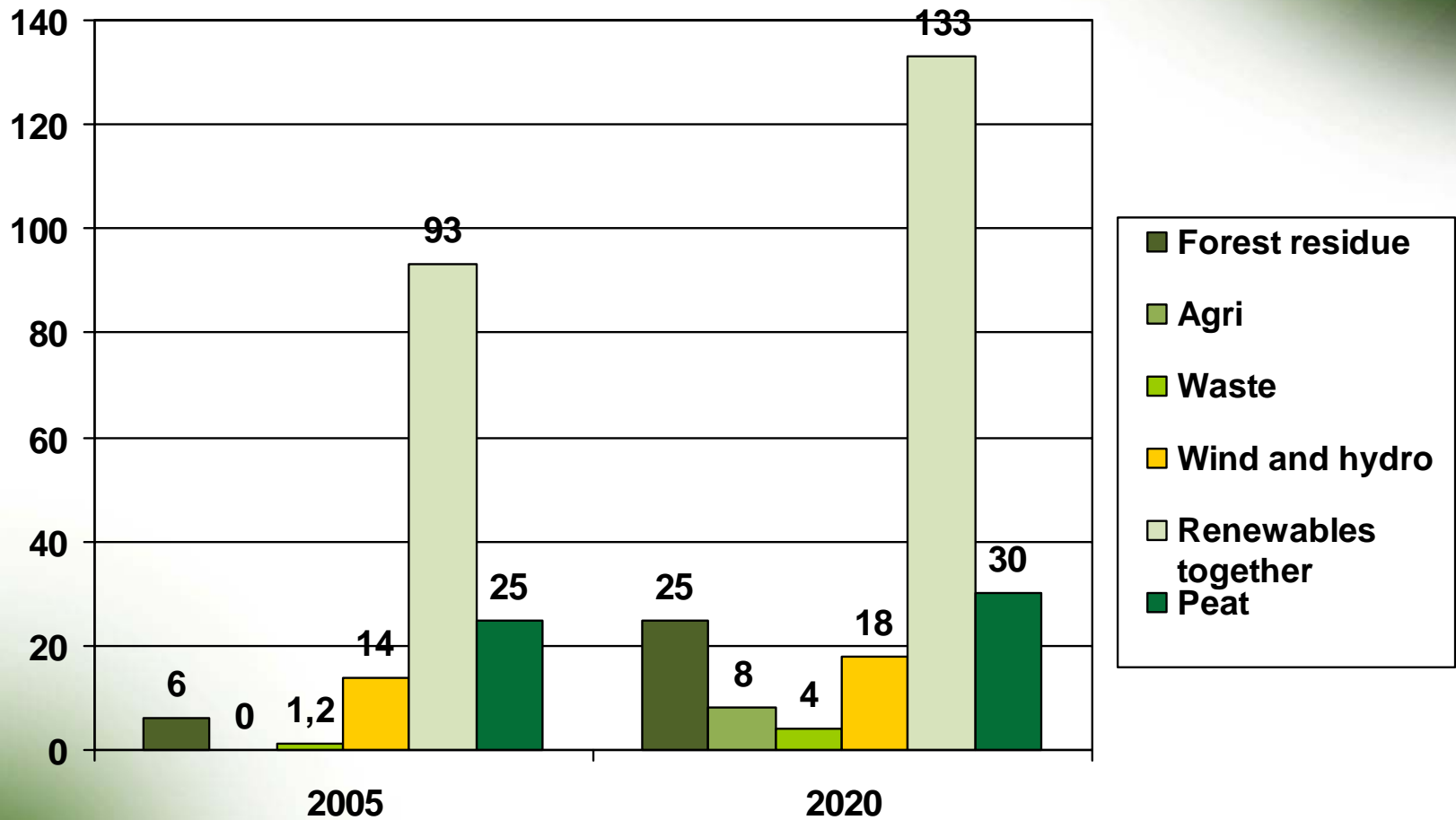
Current Use vs. Additional Potential



*Possible agricultural transform towards energy crops may increase the additional potential in a long term

**Black liquor not included

Case Finland, RES-Possibilities TWh



Case Finland: How to Achieve the Targets

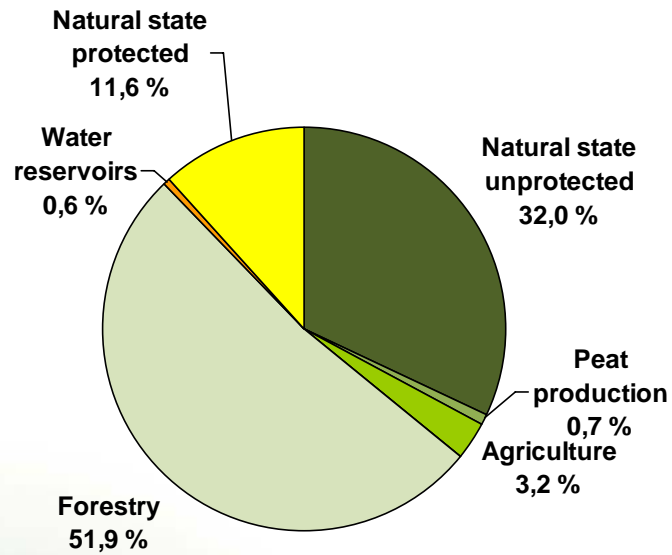
- increase forest residue up to 4-5 times present use
- increase agro energy from almost zero up 8 TWh/a
- increase the use of waste as source of energy about 3 times bigger
- replace 5 TWh of oil by pellets
- build 2000-3000 MW more wind energy
- build capacity of 400 000 tons of biofuel based on wood and peat
- no increase in total use of energy from now to 2020
- by using peat Finland could increase self sufficiency up to 50% by 2020

Why Peat is Important on Baltic Sea Region?

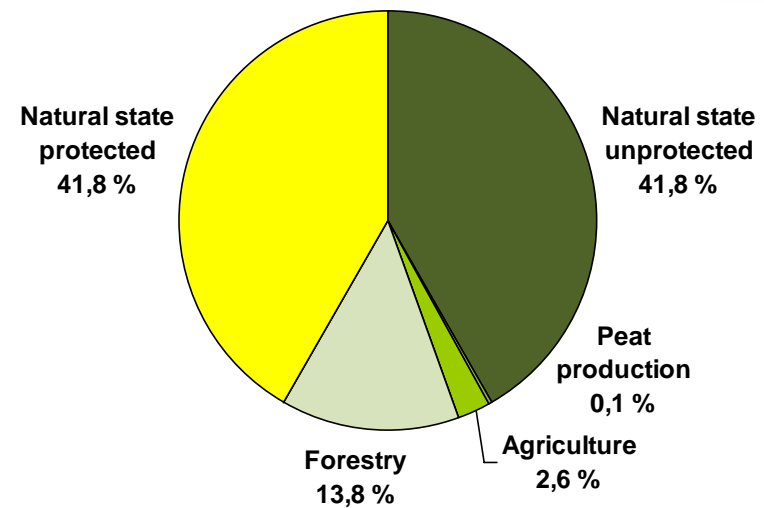
- there are huge resources of peat in Sweden, Finland, Estonia, Latvia and Lithuania
- drained peat lands are sources of GHG and the use of peat from those areas decreases GHG emissions
- the use of peat increases the security of supply and self sufficiency
- the production of peat does not compete with food or fodder production
- peat is needed to support the use of other biomass in boilers and in biodiesel production both technically and economically
- certified production fulfils all the sustainable criterias of RES directive
- peat production, like all biomass, brings jobs and welfare to rural areas

Use of Peatlands

Finland, total 9,4 mill ha

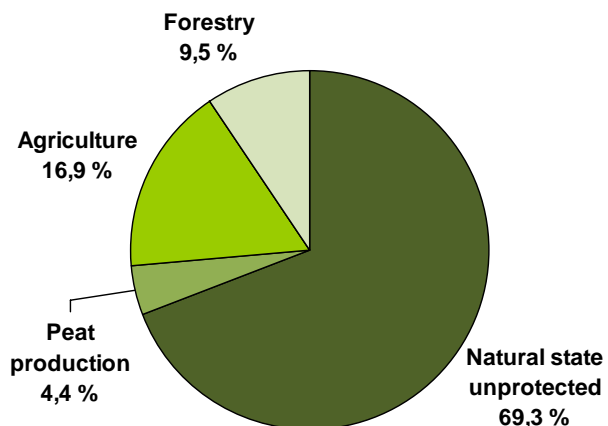


Sweden, total 10 mill ha

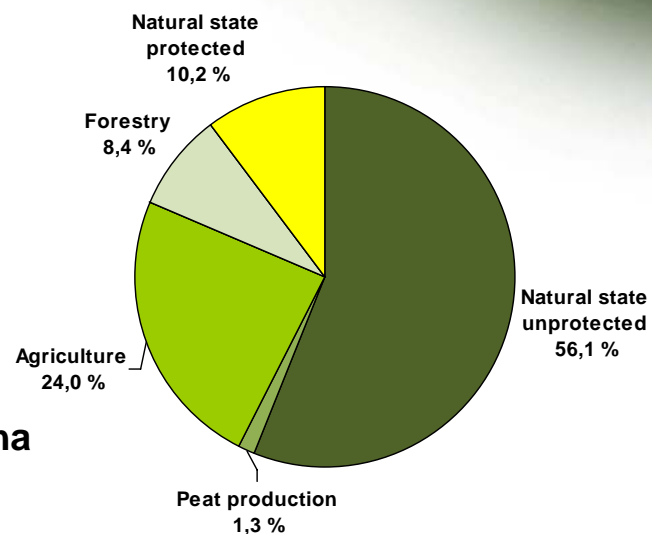


Use of Peatlands

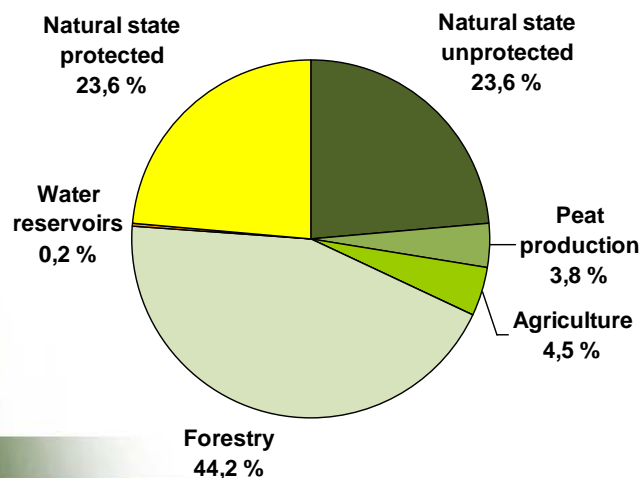
Latvia, total 669,000 ha



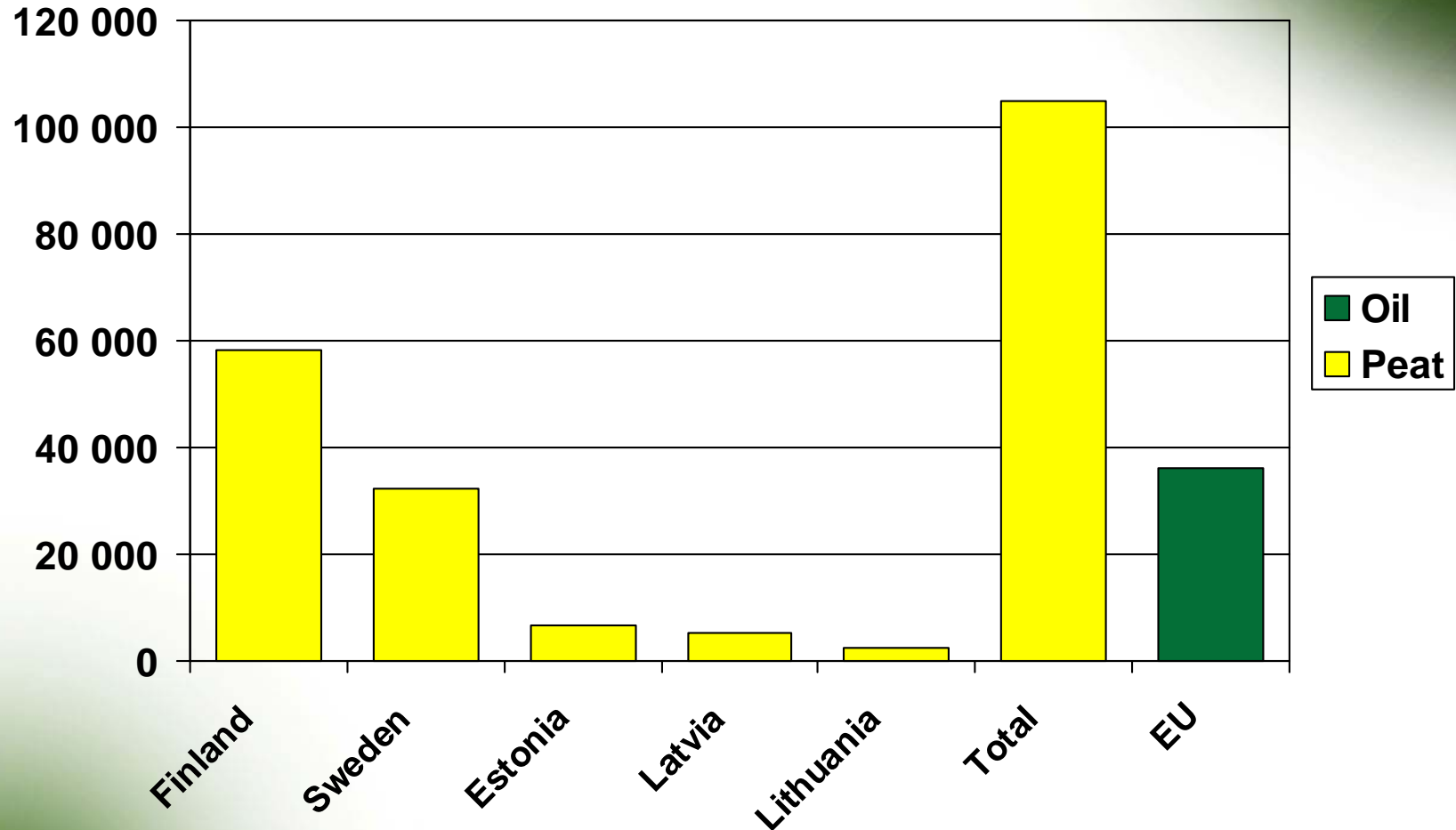
Lithuania, total 794,200 ha



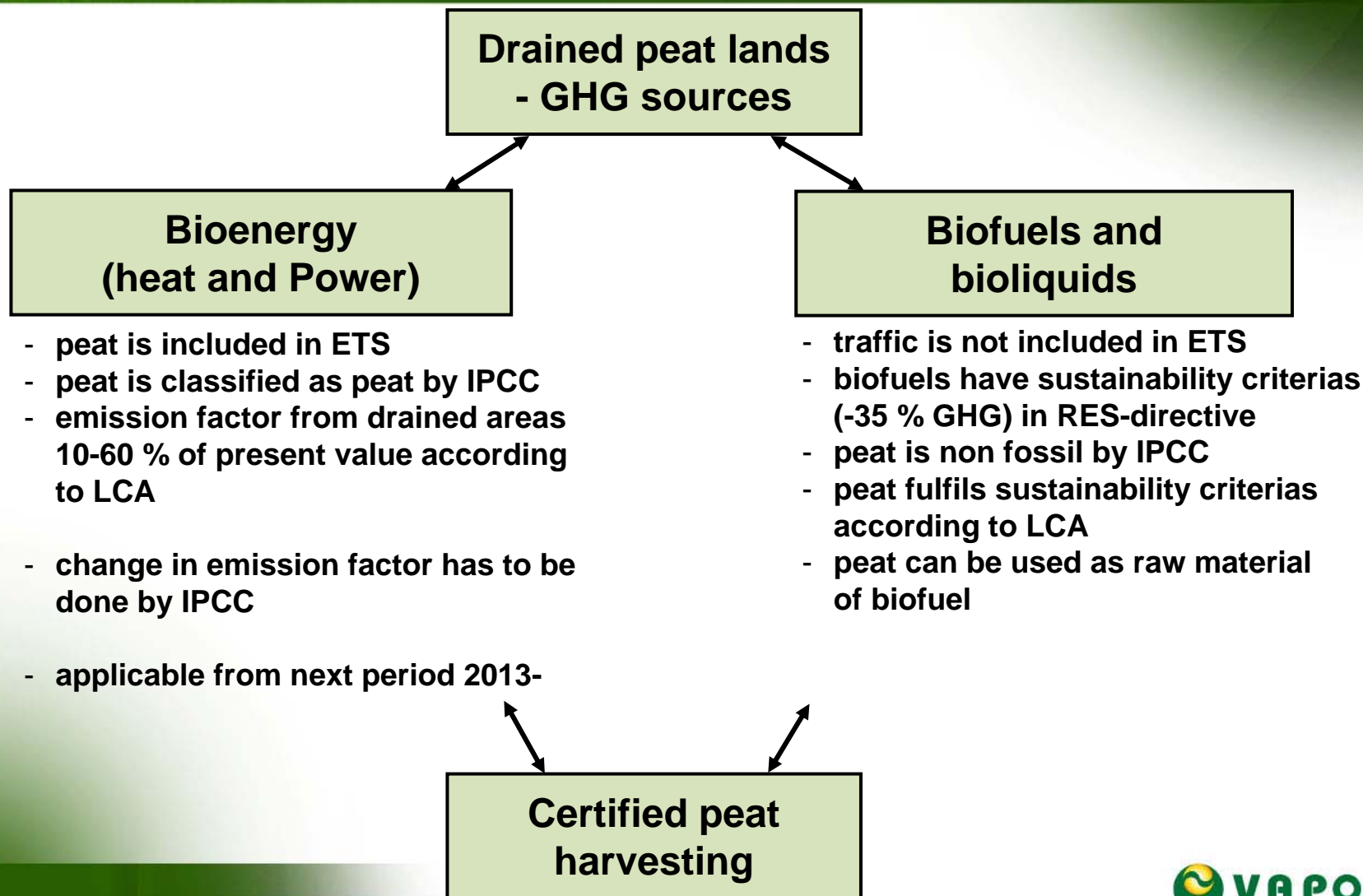
Estonia total 1 milj ha



Peat Reserves of Finland, Sweden and Baltic Countries Compared to the Known Oil Reserves in EU-Countries, TWh



Sustainable peat



Bioenergy – Our Future

