Economic Commission for Europe

RENEWABLES IN ECE REGION

POLICY FORUM:
FORESTS, WOOD AND ENERGY
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Division for Industrial Restructuring, Sustainable Energy and Enterprise Development

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DEFINITIONS & SCOPE

- Different definitions among agencies
  - Some time influenced by technology applied
  - Some times include/exclude particularity
- Need to harmonize data collection
  - At national level
  - At international level

POLITICAL IMPETUS TO RES TODAY

Driving forces

- Kyoto Protocol Commitments
- Johanesburg Implementation Plan
- EC Strategy & Action Plan on RES
- EU Directive 2001/77/EC
- Ministerial Conference on Environment for Europe (Kiev)

POTENTIAL FOR RES IN ECE REGION

1. Great potential for:

- biomass- North America, RF, C+N E
- wind – North America, N+CE, coasts
- Solar ph- higher intensity below 50°

2. Limited potential for:

- Hydropower, in particular large scale
- Geothermal

MARKET SHARE OF RES IN ECE REGION

- RES represent 5% of TPES
- Biomass & hydro= 85% of TRES
- RES-E = 15% of total electricity
- Main market RES: biomass, hydro, geothermal, wind and solar

but

- Municipal + Industrial waste is also ↗

MARKET SHARE OF RES IN ECE REGION

- Between 1990-2003, market share of RES to TPES increased in the same pace than traditional energy sources;
- Annual increase of electricity from other than hydro: EU=9%; NA=0.4%;

  ECE transition countries= around 0%;
- Conclusion: RES-E other than hydro are currently increasing in EU/WE only.

RES-E MARKET GROWTH

- RES-E Market is growing up faster since 1997, with an annual rate of:
  - wind power in EU-15 = 30-35%;
  - solar Ph in EU-15 = 20-25%;
  - solid biomass in EU-15= 7-10%;
  - windpower installed: 30 GW in ECE; of which 25GW in Europe.

COMPETITIVENESS AND COSTS

- RES are not competitive to others;
- but, costs continuously decrease thanks to technology performance
- on shore wind & biomass more competitive;
- trade barriers for biomass to be removed

POLICY SUPPORT TO RES-MARKET (1)

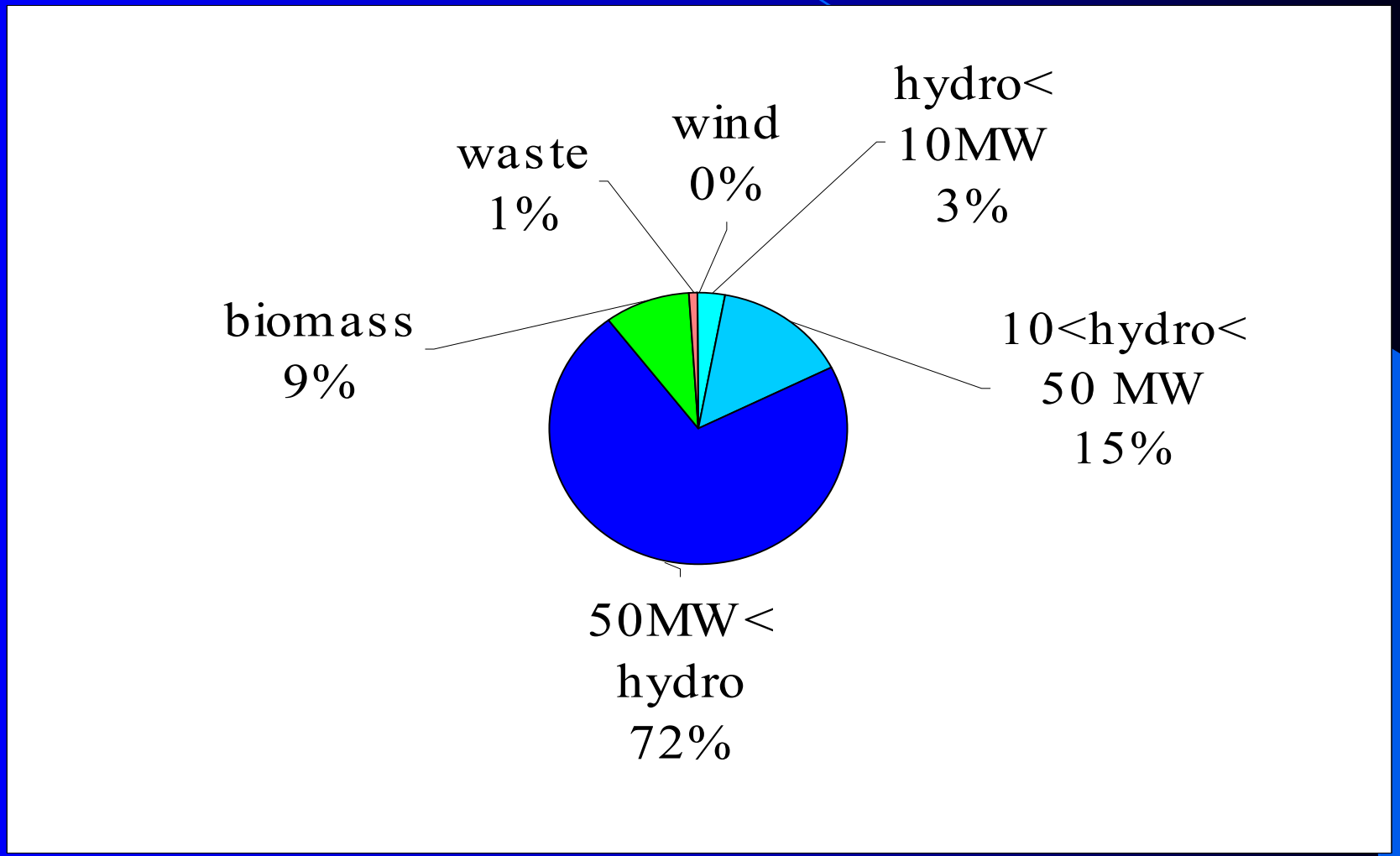
- Policy start with targets.
- EU average targets:

- RES to icrease from 6% to 12% by 2010 in TPES; and
- RES-E to increase from 14% to 22%;
- each EU member to set a RES-target consistent with this on CO2 reduction.

POLICY SUPPORT IN TRANSITION ECONOMIES

- targets set in some ECE- TC;
- in most, policy existing but not enforced;
- lack of supportive schemes; no finance;
- energy prices are still low;
- large potential to reduce CO2 through EE improvements and conservation measures
- RES seen rather as small local business than having environmental merits.

RES-E capacities in 8-selected economies in transition



POLICY SUPPORT TO RES-MARKET (2)

- Five types of policy instruments used:
  - tax exemption or reduction;
  - tax refunds;
  - investment aid;
  - direct price support schemes
  - green certificates
- 100 cases in Europe, 20-25 in biomass

POLICY SUPPORT
EU DIRECTIVE on RES-E

- The Directive: Legal Community Frame on Access for RES-E to the internal market;
- Objective: To promote an increase of RES share to electricity produced in internal market
- The Directive provides for conditions on:
  - how to set national targets and schemes;
  - how to set Guarantee of origin of electricity
  - grid system issues;

POLICY SUPPORT TO RES-MARKET (4)

- <u>The Questions to policy making:</u>
- Are present RES-policies compatible with undistorted competitive energy markets?
- Whether with those policies targets would be met?
- Supportive schemes? To all or to most competitive? and for * taking off* or for ever?
- Do countries need harmonized RES policy, in particular to off-grid renewables?
- How RES can benefit from Kyoto mechanisms?