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RÉPUBLIQUE FRANÇAISE

MINISTÈRE
DE L'AGRICULTURE
ET DE LA PÊCHE

Projection of GHG emissions and removals in the French forest and wood based sector up to 2020

◆ **Forest area (metropolitan area): 16,5 Mha**

◆ **Harvest rate: 60% (80% of physically accessible)**

◆ **Forest sink (1996-2005): 61 MteqCO2/yr (15% of France total GHG emissions)**

◆ **Since 25 years: forest productivity increased by 1%/yr**

◆ **Forest production is 40% bigger in 2006 than in 1980**

◆ **Scenario of harvest: key variable for the projections**

- **Basis: UNECE-FAO report (2005) on forest projections by 2020**

- **Analysis of 1960-200 trend for 3 sub-regions (Western Europe, Eastern Europe, New Eastern States)**

- **3 scenario: BaU, Conservation, Intensification**

- **Projections in France: BaU (B), Intensification (I)**

- ◆ **Metropolitan area: 80 000 ha/yr A/R and 30 000 ha/yr D**

- ◆ **Overseas Départements (incl. FR Guiana): 2 500 ha/yr D**

- ◆ **80% of A/R are made on ''abandoned'' land**

- ◆ **Household consumption of wood energy stable: 7,4 Mtep/yr or 31,6 Mm3/yr (70% coming from forest)**

- ◆ **Industrial consumption: sawmill residue**

- ◆ **Forest chips: 0 in 2008 and Q Mm3/yr in 2020 (depending on B or I), with 10% in 2009 and 65% in 2013**

◆ **BaU:**

- **Same trend for wood consumption, excl. wood energy (new market)**

- **Harvest of softwood: + 1,8%/yr (timber) & +1,2%/yr (pulp wood) in 2005-20**

- **Harvest of hardwood: stable**

- **Wood chips: + 13 Mm3/yr in 2020**

- **Additional harvest: + 21 Mm3/yr (2020 / 2005)**

◆ **intensification:**

- **High level of oil price, aggressive public policies to develop wood energy (e.g. FR renew. target : +23% in 2020), progress in wood mobilisation**

- **Harvest of softwood: + 2%/yr (timber) & +2%/yr (pulp wood) in 2005-20**

- **Harvest of hardwood: + 0,7%/yr (timber) (& stable for pulpwood)**

- **Wood chips: + 21 Mm3/yr in 2020**

- **Additional harvest: + 37 Mm3/yr (2020 / 2005)**

- **Simple ad hoc excel sheet built by INRA, Nancy (Dhôte)**

- **Data: total forest area, productive forest area, standing volume (V) for softwood/hardwood, net annual increase**

- **A/R: + 50 kha/yr in 2005-2020 (95% of productive forest)**

- **$\Delta V = aV$:**

  - **a increases from 4,96% (1980) to 5,16% (2020) for softwood and decreases from 3,83% (1980) to 3,78% (2020) for hardwood.**

  - **a decreases linearly if V increases: from 5,16% (160 m3/ha) to 4,50% (200 m3/ha) for softwood and from 3,78% (160 m3/ha) to 3,50% (200 m3/ha) for hardwood**

- **Mortality: 0,4% of V + 10% of harvest + storm damages: increase linearly with V, from 1,5 m3 if V=160 m3/ha to 5 m3 if V=200 m3/ha**

- **75% of standing volume in productive forest considered accessible**

- **4,26 m3/tep and 60% of transfo rate. at sawmill**

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Sc. I: Forest sink (MteqCO2/yr)