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THE ROLE OF RENEWABLE RAW MATERIALS IN THE EUROPEAN CLIMATE CHANGE PROGRAMME

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1. THE INTERNATIONAL DIMENSION OF CLIMATE CHANGE POLICIES

- **The report by the Intergovernmental Panel on Climate Change (IPCC, 1990)**
- **The United Nations Framework Convention on Climate Change (UNFCCC, 1992)**
- **The Kyoto Protocol (KP, 1997)**
- **The Buenos Aires Plan of Action (1998)**
- **The Bonn and the Marrakech Conference of the Parties (COP6(bis) and COP7, 2001)**



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2. THE COMMUNITY'S REACTION TO THE CLIMATE CHANGE CHALLENGE

- **The Burden sharing agreement of Member States (1998)**
- **Council Conclusions in 1998/99**
- **The Commission's Communication on "Preparing for the Implementation of the Kyoto Protocol" (1999).**
- **The Commission's Communication on "EU policies and measures to reduce greenhouse gas emissions: towards a European Climate Change Programme"(ECCP) (2000)**
- **The European Climate Change Programme (2000-2001)**



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Results of the Burden-Sharing Agreement among EU Member States

Austria	-13%	Italy	-6½%
Belgium	-7½%	Luxembourg	-28%
Denmark	-21%	Netherlands	-6%
Finland	0%	Portugal	+27%
France	0%	Spain	+15%
Germany	-21%	Sweden	+4%
Greece	+25%	United Kingdom	-12½%
Ireland	+13%		
European Community			-8%



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3. THE EUROPEAN CLIMATE CHANGE PROGRAMME

- **Multi-stakeholder involvement**
- **Imbedded in other activities, including an economic analysis.**
- **6 technical working groups; co-ordination by a steering committee (chaired by DG ENVIRONMENT).**
- **A technical working group “INDUSTRY” chaired by DG ENTERPRISE with 4 sub-working groups, one dealing with RENEWABLE RAW MATERIALS.**



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EU green house gas emissions and their changes in the future

(Study :Economic Evaluation of Optimal Sectoral Emission Reduction Objectives for Climate Change,EC, May 2001)

	Emissions 1990 or 95 (Mt CO ₂ equivalent)	Baseline emissions for 2010 with existing measures	Cost-effective potential beyond baseline projection for 2010 (Marginal cost €20/tCO ₂ eq)
Energy sect.	1422	-6%	-13%
Industry	757	-9%	-12%
Transport	753	31%	-4%
Households	447	0%	-6%
Services	176	14%	-15%
Agriculture	417	-5%	-4%
Was	166	-18%	-13%
Total	4138	1%	-9%



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4. RESULTS FROM THE SUB-WORKING GROUP “RRM”

- **Definition:**

- “Products derived from the agricultural and forestry sectors and being used for other purposes than nutrition”.

- **Objective:**

- “Identify areas where a wider introduction of renewable raw materials can lead to reduced emissions of green house gases”.

- **Scope:**

- polymers, lubricants, solvents, surfactants

- **Mission:**

- Assess market prospects, green house gas reduction potential, possible Community policies and measures.



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Current and estimated future use of RRM for the manufacture of selected chemical products

Application area	Total EU market in 1990 (all types of feedstocks) (kt)	RRM market in 1990 (kt)	RRM market penetration in 1990 (%)	Total EU market in 1998 (all types of feedstocks) (kt)	RRM market in 1998 (kt)	RRM market penetration in 1998 (%)	Estimated total EU market in 2010 (all types of feedstocks) (kt)	Estimated RRM market in 2010 without P&Ms (kt)	Estimated RRM market penetration in 2010 without P&Ms (%)	Estimated RRM market in 2010 with P&Ms (kt)	Estimated RRM market penetration in 2010 with P&Ms (%)
Polymers	17300	N/A	N/A	33 000	25 ⁰⁾	<0.1	33000 53000 ⁶⁾	500	1.5	1000	3
Lubricants	5700 ⁵⁾	<25 ⁵⁾	<0.5 ⁵⁾	5 000 ⁰⁾	100 ⁰⁾	2	4700	500	11	1700	36
Solvents	N/A	N/A	N/A	4 000 ⁰⁾	60	1.5	1900	235	12.5	N/A	N/A
Surfactants	~1900	~950	~50	2260 ¹⁾	1180 ^{1,2)}	52	2780 ³⁾	1450 ³⁾	52	1800 ⁴⁾	65



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Application area	Savings of GHG emissions in 1990 (compared to no use of RRM) (kt CO ₂ eq.)	Savings of GHG emissions in 1998 (compared to no use of RRM) (kt CO ₂ eq.)	Estimated GHG emission reduction by RRM in 2010 relative to 1998, without P&Ms (kt CO ₂ eq.)	Estimated GHG emission reduction by RRM in 2010 relative to 1998, with P&Ms (kt CO ₂ eq.)
Polymers	N/A	< 50	2 000	4000*
Lubricants	N/A	200	800	3500
Solvents	N/A	-	1 000	N/A
Surfactants	~1200	1 500	0	660
Total savings	N/A	~ 1700	3800	~8200



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Examples of secondary savings in greenhouse gas emissions (expressed as CO₂ equivalents)

Application	Replacement	Specific Assumptions	Total potential GHG savings (kt/year)
Bio-fillers for tyres	50% of traditional fillers (carbon black and silica)	Reduction potential -9.52g CO ₂ /Km/Car 10000km/Car 150M cars	~15000
Synthetic lubricants for Motor & Gear Oils	Mineral Oils Chemical additives	Reduction of fuel consumption by 3 to 5 %	>10000



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Suggested Policies & Measures

- **RRM to be included into Common Agricultural Policy**
- **Promotion of basic research, including bio-technology**
- **Adapting chemical policy**
- **Supporting marketing**
- **Labelling**
- **Technology roadmap**
- **Waste policy for bio-degradable materials**
- **CO₂ emission credits**



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5. CONCLUSIONS AND FOLLOW-UP

- **The ECCP has created a forum for RRM in industry to be discussed on the European level.**
- **RRM in industry is important, however its direct contribution to GHG emission reductions is limited.**
- **DG ENTERPRISE together with the WG RRM further explores the specific situation and needs of industry using RRM.**
- **A report to this effect is in preparation and will be finalised earlier next year.**



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*Thank you very much for your attention and the
kind invitation!*
