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UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

AD HOC GROUP ON THE BERLIN MANDATE

Eighth session

Bonn, 22-31 October 1997

IMPLEMENTATION OF THE BERLIN MANDATE

Proposals from Parties

Note by the secretariat

1. In addition to the proposals already received (see FCCC/AGBM/1996/MISC.1 and Add.1-5) further proposals have been received from Georgia, Iceland, Japan, New Zealand and the United Republic of Tanzania (on behalf of the Group of 77 and China).
2. In accordance with the procedure for miscellaneous documents, these proposals* are attached and are reproduced in the language in which they were received and without formal editing.

FCCC/AGBM/1997/MISC.1/Add.6
BNJ.97-

* In order to make these submissions available on electronic systems, including the World Wide Web, some of these contributions have been electronically scanned and/or retyped. The secretariat has made every effort to ensure the correct productions of the texts as submitted.

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PAPER NO. 1: GEORGIA

Elements of the draft protocol or another legal instrument

Taking into account that Non-Annex Parties consider economic development as a high priority measure, nevertheless they on a voluntary basis have to fulfill their commitments established in accordance with paragraphs 4.1(a) for the reduction of their emissions of greenhouse gases.

The commitments of Non-Annex Parties have to be realized by effective usage of the multilateral funding sources (such as Global Environment Fund, Multilateral Development Bank, etc.) and of the funding for the projects from participated in the projects of the Annex I Parties. By means of the above mentioned funds the Non-Annex I Parties may implement their obligation to protect the Climate Change through the limitation and reduction of greenhouse gases emission.

PAPER NO. 2: ICELAND

Differentiated Emission Limitation and Reduction Objectives

Reference is made to document FCCC/AGBM/1997/3/Add.1 and the Berlin Mandate that states i.a. that in setting quantified limitations and reduction objectives, Parties should take into account the differences in starting points and approaches, economic structure and resource base.

In a number of submissions to the Ad-Hoc Group on the Berlin Mandate, it is proposed that quantified emission limitation and reduction objectives (QELROs) for greenhouse gases should not be the same for all Parties listed in Annex I. Furthermore, in many proposals it is suggested that the allocation of QELROs should be guided by indicators that reflect differences in national circumstances. Moreover, some proposals refer to per capita emissions as a target. Drawing on these proposals, the following approach has been developed.

It should be noted that this paper only deals with the issue of QELROs and does not address other elements of the legal instrument such as for instance flexibility. This does not imply that the question about QELROs is not linked with these elements.

Indicators

Differentiation of QELROs shall be guided by four indicators calculated for the year 1990:

- a) Party's GDP per capita - Adjusted for purchasing power parity (PPP).
This indicator reflects Party's level of development. Parties which benefit from having per capita GDP that is relatively high, adjusted for differences in price levels, shall, other things being equal, undertake more extensive limitation/reduction commitments.
- b) Party's CO₂ emissions per capita.
Parties that have relatively high level of CO₂ emissions, shall, other things being equal, undertake more extensive limitation/reduction commitments.
- c) Party's renewable energy (including hydro) as a share of total primary energy supply, corrected for electricity trade.
This indicator refers to structural differences in energy supply. Parties that already harness renewable energy for meeting significant part of their domestic demand for energy, shall, other things being equal, undertake less extensive commitments.

d) CO₂ emissions in industrial processing as a share of Party's total CO₂-emissions. This indicator reflects differences in economic structure and the division of labour in the global economy. Parties which can demonstrate that relatively high proportion of their emissions is due to processing industries, shall, other things being equal, undertake less extensive commitments.

Setting differentiated QELROs

Quantified emissions limitation and reduction objectives are based on per capita emissions in each Annex I Party. The calculation is done in two stages.

In the first stage all Parties have to reduce their per capita greenhouse gas (GHG) emissions by a fixed percentage by the year 2010 with reference to the year 1990. This is called a **basic per capita reduction objective**.

Here, the reference year is 1990 and the target year is 2010. The same method could be applied using other years as a reference and a target, including budget periods.

In the second stage an **additional per capita limitation/ reduction objective** is calculated. This is done on the basis of differences in Parties starting points, economic structure and resource base, as reflected by the indicators outlined above.

The additional target is calculated by ranking Parties with respect to the four indicators. All indicators have the same weight. The ranking for each indicator is then summarised and the sum determines the positions of each individual Party in the final rank. Higher rank (lower numerical value) gives stronger limitation/reduction objective for per capita GHG-emissions.

Finally, on the basis of rank, **incremental value** is added to the basic per capita reduction objective for each Party.

It should be noted that calculation is not based on projections. However, here population projections are used to illustrate what impact individual QELRO would have for total emissions.

Calculation

To illustrate how this approach works, calculation has been carried out on the basis of the following values (targets):

Basic per capita reduction objective	-10%
Maximum additional per capita limitation/ reduction objective	- 10% as well as - 15%
Incremental value	1%

On the bases of these values and the method described above, per capita QELRO is calculated for each Party. For practical reasons, calculation is limited to the OECD-Annex I Parties.

Basic data is presented in table 1. Ranking on the basis of this data is presented in table 2.

Calculation of differentiated per capita QELROs is presented in table 3 and table 5. In table 3 the maximum additional per capita limitation/ reduction objective is -10 percent. Table 5 presents a scenario where the additional objective is - 15 percent.

The impact on total CO₂-emissions in OECD Annex I Parties is presented in table 4 and table 6. In table 4 the additional objective is -10 percent compared to -15 percent in table 6.

	Table 1:Basic Data					
	Gross-CO2	GDP per	Industrial		Projected	Share
	mil.tons	PPP-adjust.	Processing	Population in	Population in	Renewables
	in 1990	in 1990	Share of CO2-emiss.	1000	1000	of TPES
				1990	2010	
Australia	273	16050	2.4	16888	21367	6.3
Austria	59	14750	3.5	7705	8251	23.5
Belgium	113	12950	8.1	9951	10334	0.8
Canada	464	19650	4.7	27791	33946	16.4
Denmark	52	15380	2	5140	5173	6.3
Finland	54	15620	2.2	4986	5314	18.2
France	378	15200	4.4	56718	60130	8
Germany	1014	16290	2.7	79365	80466	1.3
Greece	82	7340	7.2	10238	10458	3.4
Iceland	2.2	16135	18.2	255	307	52.6
Ireland	31	9130	5.3	3503	3777	1.2
Italia	429	14550	6.4	57023	55985	5.3
Japan	1124	16950	5.2	123537	127152	2.6
Luxembourg	11	24660	5.2	381	439	0.8
Netherlands	168	14600	1.1	14962	16239	0.5
New Zealand	25	13490	9.4	3360	4034	33.3
Norway	36	17220	18.3	4241	4556	46.7
Portugal	42	7950	8.2	9868	9791	11.3
Spain	227	10840	7.8	39272	39514	3.3
Sweden	55	16000	6.8	8559	9268	23.2
Switzerland	45	21690	7.5	6834	7717	18.2
UK	580	14960	1.7	57411	59919	0.7
USA	4957	21360	1.1	249924	297486	5.1

Table 2: Ranking								
					Share			
	CO2 pr. cap.	Rank	GDP pr.cap.	Rank	renewabl.	Rank	Industrial Processing	Rank
Australia	16.2	4	16050.0	9	6.3	12.5	2.4	6
Austria	7.7	16	14750.0	15	23.5	20	3.5	8
Belgium	11.4	6	12950.0	19	0.8	3.5	8.1	19
Canada	16.7	3	19650.0	4	16.4	16	4.7	10
Denmark	10.1	9	15380.0	12	6.3	12.5	2	4
Finland	10.8	8	15620.0	11	18.2	17.5	2.2	5
France	6.7	19	15200.0	13	8	14	4.4	9
Germany	12.8	5	16290.0	7	1.3	6	2.7	7
Greece	8.0	15	7340.0	23	3.4	9	7.2	16
Iceland	8.6	13	16135.0	8	52.6	23	18.2	22
Ireland	8.8	12	9130.0	21	1.2	5	5.3	13
Italia	7.5	17	14550.0	17	5.3	11	6.4	14
Japan	9.1	11	16950.0	6	2.6	7	5.2	11.5
Luxembourg	28.9	1	24660.0	1	0.8	3.5	5.2	11.5
Netherlands	11.2	7	14600.0	16	0.5	1	1.1	1.5
New Zealand	7.4	18	13490.0	18	33.3	21	9.4	21
Norway	8.5	14	17220.0	5	46.7	22	18.3	23
Portugal	4.3	23	7950.0	22	11.3	15	8.2	20
Spain	5.8	22	10840.0	20	3.3	8	7.8	18
Sweden	6.4	21	16000.0	10	23.2	19	6.8	15
Switzerland	6.6	20	21690.0	2	18.2	17.5	7.5	17
UK	10.1	10	14960.0	14	0.7	2	1.7	3
USA	19.8	2	21360.0	3	5.1	10	1.1	1.5

Table 3: Differentiated Targets for Per Capita Emissions for the OECD Annex I Parties						
Base:	-10.00%		Basic			T o t a l change
Increment	1.00%		Limitation	Rank due	Addition due	in per
Max. diff.add.	-10.00%		Target	to	to	Capita
	Differentiation value		Per capita	Differentiat.	Differentiat.	Emission
Australia	31.50		-10.0%	6	-5.0%	-15.0%
Austria	59.00		-10.0%	15.5	4.5%	-5.5%
Belgium	47.50		-10.0%	11	0.0%	-10.0%
Canada	33.00		-10.0%	7	-4.0%	-14.0%
Denmark	37.50		-10.0%	9	-2.0%	-12.0%
Finland	41.50		-10.0%	10	-1.0%	-11.0%
France	55.00		-10.0%	13	2.0%	-8.0%
Germany	25.00		-10.0%	3	-8.0%	-18.0%
Greece	63.00		-10.0%	17	6.0%	-4.0%
Iceland	66.00		-10.0%	20	9.0%	-1.0%
Ireland	51.00		-10.0%	12	1.0%	-9.0%
Italia	59.00		-10.0%	15.5	4.5%	-5.5%
Japan	35.50		-10.0%	8	-3.0%	-13.0%
Luxembourg	17.00		-10.0%	2	-9.0%	-19.0%
Netherlands	25.50		-10.0%	4	-7.0%	-17.0%
New Zealand	78.00		-10.0%	22	11.0%	1.0%
Norway	64.00		-10.0%	18	7.0%	-3.0%
Portugal	80.00		-10.0%	23	12.0%	2.0%
Spain	68.00		-10.0%	21	10.0%	0.0%
Sweden	65.00		-10.0%	19	8.0%	-2.0%
Switzerland	56.50		-10.0%	14	3.0%	-7.0%
UK	29.00		-10.0%	5	-6.0%	-16.0%
USA	16.50		-10.0%	1	-10.0%	-20.0%

Table 4: Total change in CO2 emissions							
Base:	-10.00%	Increment	1.00%	Max. diff.add.	-10.00%		Projected
	Per capita	Per capita emission		Projected	Total CO2	Projected	Emission
	Emission	of CO2 in tons		Population	Emissions	Total CO2	Change
	Limit	in 1990	in 2010	Growth	in 1990	Emissions in 2010	From 1990 or 2010
Australia	-15.0%	16.2	13.7	26.5%	273	293.6	7.5%
Austria	-5.5%	7.7	7.2	7.1%	59	59.7	1.2%
Belgium	-10.0%	11.4	10.2	3.8%	113	105.6	-6.5%
Canada	-14.0%	16.7	14.4	22.1%	464	487.4	5.0%
Denmark	-12.0%	10.1	8.9	0.6%	52	46.1	-11.4%
Finland	-11.0%	10.8	9.6	6.6%	54	51.2	-5.1%
France	-8.0%	6.7	6.1	6.0%	378	368.7	-2.5%
Germany	-18.0%	12.8	10.5	1.4%	1014	843.0	-16.9%
Greece	-4.0%	8.0	7.7	2.1%	82	80.4	-1.9%
Iceland	-1.0%	8.6	8.5	20.4%	2.2	2.6	19.2%
Ireland	-9.0%	8.8	8.1	7.8%	31	30.4	-1.9%
Italia	-5.5%	7.5	7.1	-1.8%	429	398.0	-7.2%
Japan	-13.0%	9.1	7.9	2.9%	1124	1006.5	-10.5%
Luxembourg	-19.0%	28.9	23.4	15.2%	11	10.3	-6.7%
Netherlands	-17.0%	11.2	9.3	8.5%	168	151.3	-9.9%
New Zealand	1.0%	7.4	7.5	20.1%	25	30.3	21.3%
Norway	-3.0%	8.5	8.2	7.4%	36	37.5	4.2%
Portugal	2.0%	4.3	4.3	-0.8%	42	42.5	1.2%
Spain	0.0%	5.8	5.8	0.6%	227	228.4	0.6%
Sweden	-2.0%	6.4	6.3	8.3%	55	58.4	6.1%
Switzerland	-7.0%	6.6	6.1	12.9%	45	47.3	5.0%
UK	-16.0%	10.1	8.5	4.4%	580	508.5	-12.3%
USA	-20.0%	19.8	15.9	19.0%	4957	4720.3	-4.8%
		Average 1990	Average 2010		Total 1990	Total 2010	Total change
		10.6	9.4		10221	9608	-6.0%

Table 5: Differentiated Targets for Per Capita Emissions for the OECD-Annex I Parties							
Base:	-10.00%		Basic				Total
Increment	1.00%		Limitation	Rank due	Addition due		Change in per
Max. diff.add.	-15.00%		Target	to	to		Capita
	Differentiation value		Per capita	Differentiation	Differentiation		Emission
Australia	31.50		-10.0%	6	-10.0%		-20.0%
Austria	59.00		-10.0%	15.5	-0.5%		-10.5%
Belgium	47.50		-10.0%	11	-5.0%		-15.0%
Canada	33.00		-10.0%	7	-9.0%		-19.0%
Denmark	37.50		-10.0%	9	-7.0%		-17.0%
Finland	41.50		-10.0%	10	-6.0%		-16.0%
France	55.00		-10.0%	13	-3.0%		-13.0%
Germany	25.00		-10.0%	3	-13.0%		-23.0%
Greece	63.00		-10.0%	17	1.0%		-9.0%
Iceland	66.00		-10.0%	20	4.0%		-6.0%
Ireland	51.00		-10.0%	12	-4.0%		-14.0%
Italia	59.00		-10.0%	15.5	-0.5%		-10.5%
Japan	35.50		-10.0%	8	-8.0%		-18.0%
Luxembourg	17.00		-10.0%	2	-14.0%		-24.0%
Netherlands	25.50		-10.0%	4	-12.0%		-22.0%
New Zealand	78.00		-10.0%	22	6.0%		-4.0%
Norway	64.00		-10.0%	18	2.0%		-8.0%
Portugal	80.00		-10.0%	23	7.0%		-3.0%
Spain	68.00		-10.0%	21	5.0%		-5.0%
Sweden	65.00		-10.0%	19	3.0%		-7.0%
Switzerland	56.50		-10.0%	14	-2.0%		-12.0%
UK	29.00		-10.0%	5	-11.0%		-21.0%
USA	16.50		-10.0%	1	-15.0%		-25.0%

Table 6: Total change in CO2 emissions							
Base:	-10.00%	Increment	1.00%	Max. diff.add.	-15.00%		
	Per capita	Per capita emission		Projected	Total CO2	Projected Total CO2	Projected Emission Change
	Emission Limit	of CO2 in tons in 1990	in 2010	Population Growth	Emissions in 1990	Emissions in 2010	From 1990 to 2010
Australia	-20.0%	16.2	12.9	26.5%	273	276.3	1.2%
Austria	-10.5%	7.7	6.9	7.1%	59	56.5	-4,2%
Belgium	-15.0%	11.4	9.7	3.8%	113	99.7	-11,7%
Canada	-19.0%	16.7	13.5	22.1%	464	459.1	-1,1%
Denmark	-17.0%	10.1	8.4	0.6%	52	43.4	-16,5%
Finland	-16.0%	10.8	9.1	6.6%	54	48.3	-10,5%
France	-13.0%	6.7	5.8	6.0%	378	348.6	-7,8%
Germany	-23.0%	12.8	9.8	1.4%	1014	791.6	-21,9%
Greece	-9.0%	8.0	7.3	2.1%	82	76.2	-7,0%
Iceland	-6.0%	8.6	8.1	20.4%	2.2	2.5	13,2%.
Ireland	-14.0%	8.9	7.6	7.8%	31	28.7	-7,3%
Italia	-10.5%	7.5	6.7	-1.8%	429	377.0	-12,1%
Japan	-18.0%	9.1	7.5	2.9%	1124	948.7	-15,6%
Luxembourg	-24.0%	28.9	21.9	15.2%	11	9.6	-12,4%
Netherlands	-22.0%	11.2	8.8	8.5%	168	142.2	-15,3%
New Zealand	-4.0%	7.4	7.1	20.1%	25	28.8	15,3%
Norway	-8.0%	8.5	7.8	7.4%	36	35.6	-1,2%
Portugal	-3.0%	4.3	4.1	-0.8%	42	40.4	-3,8%
Spain	-5.0%	5.8	5.5	0.6%	227	217.0	-4,4%
Sweden	-7.0%	6.4	6.0	8.3%	55	55.4	0,7%
Switzerland	-12.0%	6.6	5.8	12.9%	45	44.7	-0,6%
UK	-21.0%	10.1	8.0	4.4%	580	478.2	-17,5%
USA	-25.0%	19.8	14.9	19.0%	4957	4425.3	-10,7%
		Average 1990	Average 2010		Total 1990	Total 2010	Total change
		10.6	8.8		10221	9034	-11,6%

PAPER NO. 3: JAPAN

1. As the President-designate of the COP 3, the Government of Japan proposes 5% as a base reduction rate for deciding a reduction target for each country on the premise that the following conditions from (1) to (3) are accepted. The base year of this reduction is 1990. The target period for the reduction is five years from 2008 to 2012 (the first budget period):

- (1) Green house gases covered by this proposal include carbon dioxide, methane and nitrous oxide.
- (2) As the quantified target includes a portion prescribed by future technological development and changes of energy situation and industrial structure, etc. which are uncertain factors not foreseen at present, compliance clauses in regard to this portion should have certain flexibility. Formulation of this flexibility has to be stipulated in a protocol or another legal instrument.
- (3) The target for an individual country is differentiated by emission per GDP, emission per capita and population growth:

Countries with the following conditions may apply any one of the following Alternative Reduction Rates:

(a) For a country of which emissions per GDP in 1990 (A) are less than the emission per GDP of all Annex I countries in 1990 (B):

$$\text{Alternative Reduction Rate (\%)} = 5\% \times (A/B)$$

(b) For a country of which emissions per capita in 1990 (C) are less than the emission per capita of all Annex I countries in 1990 (D):

$$\text{Alternative Reduction Rate (\%)} = 5\% \times (C/D)$$

(c) For a country of which population growth from 1990 to 1995 exceeds the population growth of all Annex I countries for the same period, the higher growth of population should be considered in deciding the target of the country. Concrete formulation of this alternative reduction rate is to be developed.

(4) After the above-mentioned conditions (1.(2) and 1.(3) are taken into account, the emissions of any country shall not exceed its emissions in 1990.

2. Banking, borrowing, emissions trading and joint implementation should be adopted under certain conditions.

3. Emissions for the second budget period shall not exceed those for the first budget period. More sophisticated method of differentiation should be applied for the second budget period.

Stance on Developing Countries of the Government of Japan

1. Since the volume of CO₂ emissions originating in developing countries is projected to exceed that in developed countries by 2010, it is vital that the developing countries should enhance their efforts gradually in the medium to longer term to limit GHG emissions. Introducing new commitments for developing countries in a protocol or another legal instrument to be adopted by the Kyoto session of COP3, however, goes beyond the Berlin Mandate.
2. Solutions to be sought at the Kyoto Conference:
 - (1) The implementation of the existing commitments for developing countries (the implementation of Article 4.1 of the Framework Convention on Climate Change) should be advanced through the elaboration of commitments of all Parties including developing countries.
 - (2) More advanced developing countries are encouraged to assume commitments on a voluntary basis.
 - (3) We should agree on a new process, for example in the form of a new mandate, to further discuss the modality of their commitments after Kyoto, seeking satisfactory results.
 - (4) As for strengthening financial assistance and transfer of technologies which have been asked by developing countries, developed countries should assist efforts of developing countries by enhancing the existing mechanisms such as GEF (Global Environment Facility) and bilateral assistance.
3. Besides the negotiation process for the Protocol, such opportunities as APEC (Asia-Pacific Economic Cooperation) should be utilized to facilitate voluntary efforts of developing countries.

PAPER NO. 4: NEW ZEALAND

**Suggested textual amendments to allow for preferred treatment of sinks
(without prejudice to the retention in the text of Options (i) and (ii) above)**

1. In Article 3, paragraph 1:

Add a sentence reading:

[The assessment of anthropogenic CO₂ emissions [in 2010/over the period 200[] to 20[]] shall include the measurement of CO₂ [releases / emissions] and CO₂ removals by land use change and forestry activities listed in Annex [B1].

2. In Article 3, paragraph 7:

Add a paragraph between paragraphs 10 and 11 to read:

[CO₂ removals by land use change and forestry activities listed in Annex [B1] shall be added to the emission budget of that Party. CO₂ [releases / emissions] from these activities shall be subtracted from the emission budget of that Party.]

Also, in the following paragraph, change “paragraphs 7 to 10 above” to “paragraphs 7 to 11 above” and renumber this and subsequent paragraphs in this Article.

3. Create Annex B1 titled “Anthropogenic** Land Use Change and Forestry Activities” as follows:

Gas

Source and Sink Category

Carbon dioxide (CO₂)

Changes in forests and other woody
Biomass stocks.

4. Article 3, paragraph 15 should be amended, or a paragraph similar to paragraph 15 added, to cover the review of this list of activities to be included in Annex B1.

** As decided by the Parties based on the work of the IPCC and advice provided by, *inter alia*, the SBSTA.

PAPER NO. 4: UNITED REPUBLIC OF TANZANIA
(On behalf of the Group of 77 and China)

**SUBMISSION BY UNITED REPUBLIC OF TANZANIA
FOR THE GROUP OF 77 AND CHINA ON QELROs**

1. Each Party included in Annex 1 shall achieve the quantified emission limitation and reduction objectives (QELROs) within the time frames such as 2005, 2010 and 2020 for its anthropogenic emissions by sources and removals by sinks of CO₂ and other greenhouse gases not controlled by the Montreal Protocol.
(based on subparagraph II .2(a) of Decision 1/CP1)
2. The QELROs shall be adopted and reviewed periodically by the COP to the Convention, at the supreme body of the Convention, in the light of the best available scientific information and assessment on climate change and its impacts, as well as relevant technical, social, environmental and economic information.
3. Each Party included in Annex 1 shall:
 - i. return its anthropogenic emissions of all GHGs not controlled by the Montreal Protocol to its 1990 levels by the year 2000;
 - ii. reduce its anthropogenic emissions of CO₂, CH₄ and N₂O each by at least 7.5% of its 1990 levels by the year 2005;
 - iii. reduce its anthropogenic emissions of CO₂, CH₄ and N₂O each by at least 15% of its 1990 levels by the year 2010;
 - iv. further reduce its anthropogenic emissions of CO₂, CH₄ and N₂O each by at least an additional 20% of its 1990 levels by the year 2020, thus leading to a total reduction of 35% of each of these 3 GHGs from the 1990 levels by the year 2020;
 - v. make efforts to control and phase out other greenhouse gases, including HFCs, PFCs and SF₆, etc.;
 - vi. achieve its QELROs primarily through domestic action in its own country;
4. Each Party included in Annex 1 shall fulfil the above commitments mentioned in paragraph 3 in such a way as to minimise adverse social, environmental and economic impacts on developing country Parties, particularly those included in Article 4.8 of the Convention. A Compensation Fund shall be established by the Conference of Parties to compensate the developing country Parties which may suffer social, environmental and/or economic loss as a result of actions taken to meet the QELROs.
5. A Clean Development Fund shall be established by the Conference of Parties to assist the developing country Parties to achieve sustainable development and contribute to the ultimate objective of the Convention. The Clean Development Fund will receive

contributions from those Annex 1 Parties found to be in non-compliance with its QELROS under the Protocol. The Clean Development Fund will also be open for voluntary contributions from Annex 1 Parties.
