

SHARED VISION FOR LONG TERM COOPERATION

**WHY WE NEED A NEW FRAMEWORK
TO DEFINE EQUITY**

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OUTLINE

- **EVOLUTION OF GLOBAL CLIMATE POLICY WITH RESPECT TO EQUITY**
- **GROWING RECOGNITION OF THE CARBON BUDGET APPROACH**
- **IMPLICATIONS OF THE 2 DEGREE 'GOAL' FOR THE NEGOTIATIONS**

THREE POLICY PHASES

- **1970 -1992 : SCIENTIFIC RESEARCH, ENVIRONMENTAL DAMAGE**
- **1992 – 2010: DEVELOPED COUNTRIES TAKING THE LEAD, MARKET MECHANISMS**
- **2010 – 2050 : ALL COUNTRIES TAKING ACTIONS, ECOLOGICAL LIMITS**

CBDR PRINCIPLE (1970-2010)

- **RESERVATION RECORDED AT RIO**
- **MODIFICATION IN THE UNFCCC**
- **DEFINED IN TERMS OF REDUCING IMPACT ON BUDGETS – INCREMENTAL COSTS, CDM, PRIVATE SECTOR + FOCUS ON LDC'S**
- **INTERNATIONAL COOPERATION TO REDUCE “COSTS”**
- **BURDEN SHARING**

THE COPENHAGEN ACCORD

- **SHIFTING TO 'WHAT' FROM 'HOW' + EQUITY TO BE (RE) DEFINED**
- **DIFFERENTIATION – TIME FRAME FOR PEAKING WILL BEAR IN MIND THAT SOCIAL AND ECONOMIC DEVELOPMENT AND POVERTY ERADICATION ARE THEIR FIRST AND OVERRIDING PRIORITIES**
- **ACTIONS BY ALL COUNTRIES - DELAY IN EMISSIONS REDUCTIONS BY DEVELOPED COUNTRIES WILL SHIFT THE BURDEN ONTO COUNTRIES WHOSE PER CAPITA EMISSIONS ARE BELOW THE GLOBAL AVERAGE**
- **DETERMINING CRITERIA FOR SHARING THE REMAINING CARBON SPACE – UNILATERAL PLEDGES DO NOT CONSTITUTE A BASIS FOR BURDEN SHARING**
- **LONG TERM COOPERATION – TECHNOLOGY DEVELOPMENT AND TRANSFER**

THE CASE FOR NEW RULES

- **NEW ACCOUNTING FRAMEWORK - ALL COUNTRIES TAKING ACTIONS BUT THERE IS A “GIGATONNE GAP”**
- **NEED TO CONSIDER PATHWAYS OVER A PERIOD AND NOT EMISSIONS AT A POINT OF TIME AS LONGER TERM TRENDS HAVE NOT BEEN MODIFIED IN DEVELOPED COUNTRIES**
- **THE ATMOSPHERIC RESOURCE IS LIMITED AND DEVELOPING COUNTRIES NEED POLICY SPACE FOR DEVELOPMENT OF INFRASTRUCTURE (ELIMINATION OF POVERTY), AFTER WHICH CURRENT EMISSIONS CAN DECLINE**
- **TRANSPARENCY OF OUTCOMES INCLUDES ASSESSING NATURE AND ADEQUACY OF ACTIONS**

DEFINING THE SHARED VISION: FLOW VERSUS STOCK

- EMISSIONS DATA IS NEEDED FOR GLOBAL CLIMATE MODELS BUT IS NOT USEFUL TO DETERMINE POLICY AND ASSESS STRATEGIES
- THE OBJECTIVE OF THE CONVENTION FOCUSES ON CHANGES IN THE CONCENTRATION OF GHG'S IN THE ATMOSPHERE
- LINK BETWEEN GLOBAL TEMPERATURES AND STOCK OF GHGS- 2010 – 2020: GLOBAL ANNUAL EMISSIONS 44 Gt; CUMULATIVE REDUCTIONS 14 Gt AND PLEDGES 7 Gt. DEVELOPING COUNTRIES DOING MORE
- CARBON BUDGET ENABLES ASSESSMENTS OF NATIONAL ACTIONS AND RECOGNISES DIFFERENT PATHWAYS

WHY CARBON BUDGET/SPACE

“Global temperature and GHG concentration targets are needed to help guide long-term global action. Domestic policy, however, requires goals that are more directly linked to outcomes that can be measured and affected by domestic action. The Panel thus recommends that the U.S. policy goal be stated as a quantitative limit on domestic GHG emissions over a specified time period – in other words, a GHG emissions budget.

THE US PERSPECTIVE

The Panel used recent integrated assessment modeling studies to suggest that a reasonable “representative” range for a domestic emissions budget would be 170 to 200 gigatons (Gt) of CO₂-eq for the period 2012 through 2050. This corresponds roughly to a reduction of emissions from 1990 levels by 80 to 50 percent, respectively.

LIMITING THE MAGNITUDE OF FUTURE CLIMATE CHANGE : NAS (MAY 2010)

We note that this budget range is based on “global least cost” economic efficiency criteria for allocating global emissions among countries. Using other criteria, different budget numbers could be suggested (for instance, some argue that based on global “fairness” concerns, a more aggressive U.S. emission reduction effort is warranted).

THE UK PERSPECTIVE

- **THE UK CLIMATE CHANGE ACT, 2008, ESTABLISHES LEGALLY BINDING CARBON BUDGETS, WHICH WILL SET A CEILING ON THE LEVELS OF GREENHOUSE GASES THAT CAN BE EMITTED IN A SPECIFIED PERIOD**
- **80% REDUCTION BY 2050 IS CONSIDERED SUFFICIENT TO LIMIT GLOBAL TEMPERATURES TO 2 DEGREES CELSIUS – 2 TONNES PER CAPITA IN 2050**
- **THE GOVERNMENT CANNOT PLACE TOO MUCH RELIANCE ON THE CARBON PRICE TO DRIVE INVESTMENT IN LOW CARBON TECHNOLOGY, AND SHOULD ENSURE THAT COMPLEMENTARY ARRANGEMENTS ARE IN PLACE...MANAGEMENT OF THE CARBON BUDGET IS AS IMPORTANT AS THE FISCAL BUDGET**
- Climate Change Committee, Environmental Audit Committee, House of Commons report 'Carbon Budgets', Jan 2010

Parameter of Urban Household: by 2030 same life quality as that in developed countries

Service	Unit	Service		
		2020	2030	2050
Household, million		288	336	380
Share of HH with space heating		42%	44%	48%
Index of space heating intensity, 2000=1		1.35	1.5	1.6
Index of space heating time, 2000=1		1.33	1.36	1.4
Share of building with 50% efficiency standard		20%	45%	65%
Ownership of Air Conditioner		130	180	260
Index of Air conditioner intensity, 2000=1		1.3	1.4	1.6
Index of air conditioner utilization time, 2000=1		1.6	1.8	2.2
Ownership of Refrigerator	per 100HH	100	120	130
Average space of refrigerator	L	250	310	390
Efficiency of Refrigerator		0.8kWh/天	0.8kWh/天	0.7kWh/天
Ownership of washing machine	per 100HH	100	100	100
times to use washing machine per week		5.4	8	8
Ownership of TV	per 100HH	180	220	290
Average Capacity of TV		320W	300W	280
Hhrs per TV per day		3.5	3.2	2.9
Penetration rate of CFL		100%	100%	100%
Light per HH		14	21	27
Ownership of Water heater	per 100HH	100%	100%	100%
Ownership of Solar heater	per 100HH	18%	25%	33%
Ownership of Electric cooking	per 100HH	130	140	260
Hhrs per day of electric cooking	Minutes	12	30	50
Capacity of other electric appliance	W	1500W	1800W	2300W
Hhrs of other electric appliance	Minutes	50	80	100

ISSUES ARISING FROM THE 2 DEGREE GLOBAL SCIENTIFIC GOAL

- **THE GLOBAL GOAL MUST INCLUDE BOTH TEMPERATURE AND CONCENTRATION LIMITS TO IDENTIFY THE “GIGATONNE” GAP, AND ASSESS ACTIONS.**
- **AT THE GLOBAL LEVEL WE MUST FOCUS ON CUMULATIVE EMISSIONS – THE OBJECTIVE OF THE CONVENTION – AS GROWTH PATHWAYS RATHER THAN DRIVERS OF CURRENT EMISSIONS NEED TO BE CONSIDERED.**
- **INTERNATIONAL COOPERATION IS ESSENTIAL BECAUSE ACTUALLY LIMITING CLIMATE CHANGE REQUIRES FOCUS BOTH ON FUTURE EMISSIONS THAT WILL COME FROM DEVELOPING COUNTRIES, AND ON REDUCTIONS IN DEVELOPED COUNTRIES WHO HAVE OVER-USED THE ATMOSPHERE AS AN INEXPENSIVE MEANS OF MANAGING WASTE GENERATED BY THEIR GROWTH TO PROVIDE THE POLICY SPACE**
- **EQUITY SHOULD BE REFLECTED IN THE FRAMEWORK (WHAT), AND IN THE IMPLEMENTATION MECHANISMS (HOW).**
- **THE COPENHAGEN ACCORD RECOGNISES THAT GLOBAL EMISSIONS REDUCTIONS WILL BE BASED ON EQUITY, AND THAT ERADICATION OF POVERTY REMAINS THE OVERRIDING PRIORITY OF DEVELOPING COUNTRIES – QUESTION IS HOW THIS IS TO BE DEFINED.**

CASE FOR A NEW FRAMEWORK FOR INTERNATIONAL COOPERATION

- **THE NATURE OF THE COMPLAINT AGAINST CHINA – REJECTING 80% REDUCTION COLLECTIVELY BY 2050**
- **WHOSE SHARE OF THE CARBON SPACE WILL LDC'S CLAIM FOR THEIR GROWTH POST 2050**
- **ASSESSMENT OF MRV (TRANSPARENCY)**
- **ASSESS ACTIVITIES THAT CAUSE EMISSIONS (INFRASTRUCTURE, URBANIZATION).**

REDEFINING EMISSION REDUCTION STRATEGIES

- DEPENDS ON DEVELOPMENT PATHWAYS RECOGNISING THE RELATIONSHIP BETWEEN HUMAN WELL BEING, ENERGY SERVICES AND CARBON SPACE

NOT JUST

- CONSERVATION – DEMAND-SIDE MANAGEMENT: MODIFYING CONSUMPTION PATTERNS
- EFFICIENCY – SUPPLY-SIDE MANAGEMENT: PRODUCTION AND USE
- DECARBONISING ENERGY - NEW TECHNOLOGIES TO GENERATE ELECTRICITY AND FOR TRANSPORTATION

LIMITATIONS OF THE PER CAPITA APPROACH

- **LIMITATIONS OF CONSIDERING EMISSIONS AT A POINT IN TIME – A MEANS AND NOT AN END IN ITSELF**
- **SIX INDUSTRY SECTORS ACCOUNT FOR 60% OF INDIA'S CARBON DIOXIDE EMISSIONS IN 2008 AND INFRASTRUCTURE AND URBANIZATION NEEDS CEMENT, STEEL ALUMINIUM, FERTLIIZER, WITH NO SUBSTITUTES OR NEW TECHNOLOGIES IN SIGHT**
- **AN 8% GDP GROWTH RATE MEANS PRODUCTION WILL GROW FOUR-FIVE FOLD IN 2030 – POWER, CEMENT, STEEL, ALUMINIUM, FERTLIIZER, PAPER & PULP. 80% OF THESE INDUSTRIES WILL BE COMING UP IN THE NEXT 20 YEARS AND MOST SECTORS WILL OPERATE AT 'BAT' LEVELS**
- **DEVELOPED COUNTRIES MUST CONTINUE TO TAKE THE LEAD : BETWEEN 1990 – 2004 DESPITE AN IMPROVEMENT OF 25% IN ENERGY INTENSITY, AND EMISSIONS FROM MANUFACTURING REMAING STEADY SINCE 1990, TOTAL EMISSIONS INCREASED BY OVER 16% IN THE US, AND THEY CONTINUE TO RELY ON OFFSETS**
- **ANNUAL PER CAPITA EMISSIONS CAN CONVERGE ONLY AFTER THE DEVELOPMENT OF INFRASTRUCTURE, OR ERADICATION OF POVERTY**

WHY WE NEED A CARBON BUDGET

APPROACH TO ENSURE EQUITY

- **OBJECTIVE : ERADICATION OF POVERTY IN THE CONTEXT OF THE 2 DEGREE GOAL IS DEFINED AS DEVELOPMENT OF INFRASTRUCTURE AND INDUSTRY – ENERGY SERVICES - AND NEED FOR CARBON SPACE (shared vision for long term cooperation) ----- Art 2, 4.7**
- **CRITERIA: EQUAL SHARE OF CURRENT CUMULATIVE EMISSIONS OVER A DEFINED PERIOD OF TIME - 1970-2050 (determining national strategies and actions)..... Art 4.1**
- **+**
- **IMPLEMENTATION: TECHNOLOGICAL TRANSFORMATION AND FINANCE TO MEET THE GIGA TONNE GAP AND ENABLE ACTIONS (modification of longer term trends)..... Art 4.5, 11**
- **TRANSPARENCY: MRV OF OUTCOMES (adequacy of actions, assessment of measures and support)..... Art 10.2.a**
- **CBDR - DEFINING THE GLOBAL CARBON BUDGET, CRITERIA FOR BURDEN SHARING, LINKAGES WITH MRV AND FINANCE AND TECHNOLOGY TRANSFER – AND A NEW RESEARCH AGENDA**

Thank You

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