

UNEP's activities to address climate change

UNEPの気候変動に対する取り組み

International Symposium on "Low Carbon Society
-Towards its Realizations with Collaborations of Actors"

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UNEPの気候変動戦略

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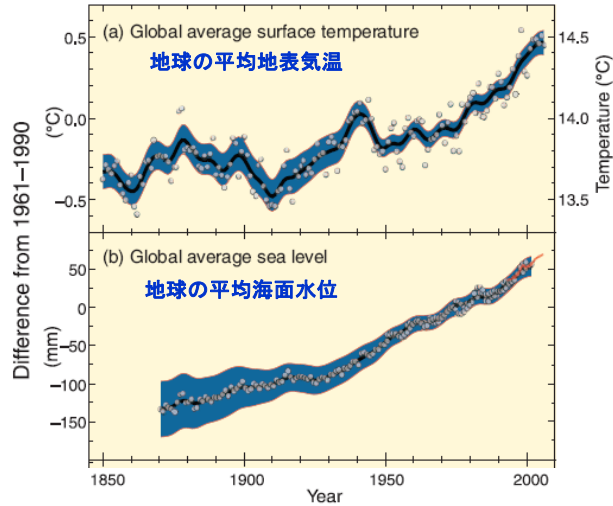
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Climate change is unequivocal

Changes in global average temperature and global average sea level

地球の平均地表気温と平均海面水位の変化



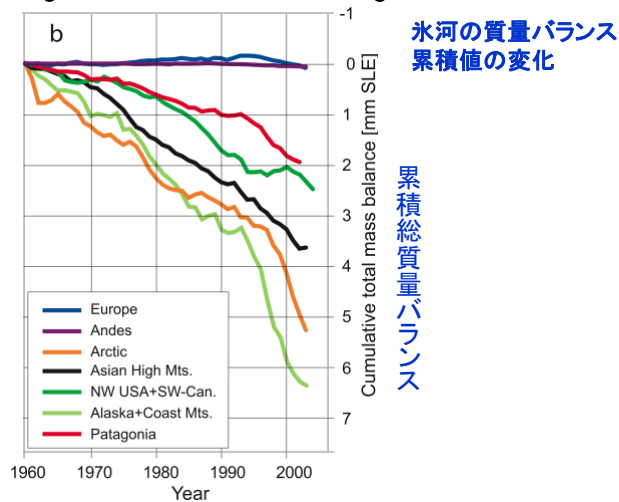
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Source: IPCC, 2007: Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp.



Climate change is unequivocal

Change in cumulative balance of glacier mass



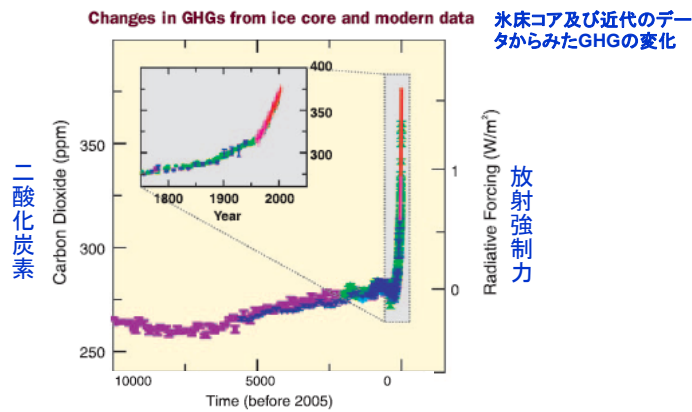
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Source: IPCC, 2007: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 996 pp.



Climate change is unequivocal

Increase in CO₂ concentration



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Source: IPCC, 2007: Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp.



Expected trends and impacts

予想される傾向と影響

Expected impacts of climate change
(some already observed)

気候変動の予想される影響 (すでに観測されているものもある)

The intensity of extreme weather events will increase, the frequency of such events will change, the areal extent will increase, and the duration of such events will increase.
異常気象現象の強度が増し、発生頻度が変化し、影響を受ける地域の範囲も拡大し、さらに異常気象の期間も長期化する。

- Significant changes in precipitation
降水量の著しい変化
- More frequent and damaging floods
洪水の頻発とその被害の甚大化
- More intense, longer droughts
干ばつの極端化・長期化

Source: Pachauri, R.K. (2007) "Climate Change: Main Conclusions from the IPCC Fourth Assessment Report," Presentation at the GEA International Conference, Tokyo, Japan, 19 Oct., Revised by IETC

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Expected trends and impacts

予想される傾向と影響

Expected impacts of climate change (some already observed)

気候変動の予想される影響 (すでに観測されているものもある)

- Widespread change in extreme temperature
異常な温度変化の広まり
- Increasing intense cyclone activity
強いサイクロン活動の増加
- Changes in species composition
動植物の種の構成の変化

Source: Pachauri, RK. (2007) "Climate Change: Main Conclusions from the IPCC Fourth Assessment Report," Presentation at the GEA International Conference, Tokyo, Japan, 19 Oct. Revised by IETC

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Expected trends and impacts

Effects on poor regions

貧困地域への影響

- **Malnutrition** further exacerbated by reduced length of growing season in Sahelian region of Africa. In some countries, yields from rain-fed agriculture could be reduced by up to 50% by 2020

アフリカ・サヘル地域では、作物生育期間の短縮により、栄養不良の状態がさらに悪化。天水農業からの収穫高が2020年までに最大50%まで減少する国もある。

- **Increased water stress** imposed on 75 to 250 million people in 2020 in Africa

2020年にはアフリカで7500万～2億5000万人がさらなる水ストレスにさらされる。

Source: Pachauri, RK. (2007) "Climate Change: Main Conclusions from the IPCC Fourth Assessment Report," Presentation at the GEA International Conference, Tokyo, Japan, 19 Oct.

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Expected trends and impacts

Effects on poor regions 貧困地域への影響

- Food insecurity and loss of livelihood further exacerbated by loss of cultivated land and nursery areas for fisheries by inundation and coastal erosion in low-lying areas of tropical Asia

熱帯アジアの低平地において、洪水や海岸浸食により、耕作地や漁業養殖場を失い、食料不足や生計損失がさらに深刻化する。

Source: Pachauri, RK. (2007) "Climate Change: Main Conclusions from the IPCC Fourth Assessment Report," Presentation at the GEA International Conference, Tokyo, Japan, 19 Oct.

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Expected trends and impacts

Impacts on natural ecosystems 自然生態系への影響

- Climate change will reduce biodiversity and perturb functioning of most ecosystems, and compromise the services they currently provide

気候変動によって生物多様性が失われ、大部分の生態系機能が乱されるとともに、現在の生態系がもたらすサービス(恩恵)が危機的状況に陥る。

- 20-30% of plant and animal species at risk of extinction if increases in global average temperature exceed 1.5-2.5° C

地球平均気温の上昇が1.5~2.5°Cを上回れば、植物種及び動物種の20~30%が絶滅の危機にさらされる。

Source: Pachauri, RK. (2007) "Climate Change: Main Conclusions from the IPCC Fourth Assessment Report," Presentation at the GEA International Conference, Tokyo, Japan, 19 Oct.

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Expected trends and impacts

Impacts on natural ecosystems 自然生態系への影響

- Some ecosystems are highly vulnerable:
 - Coral reefs, marine shell organisms
 - Tundra, boreal forests, mountain and Mediterranean regions

生態系の中には極めて脆弱なものもある。

- ・サンゴ礁、海洋貝生物
- ・ツンドラ、寒帯樹林、山岳、地中海地域

Source: Pachauri, RK. (2007) "Climate Change: Main Conclusions from the IPCC Fourth Assessment Report," Presentation at the GEA International Conference, Tokyo, Japan, 19 Oct.

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Expected trends and impacts

Impacts in Japan 日本における影響

- Enhanced extreme and annual precipitation, increase in annual temperature
豪雨及び年間降水量の増加、年間気温上昇
- Decrease in rice yield up to 40% in irrigated lowland areas in 2050s
2050年代には低地における灌漑稲作による米収穫量が、最大40%減少する

Source: Pachauri, RK. (2007) "Climate Change: Main Conclusions from the IPCC Fourth Assessment Report," Presentation at the GEA International Conference, Tokyo, Japan, 19 Oct.

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Expected trends and impacts

Impacts in Japan 日本における影響

- 4.1 million people at risk in coastal lowland located below high water level in large cities (Tokyo, Osaka, Nagoya) for one meter rise in sea level

海面の1m上昇によって、海拔より低い大都市（東京、大阪、名古屋）の沿岸域では、410万人が危険にさらされる。

- Disappearance of 90% of the suitable habitat for a dominant forest species, beech tree, by the end of this century

今世紀末までに、主要森林種であるブナに適した植生地の90%が消失する。

Source: Pachauri, RK. (2007) "Climate Change: Main Conclusions from the IPCC Fourth Assessment Report," Presentation at the GEA International Conference, Tokyo, Japan, 19 Oct.

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UNEP's Climate Change Strategy

UNEPの気候変動戦略

Structured around four themes 4つのテーマを巡る構成

1. **Mitigation** – facilitating a transition towards low carbon society
緩和—低炭素社会への移行の促進
2. **Adaptation** – Adapting by building resilience to a changing climate
適応—気候変動に対する回復力の構築による適応
3. **Science** – Improving understanding of climate change science
科学—気候変動科学の理解の向上
4. **Communication** – Communicating and raising awareness
コミュニケーション—コミュニケーションと意識改革

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UNEP's Climate Change Strategy

Strategic priorities of UNEP's climate change programme

UNEP気候変動プログラムの戦略的優先事項

1. **Mitigation** – facilitating a transition towards low carbon society
緩和—低炭素社会への移行の促進
 - A. Policy and institutional support for energy efficient and renewable energy technologies
エネルギー高効率技術及び再生可能エネルギー技術のための政策及び制度的支援
 - B. Accelerating financing for and deployment of clean technologies
クリーン技術のための資金調達展開及びクリーン技術の普及の迅速化
 - C. Reducing emission from deforestation and land use change
森林破壊及び土地利用変化からの排出量の削減

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UNEP's Climate Change Strategy

Strategic priorities of UNEP's climate change programme

2. **Adaptation** - Adapting by building resilience to a changing climate
適応—気候変動に対する回復力の構築による適応
 - A. Integrating climate change and ecosystem management practices
気候変動と生態系管理の取組みの統合
 - B. Building national institutional capacities for adaptation planning
適応計画のための国内における制度的能力の構築

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UNEP's Climate Change Strategy

Strategic priorities of UNEP's climate change programme

3. **Science** - Improving understanding of climate change science
科学—気候変動の科学的知識の理解の向上
 - A. Providing climate change science to national governments
各国政府への気候変動科学的知識の提供
 - B. Leveraging science to strengthen the international regime on climate change
気候変動に関する国際体制強化のための科学的知識の活用

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UNEP's Climate Change Strategy

Strategic priorities of UNEP's climate change programme

4. **Communication** - Communicating and raising public awareness
コミュニケーション—コミュニケーションと意識改革

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KICK THE HABIT: A UN Guide to Climate Neutrality

習慣を見直そう: 気候ニュートラル化のための国連ガイド

UNEP's publication
UNEP出版物

CCCC

KICK THE HABIT

A UN GUIDE TO
CLIMATE NEUTRALITY

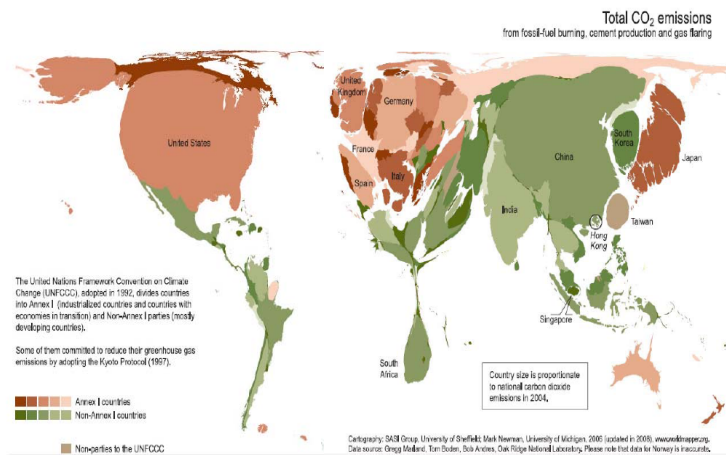


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KICK THE HABIT: A UN Guide to Climate Neutrality



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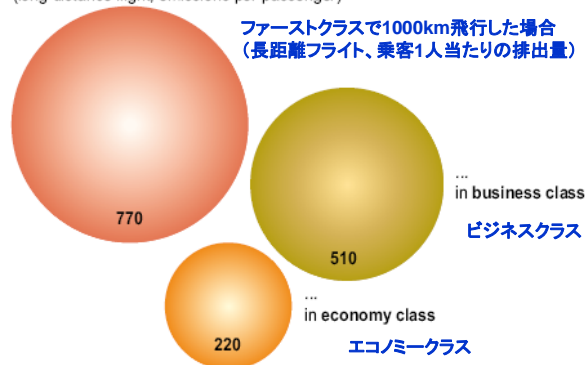
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KICK THE HABIT: A UN Guide to Climate Neutrality

Flying a 1,000 kilometers – CO₂ emissions in Kg
1000kmを飛行機で飛ぶときのCO2排出量(kg)

Flying a thousand kilometres in first class
(long distance flight, emissions per passenger)



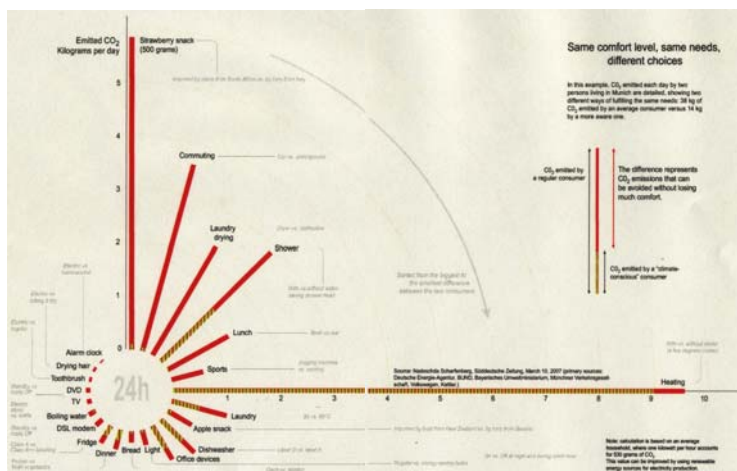
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KICK THE HABIT: A UN Guide to Climate Neutrality

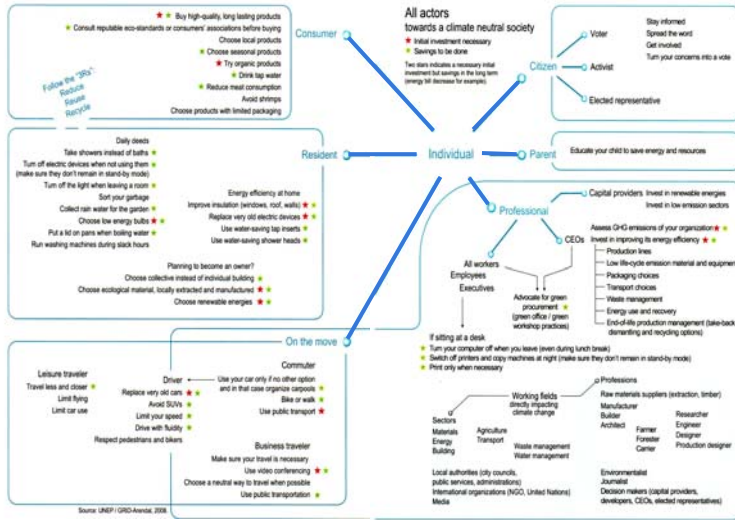
Changing life style does it really makes a difference
生活スタイルを変えることが本当に違いを生み出す



KICK THE HABIT: A UN Guide to Climate Neutrality

What can we do – as individuals

個人として、私たちは何ができるのか



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Japan's initiatives and experience in reducing GHG emissions – some examples

GHG排出量削減における日本のイニシアチブ・経験

Policy Level 政策レベル

- “Cool Earth 50” initiative
「クールアース50」イニシアチブ
- Building a low carbon society
低炭素社会の構築
- Developing innovative technologies
革新的技術の開発
- International research network on low carbon societies
低炭素社会に関する国際研究ネットワーク
- Co-benefits and technology transfer
コベネフィット(相乗利益)及び技術移転

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Japan's initiatives and experience in reducing GHG emissions – some examples

Manufacturing Level 生産レベル

■ Efforts by individual companies 個別企業による努力

- Toyota – 35% reduction in CO₂ emissions per unit of sales by FY2010 compared to FY2001

source: Toyota Motor Corporation (2008), "Sustainability Report 2008"

トヨタ自動車: 2010年度までに売上高当たりCO₂排出量を2001年度比35%削減

- Tokyo Electric – 20% reduction in CO₂ emission intensity on average from FY2008 to 2012 compared to FY1990

source: Tokyo Electric Power Company, Inc (2008), "Sustainability Report 2008"

東京電力: 2008～2012年度平均CO₂排出原単位を1990年度比20%削減

- Sharp – 35% reduction in CO₂ emissions per adjusted production unit on average from FY2008 to 2012 compared to FY1990

source: SHARP (2008), "Environmental and Social Report 2008"

シャープ: 2008～2012年度平均CO₂排出量を実質生産高原単位で1990年度比35%削減

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Japan's initiatives and experience in reducing GHG emissions – some examples

Manufacturing Level 生産レベル

■ Energy efficient products エネルギー高効率製品

- Toshiba – Energy saving air conditioner
東芝: 省エネ型エアコン
- Sony – Energy efficient notebook computer
ソニー: エネルギー高効率ノート型コンピューター
- Sharp – Plasma cluster ion refrigerator
シャープ: プラズマクラスターイオン冷蔵庫
- Energy efficient/hybrid cars
低燃費車・ハイブリッドカー

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Japan's initiatives and experience in reducing GHG emissions – some examples

Society Level

社会レベル

- Cool biz and Warm biz – expected GHG emission reduction by 460,000 tons in 2005
クールビズ・ウォームビズ: 2005年のGHG想定削減量は46万t
- Solar roofs programme
屋上太陽光発電プログラム
- Green cover – 67% land has forest cover – sequestration potential estimated around 35-70 Million tons of CO₂ per year
緑の被覆: 国土の67%が森林で被覆されている。年間のCO₂吸収量ポテンシャルは、3500～7000万と推測される。
- Campaigns on low carbon lifestyle such as – 1 person, 1 day, 1 Kg
低炭素型ライフスタイルに関するキャンペーン: 「1人1日1KgのCO₂削減」

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THANK YOU

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