Green Purchasing Challenges : Globally & in the Region

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INTERNATIONAL GREEN PURCHASING NETWORK

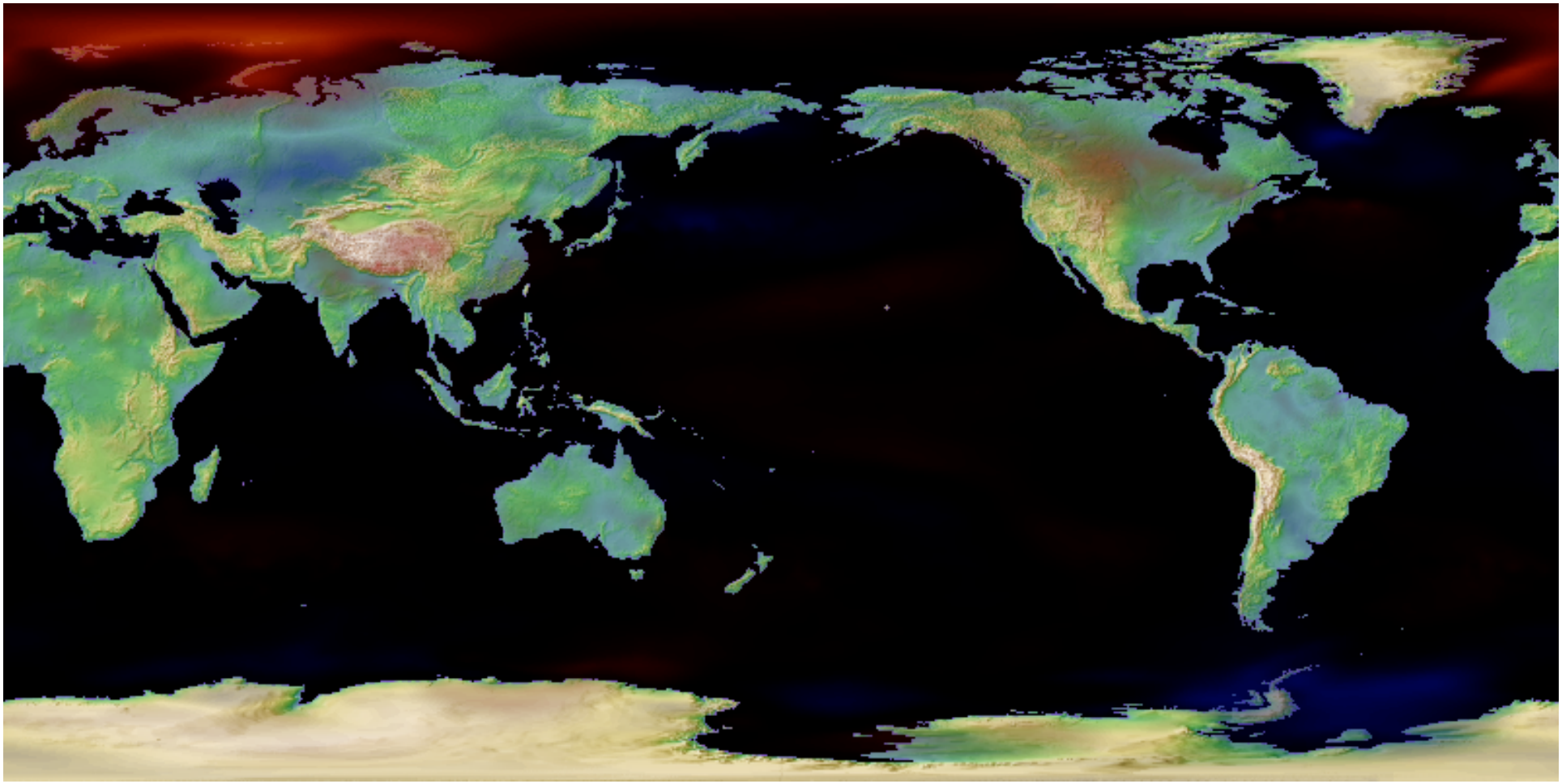
Climate Change, plus 2℃

This is how the world could change if the world average temperature rises by 2℃!

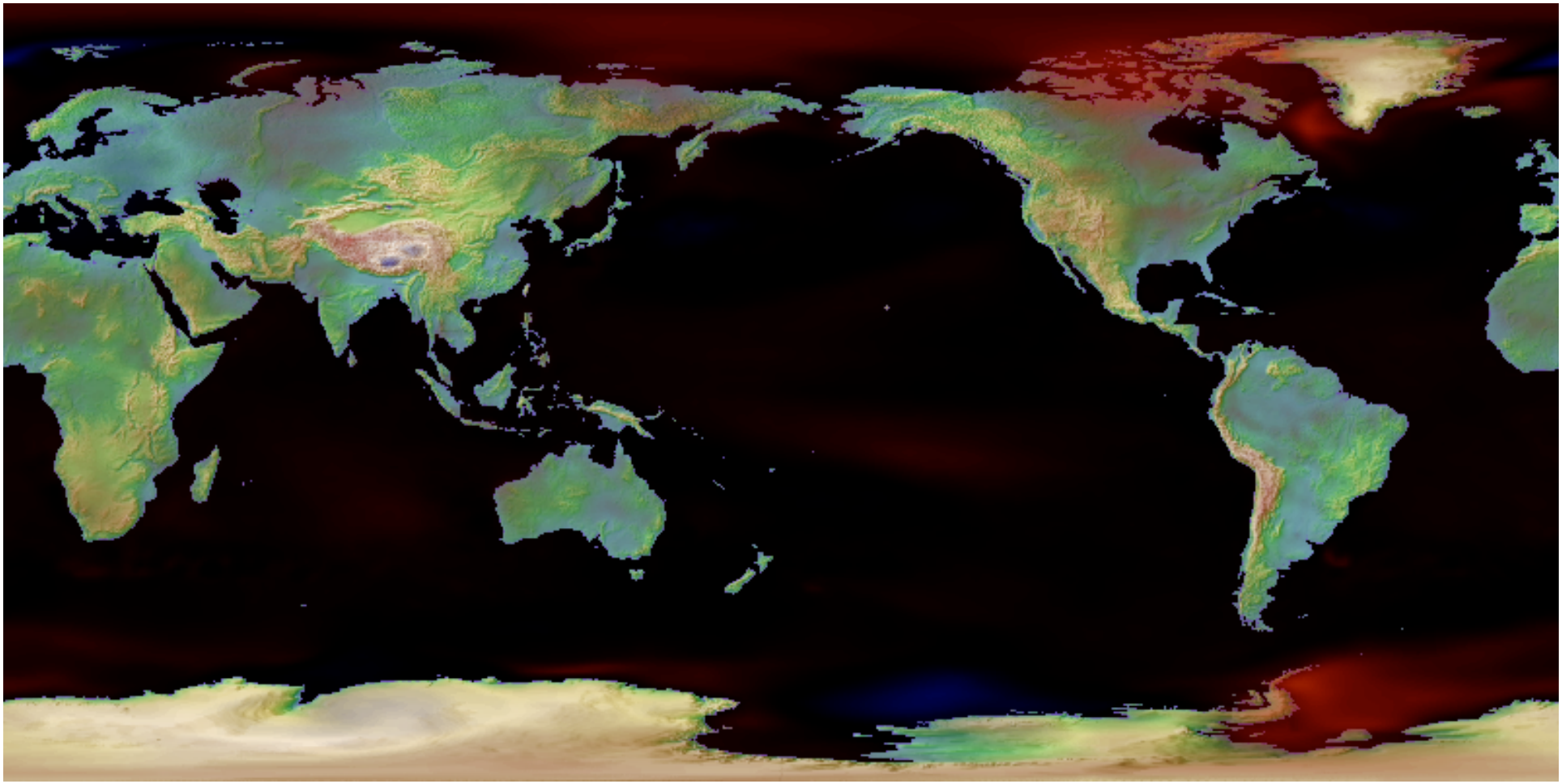
Prediction of global warming by the Earth Simulator

ref. Climate Change +2℃ (ed. by R. Yamamoto, Diamond Co., 2006)
Avoiding Dangerous Climate Change (2006)

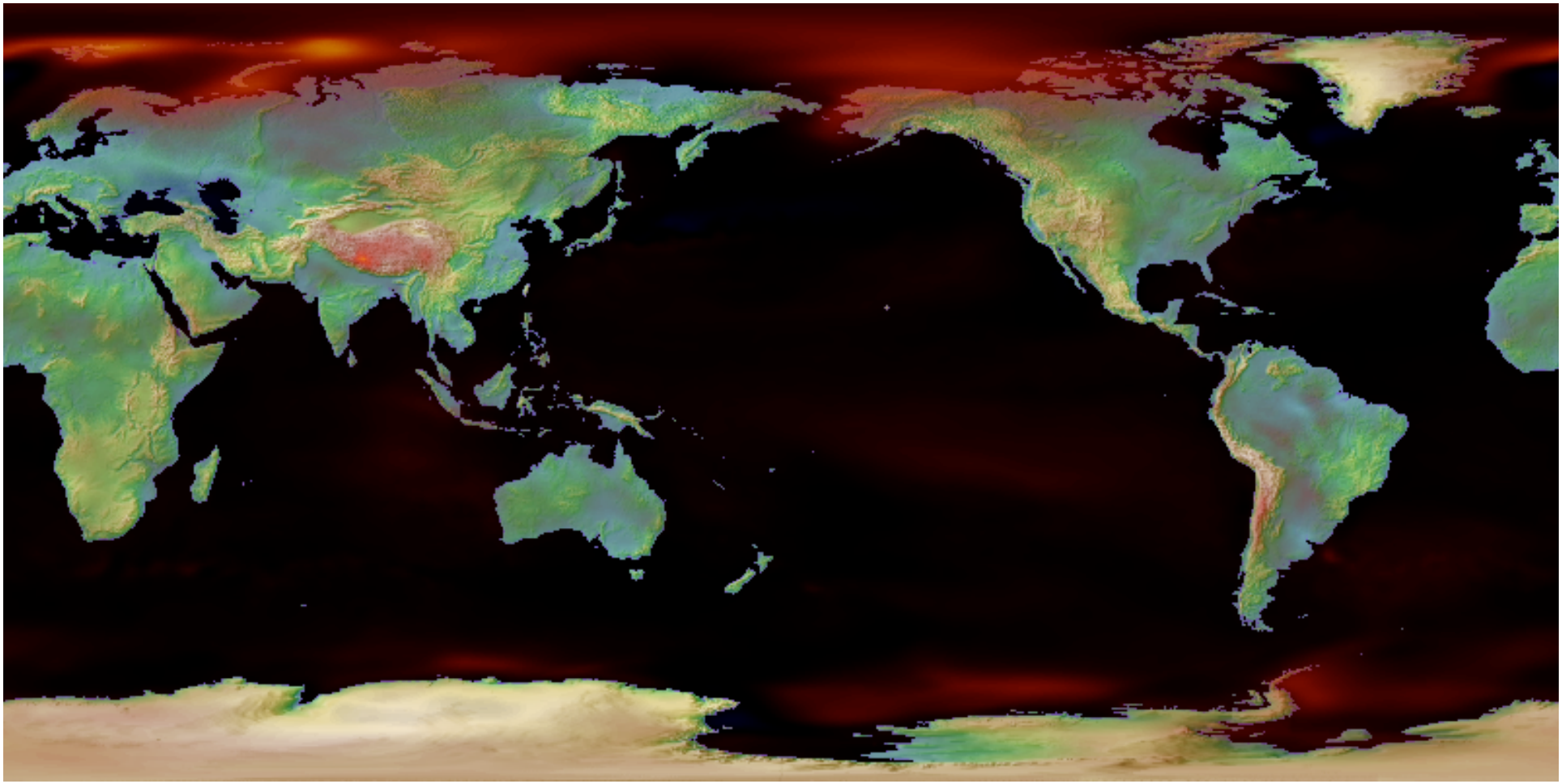
Temperature increase compared to pre-industrial level	Year predicted	Environmental impacts to be expected
1.5℃	2016	Trigger the melting of Greenland ice sheet, etc
2℃	2028	1.0 - 2.8 billions people would suffer from water shortage, etc
3℃	2052	Collapse of climate, such as unstablisation of West Antarctic ice sheet, etc
4℃	2070	Collapse of Australian Agriculture,etc



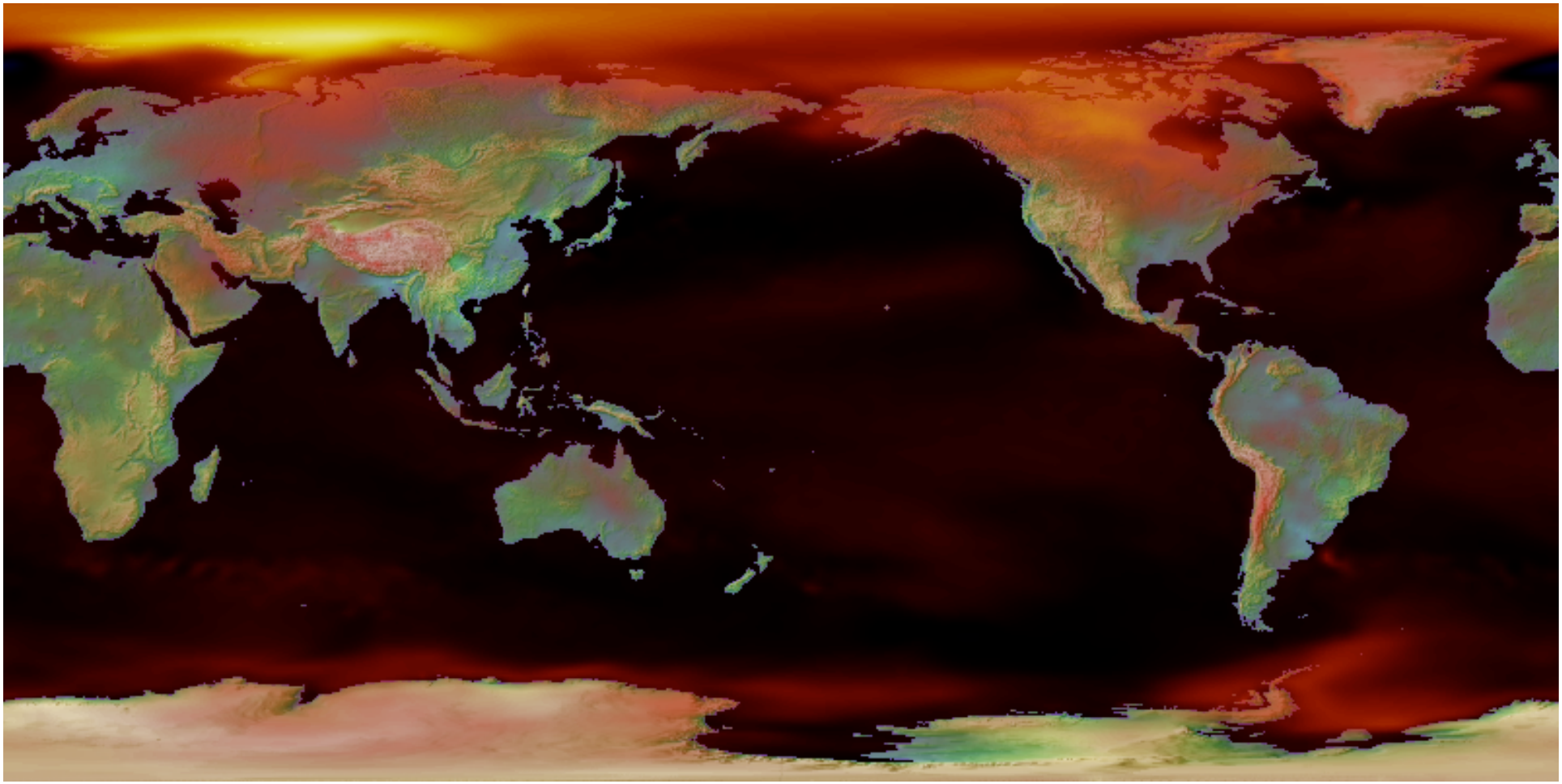
1950



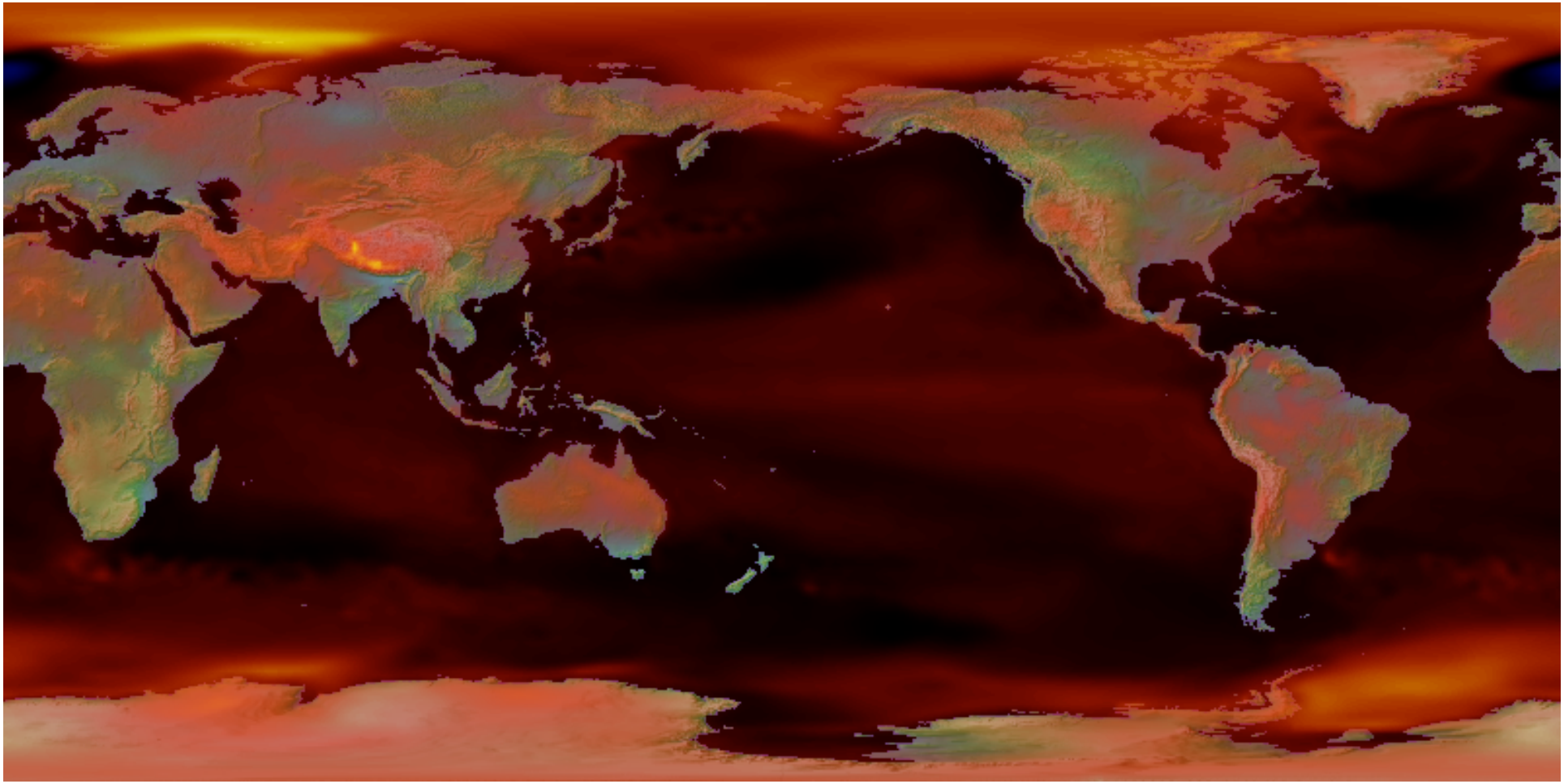
1989



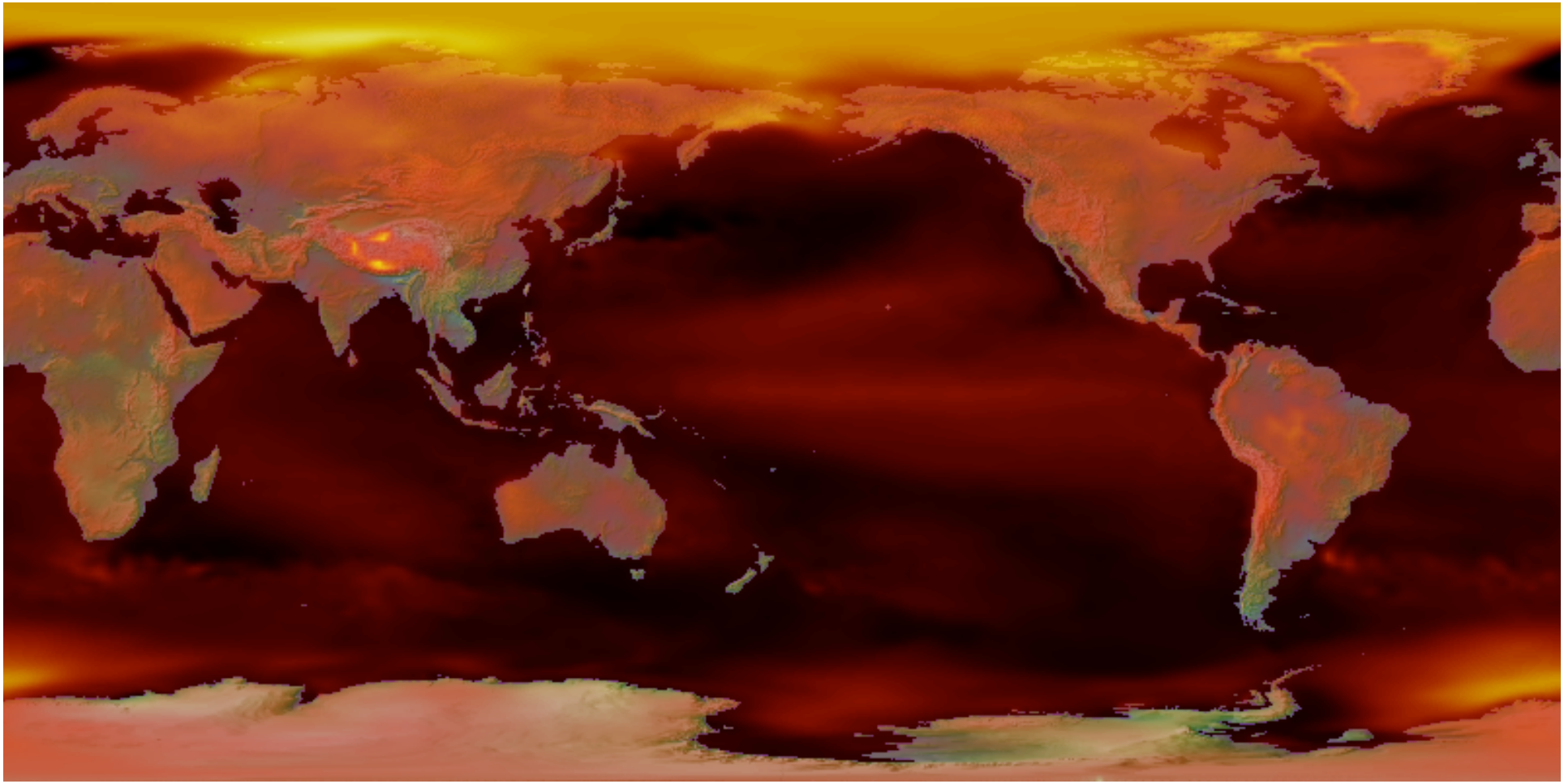
1998



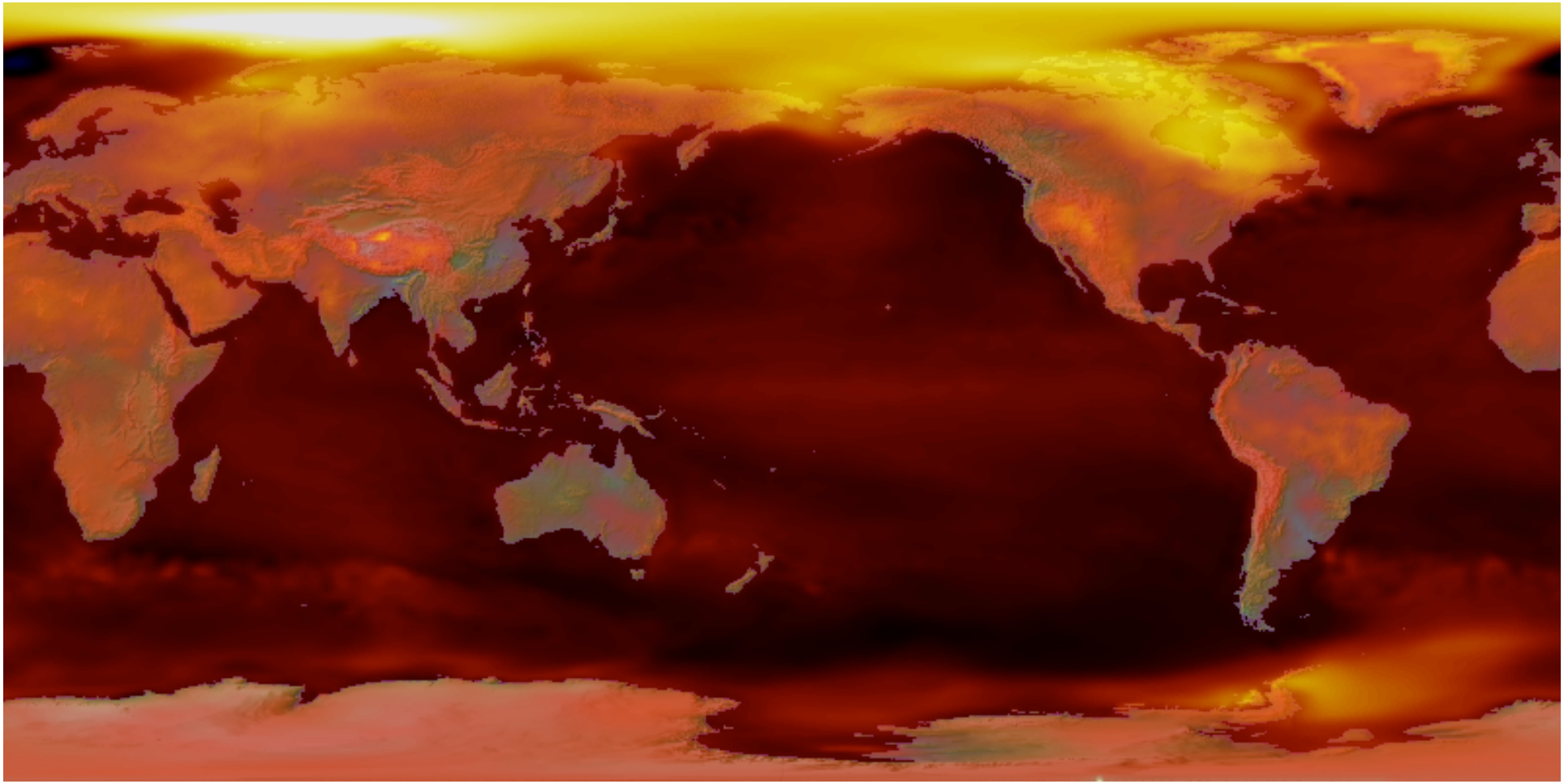
2016



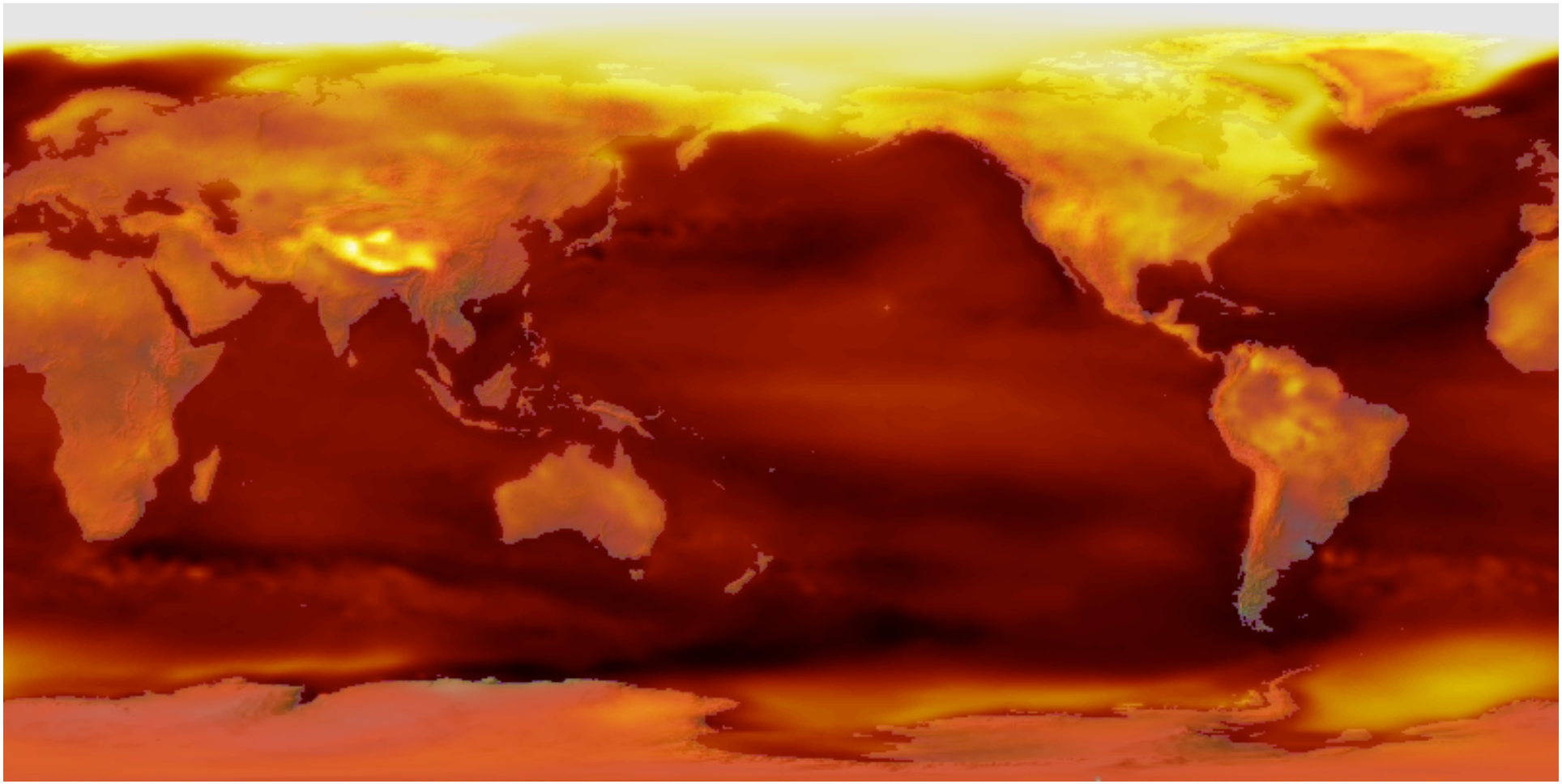
2028



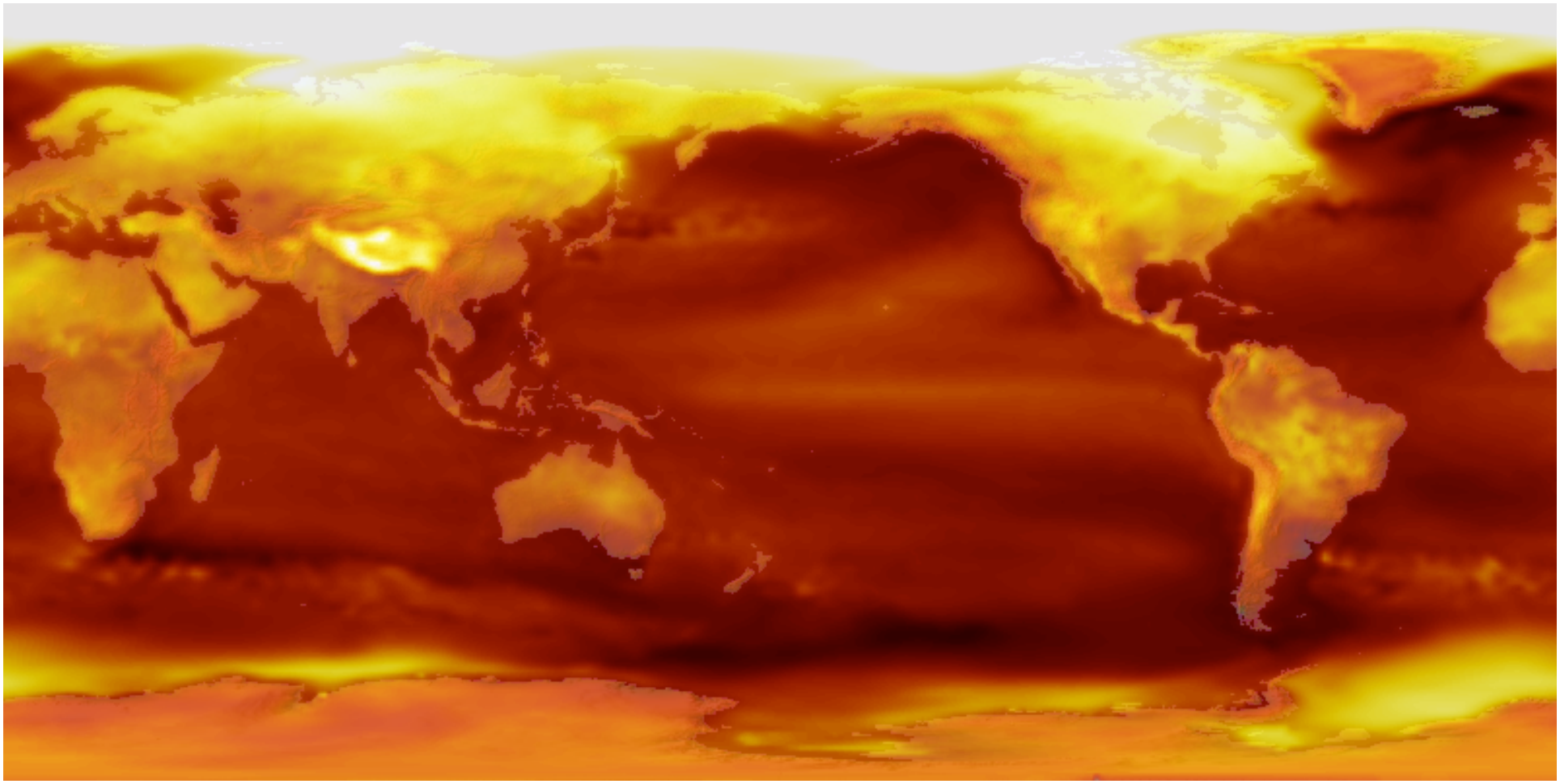
2040



2052



2070



2100

Points of No Return?

～2006 Point of No Return for mass extinction of bio-species and triggering the melting of Greenland ice sheets

～2016 Point of No Return for avoiding great climate change for human beings

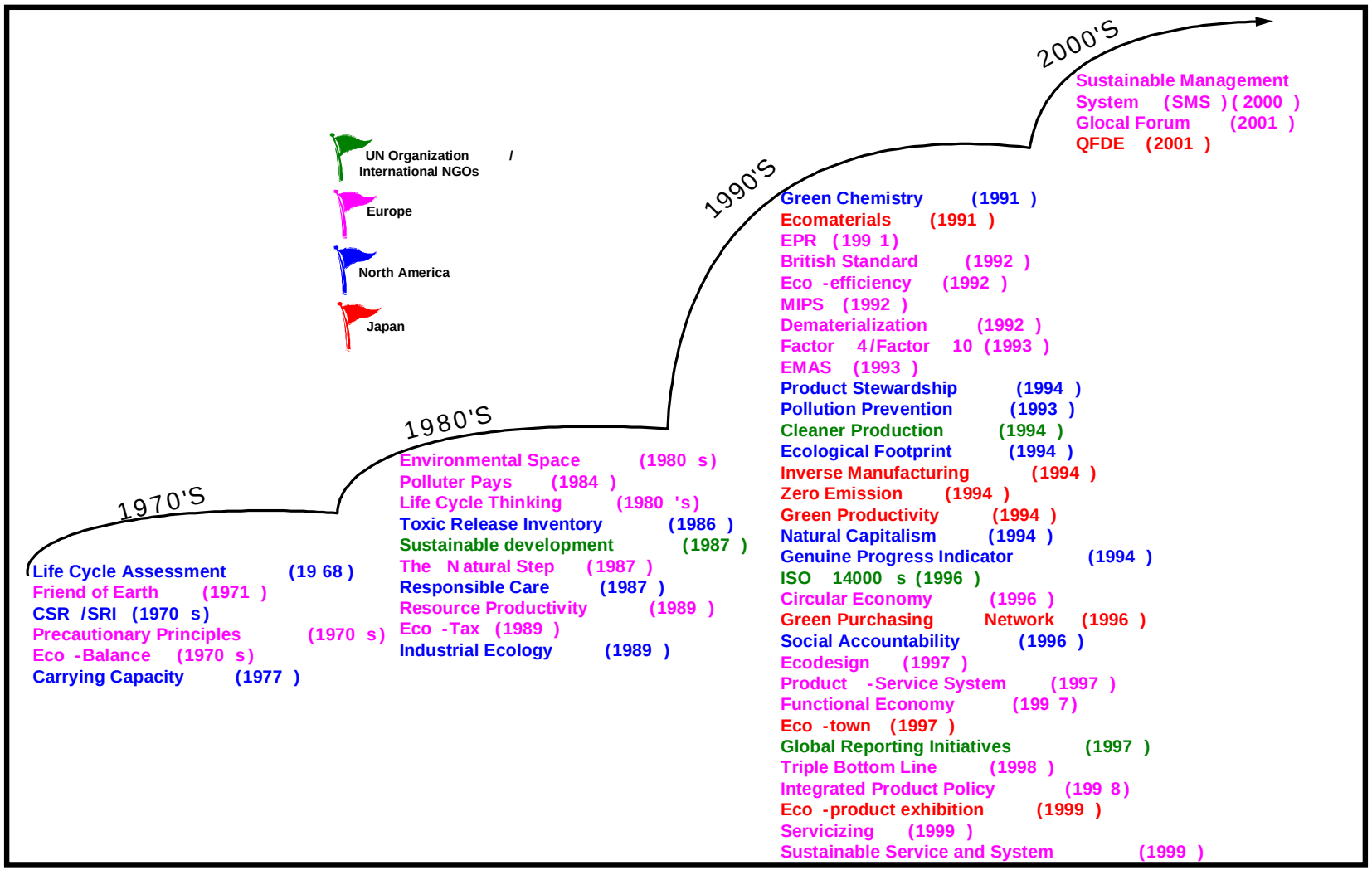
Some Recent Observations on "Global Warming"

1. Ranking of the hottest year 2005, 1998, 2002, 2003,2004…
2. The present Earth is the hottest in the last 12,000 years.
3. Global mean of the surface temperature increases during last thirty years is 0.2℃/ decade.
4. Catastrophic decrease of the perennial sea ice in the Arctic from October 2005 to April 2006 was 720,000 km2.
5. Acceleration of the melting of ice sheet was

   152 km3/yr (Antarctica)

   240km3/yr (Greenland)

Sustainable Development related concepts/methodologies proposed



Examples of Sustainable Development related concepts

Eco-materials

Definition

Eco-materials concept was proposed by Professor Yamamoto and his colleagues in 1991. They are those designed by environmental life cycle engineering and superior to conventional materials in term of LCA.

Ecological Rucksacks

Ecological Rucksacks was proposed by Schmidt Bleek in 1993 along with several terms such as Material Intensity Per unit Service (MIPS) and Factor 10.

The Natural Step

The Natural Step (TNS) concept was first introduced by Dr. Robert Karl-Henrik in 1989 with the help of 50 scientists in Sweden. At this moment, TNS has established its pathfinders in 7 countries including Sweden, UK, US, Canada, Australia, Japan and South Africa.

Definition

This concept consists of four ecological and social sustainable system conditions as well as a framework of ABCD-analysis which utilised the methodology of back-casting for envisioning the future before planning to tackle problem.

Zero Emission

Zero Emission concept was introduced first in 1994 by Gunter Pauli at United Nations University (UNU) in Japan.

Definition

ZE is a practical approach to satisfying humanity's needs for water, food, energy, jobs, shelter and more, in an environmentally sustainable manner, by applying science and technology and involving government, business and academia.

To overcome the obstacle of dematerialisation with eco-design

- Many industrial products are manufactured for direct use by human being or in relation to the size of man, and the size of such products can not be downsized arbitrarily (e.g. notebook PCs, desks, chairs, PCs, PDAs, keyboards, mobile phones, houses, vehicles, trains, TVs, roads, traffic signals) *Source: Industrial Ecology by Gradel & Allenby (translated by Goto; Toppan)*
- There is no way other than thoroughly developing the eco-design to provide affluent services to the world's 9 billion population in 2050
- Eco-design maximises the environment efficiency (energy efficiency, resource efficiency) in the whole life cycle of products

  Resource saving, energy saving, longer life, easy repair, easy expansion of functions, reuse of parts (re-manufacturing), recycle, recovery of thermo energy, timeless design
- Substitution by services of products (rental, common sharing, etc.)
- Zero emission in various scales

4 types of eco-design innovation

- **Type 1 Product Improvement (～Factor 2)**
  - organisation of take-back system
  - changing raw materials
  - changing the type of coolant used, etc.
- **Type 2 Product Redesign (～Factor 5)**
  - increased use of non-toxic materials
  - increased recycling and easy disassembly, etc.
- **Type 3 Product Concept Innovation (～Factor 10)**
  - change from paper-based information
  - exchange to e-mail, etc.
- **Type 4 System Innovation (～Factor 20)**
  - changeover in agriculture to industry-based food production, etc.

Sustainability through the market

1. Innovate
2. Practice eco-efficiency
3. Move from stakeholder dialogues to partnerships for progress
4. Provide and inform consumer choices
5. Improve market framework conditions
6. Make the markets work for everyone and drive eco-innovation by Green Purchasing

Eco-Products related exhibitions 2006 around the world

Feb. 2 - 4	Ottawa, Canada	Sustainable Communities National Conference and Trade Show
Feb. 16 - 19	Nurnberg, Germany	Bio Fach 2006 (World Organic Trade Fair)
Mar. 17 - 20	Paris, France	Ecological and Sustainable Construction Exhibition
Apr. 4 - 7	Las Vegas, USA	Waste Expo
May 2 - 4	Hering, Denmark	Scandinavian Trade Fair for Environmental and Process Technology
May 25 - 26	Perth, Australia	Green Purchasing Conference
June 8 - 10	Dalian, China	China International Environmental Protection Fair
Sep. 20 - 23	KINTEX, Korea	Eco-Products Korea 2006
Oct. 10 - 13	Budapest, Hungary	OKOTECH2006
Oct. 24 - 27	Cologne, Germany	International Trade Fair for Waste Management and Environmental Technology
Nov. 2 - 4	Singapore	Eco-Product International Fair 2006
Dec. 6 - 9	Jakarta, Indonesia	Environment Technology Indonesia 2006
Dec. 14 - 16	Tokyo, Japan	Eco-Products 2006 Exhibition

Eco-Products exhibition in Tokyo

Tokyo Big Sight East Exhibition Hall / 3 days in December / Every year since 1999 / Organised by JEMAI and Nikkei Journal / Supported by METI Japan

http:// eco-pro.com

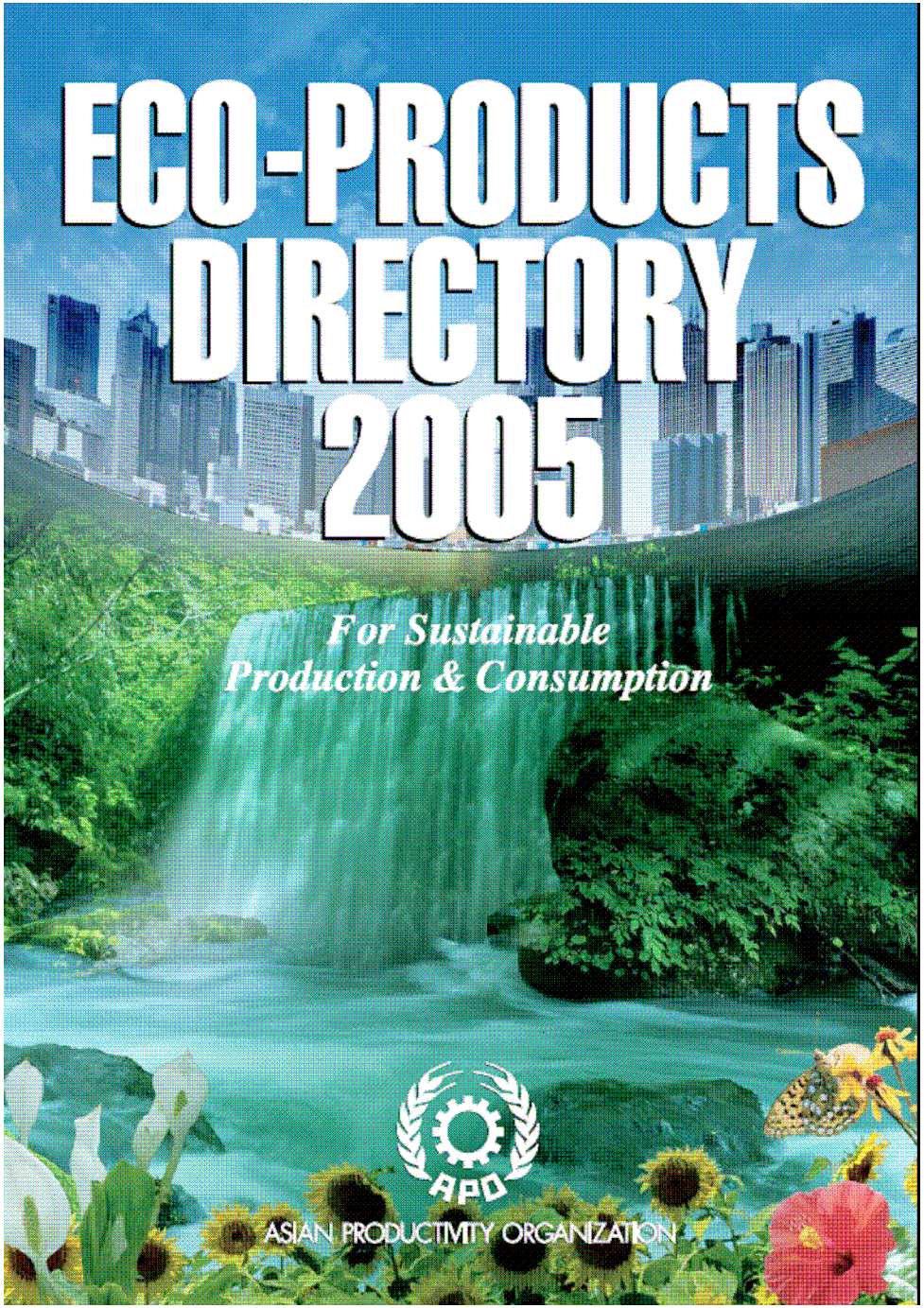
Objectives

- Transition from old industrial economy to circular economy (or new service economy)
- Revolutionising consumer awareness on wider use of eco-products and eco-services

Year	Exhibitors	Visitors	Keynote Speaker
1999	288	47,449	Prof. Von Weizsacker
2000	305	67,838	Dr. Stahel
2001	350	88,604	CEO of Hitachi, Dr. Stevel
2002	370	100,483	CEO of Ricoh
2003	416	114,000	CEO of National/Panasonic
2004	450	124,000	CEO of Sharp
2005	500	140,461	CEO of Toshiba


Eco Life
My Style
地球と私のためのエコスタイルフェア
エコプロダクツ2005
Eco-Products 2005
12/15木16金17土
10:00～
17:00
入場無料
●主催● 新エネルギー・産業技術総合開発機構、(社)産業環境管理協会、日本経済新聞社
東展示場4・5・6ホール/会議棟


電気の大切さを知ろう
自転車発電ゲーム



- Eco-materials: 82
- Eco-components: 39
- Eco-products: 430
- Eco-services: 16


ECO - PRODUCTS
INTERNATIONAL FAIR 2004
Supporting Organisations:
Ministry of International Trade & Industry, Malaysia
Ministry of Natural Resources & Environment, Malaysia
Ministry of Agriculture & Agro-Based Industry, Malaysia
Ministry of Housing & Local Government, Malaysia
Ministry of Economy, Trade & Industry, Japan
Delegation of the European Commission in Malaysia
EXHIBITOR
VIP


Panasonic
VIERA


ducts
onal Fair
ng Ceremo
6,2005,
Organised by:
The Federation of Thai Industries
APO
Asian Productivity Organization
Thailand Productivity Institute
Supported by:
Ministry of Industry

Eco-Products International Fair 2006

World Class Venue

SUNGTEC Singapore
International Convention & Exhibition Centre

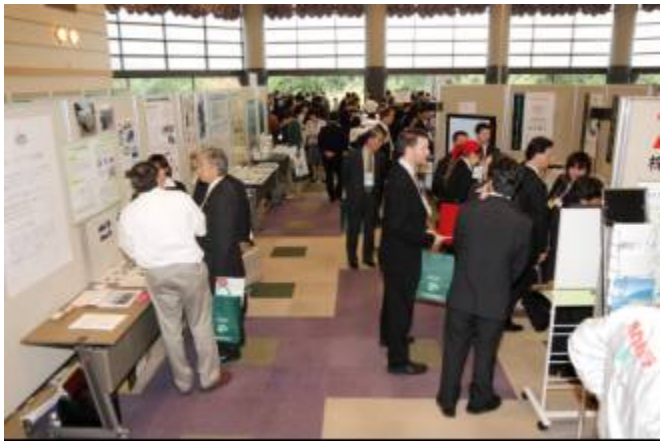
Situated next to the Central Business District, Suntec Singapore is at the heart of a self-contained, totally integrated events infrastructure, and only 20 minutes from Changi International Airport, where most major Asian capital cities are within a six-hour radius flying time.

The 1st International Conference on Green Purchasing in Sendai

Conference Venue

Green Purchasing Award Ceremony

Vice Minister of Ministry of Environment



Panel Session

Introduction to IGPN

- Launched in April 2005
- Based on Sendai Declaration in October 2004

Missions

- To promote the development of environmentally friendly products and services and Green Purchasing activities around the world
- To collect and share information on global Green Purchasing activities, the best examples, know-how, products information, purchasing policies and recent trends
- To harmonise the efforts of Green Purchasing and the development of environmentally friendly products and services from the global viewpoint

IGPN Council Members

- **Green Purchasing Network (GPN)**
  Prof. Ryoichi Yamamoto, Honorary Chair, The University of Tokyo ＊IGPN Chairman
- **ICLEI**
  Konrad Otto-Zimmermann, Secretary General
  ＊IGPN Vice-Chairman
- **Swedish Environmental Management Council (SEMC)**
  Peter Nohrstedt, Lead Manager for the Swedish Instrument for Ecologically Sustainable Procurement (EKU)
- **North American Green Purchasing Initiative (NAGPI)**
  Scot Case, Director of procurement strategy
- **Korean Green Purchasing Network**
  Duk Seung Lee, Secretary General
- **Green Purchasing Network (GPN)**
  Hideki Nakahara, Chair
- **Green Purchasing Network Malaysia**
  Augustine Koh, Secretary General

Mega Actions Required for Sustainable Consumption

IGPN will:

- call for actions at World Economic Forum for companies to implement sustainable procurement
- propose to G8 summit in Tokyo in 2008 to create international programmes for green purchasing
- organise a large-scale conference on Green Purchasing in World Expo Shanghai in 2010