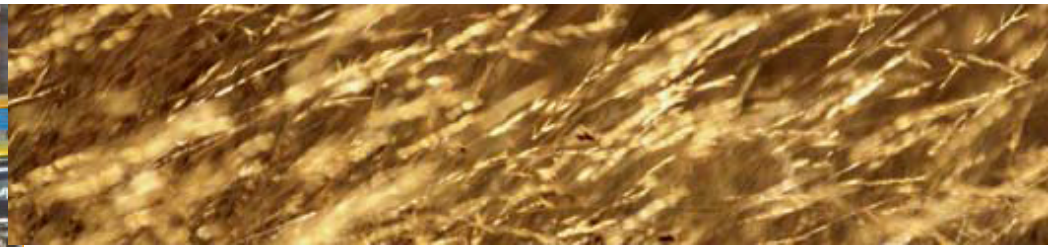
HUMANITY'S ECOLOGICAL FOOTPRINT

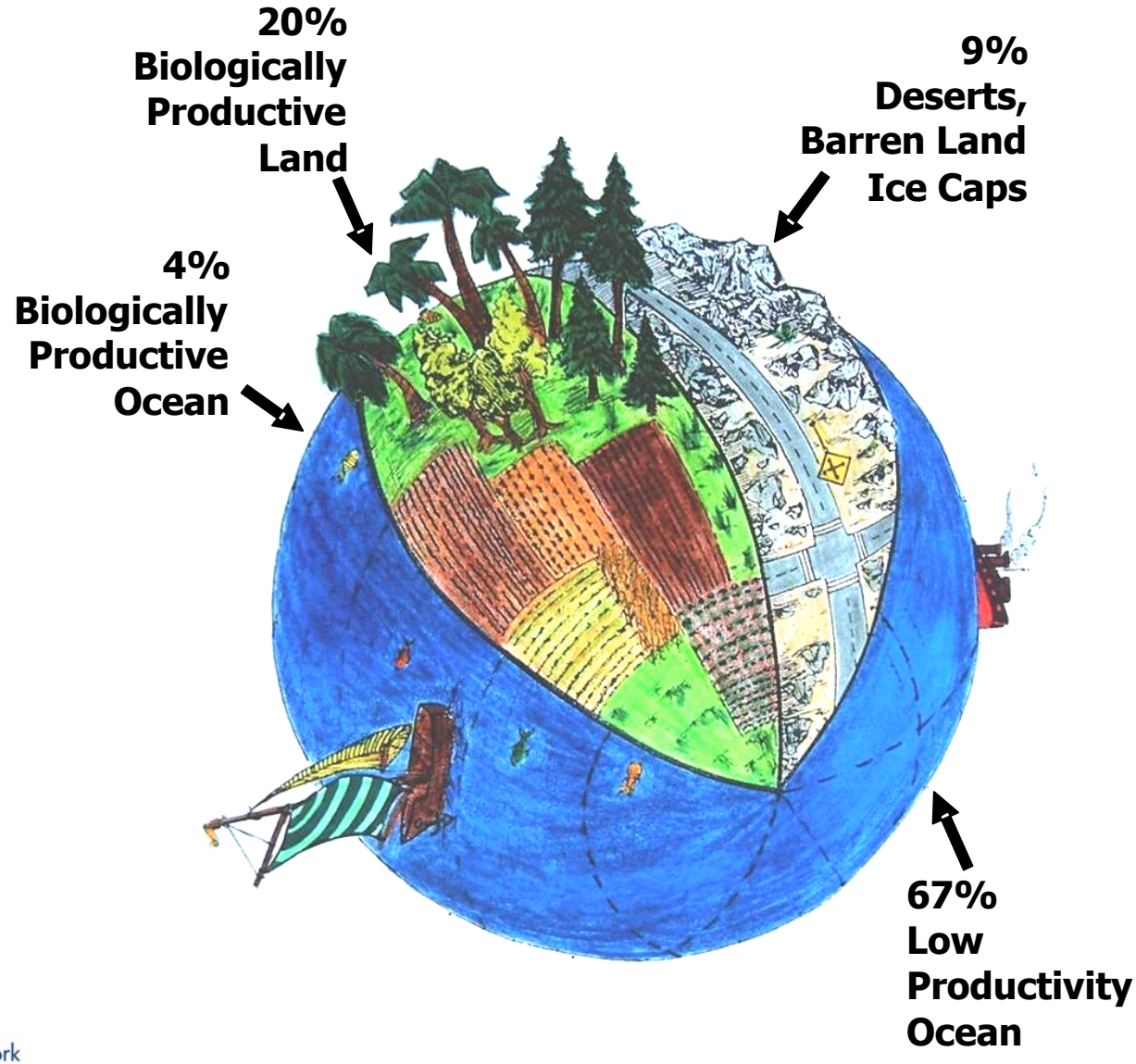
A TOOL FOR NAVIGATING IN A RESOURCE CONSTRAINED WORLD

Meredith Stechbart

NASA Ames Research Center, January 9, 2009

Global Footprint Network
Advancing the Science of Sustainability





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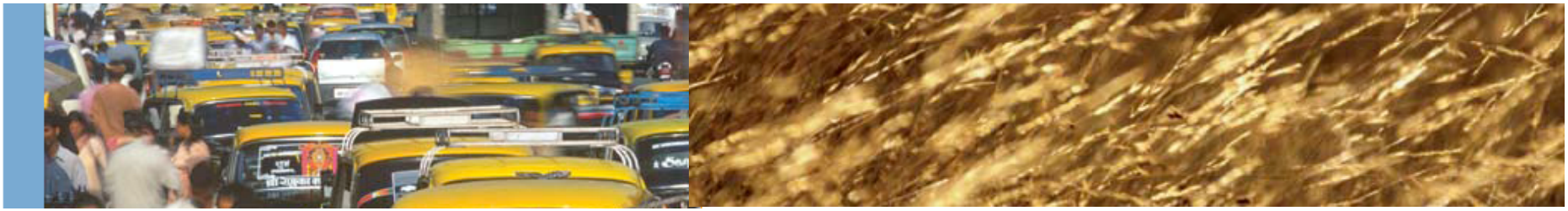
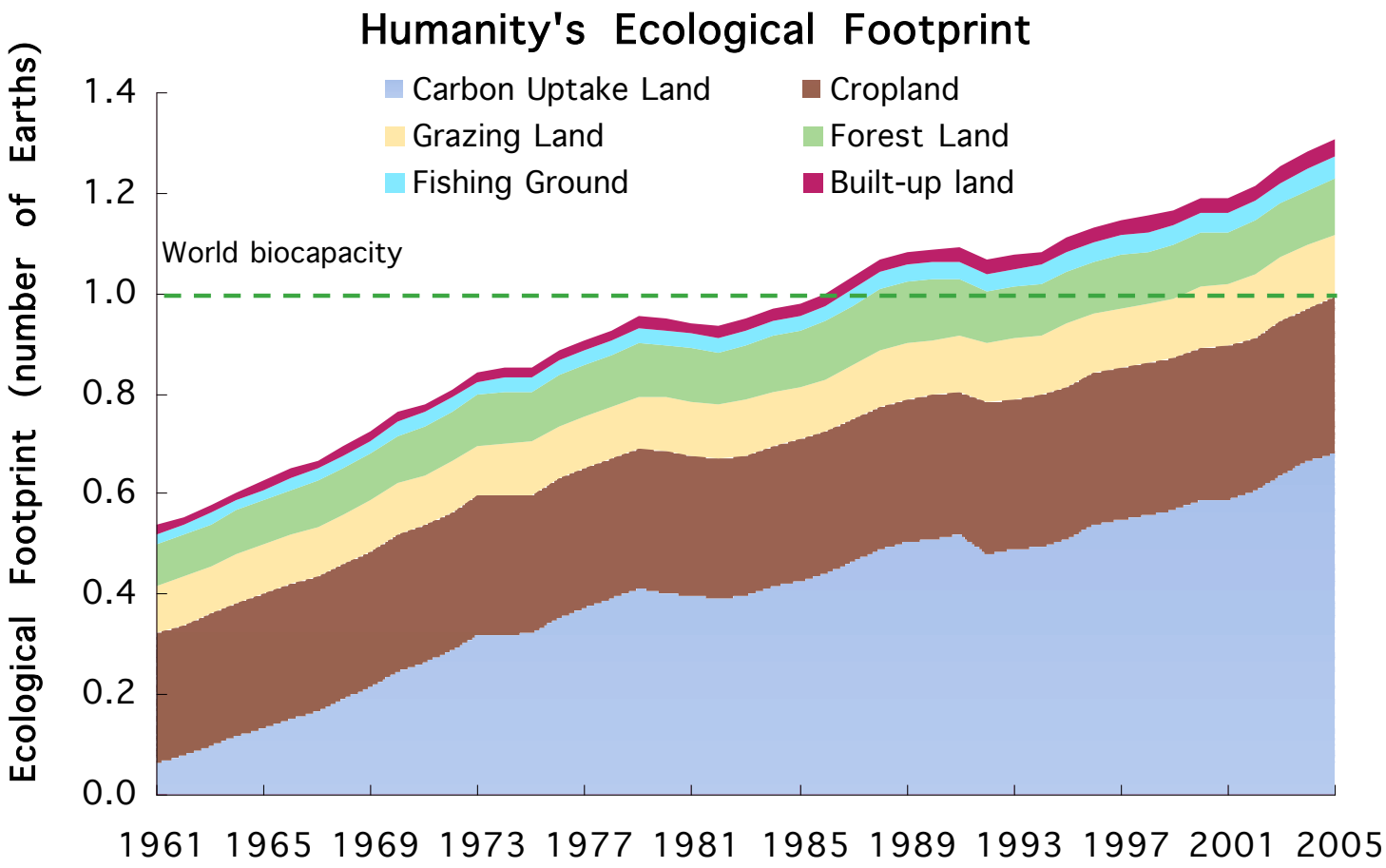
The Ecological Footprint





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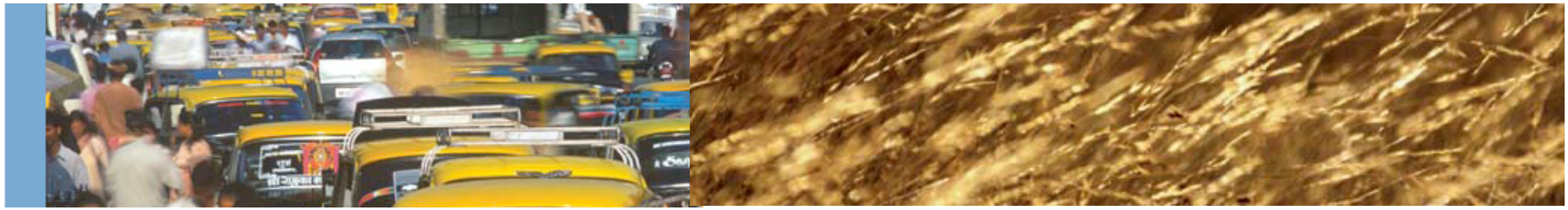
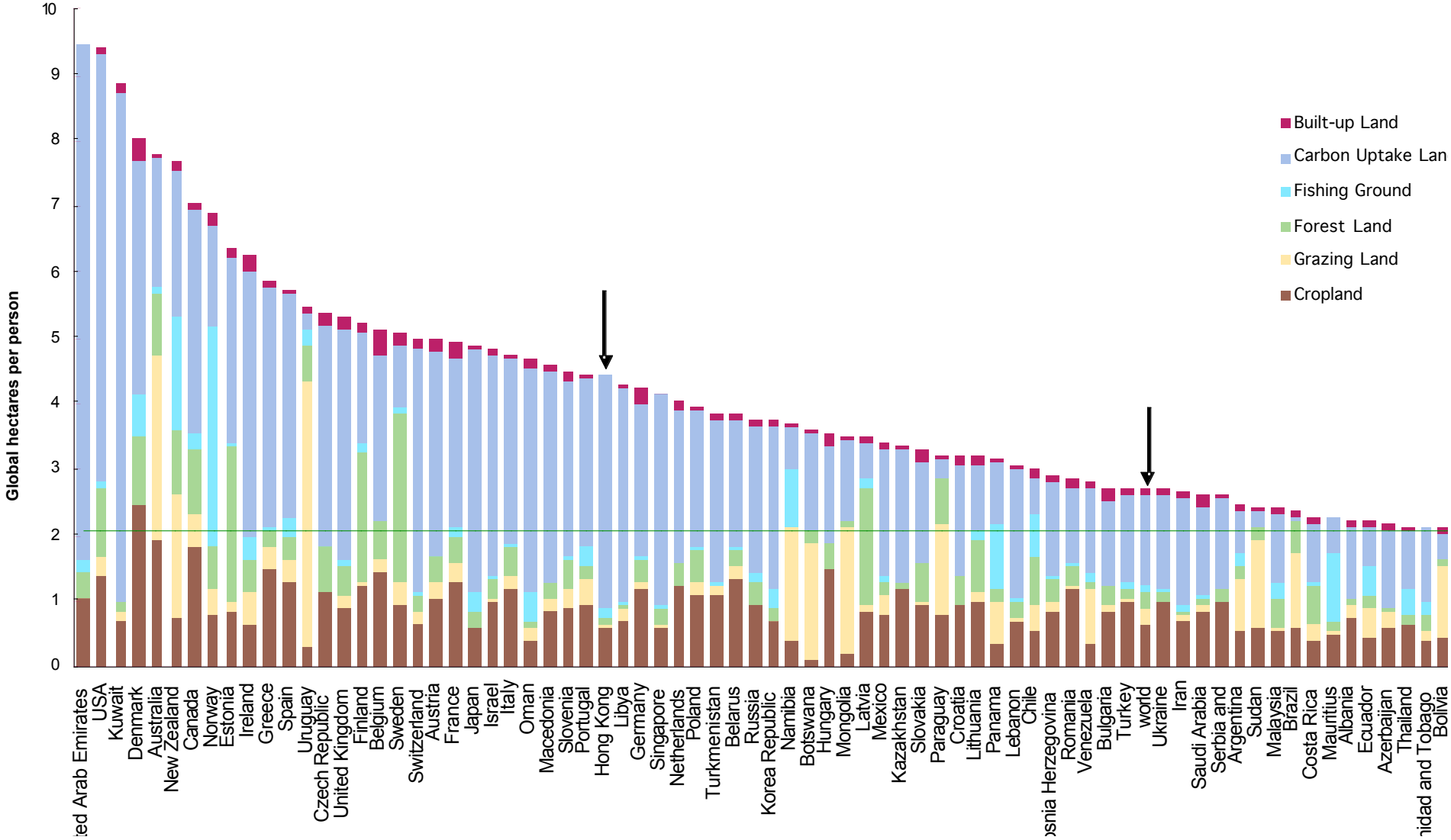
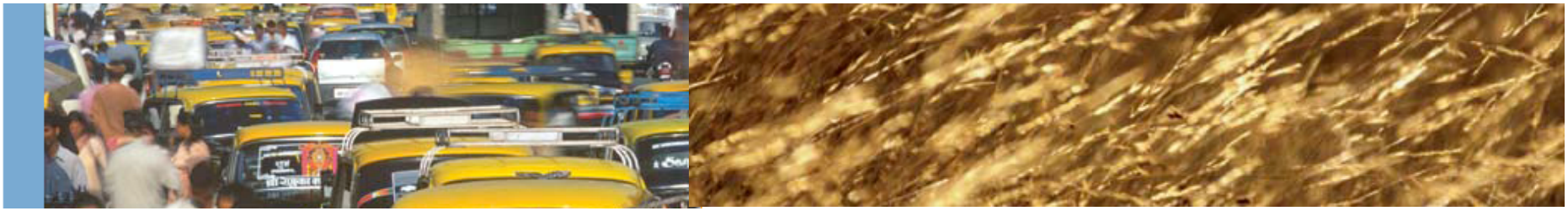
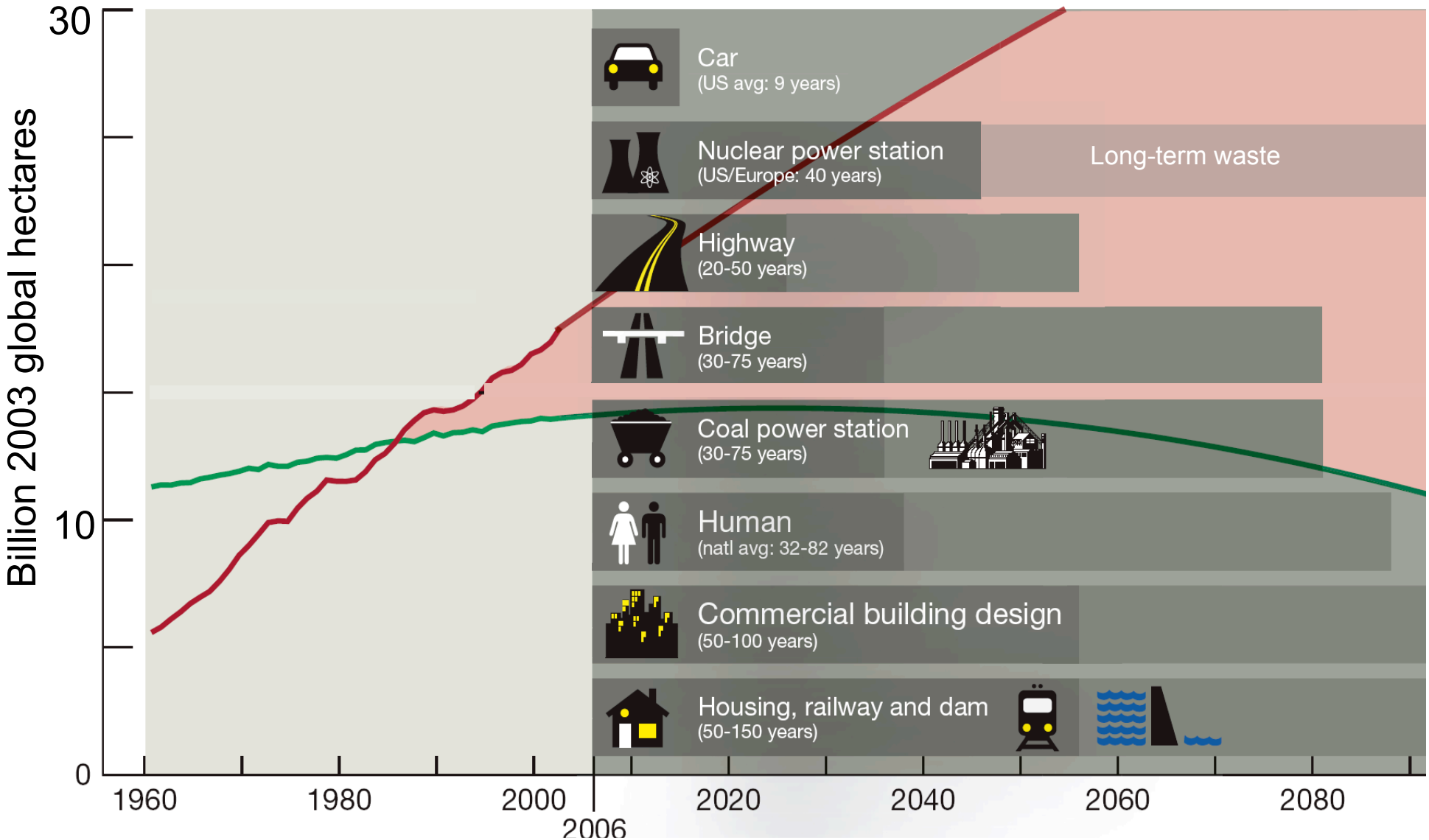
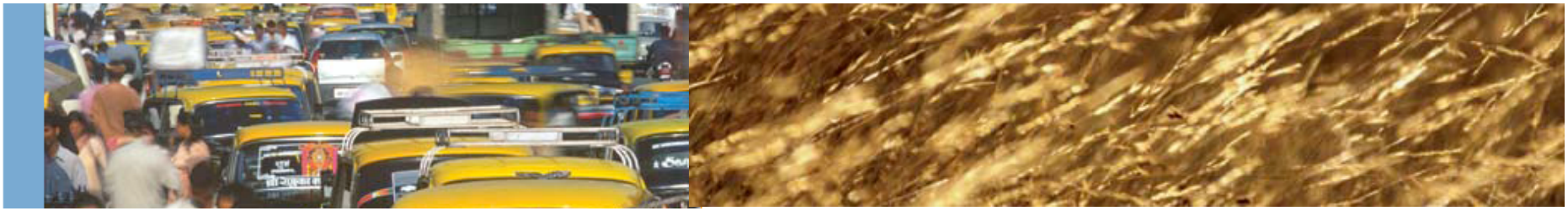


Ecological Footprint by Component, 2005






Billion 2003 global hectares
30
10
0
1960
1980
2000
2006
2020
2040
2060
2080
Car
(US avg: 9 years)
Nuclear power station
(US/Europe: 40 years)
Long-term waste
Highway
(20-50 years)
Bridge
(30-75 years)
Coal power station
(30-75 years)
Human
(natl avg: 32-82 years)
Commercial building design
(50-100 years)
Housing, railway and dam
(50-150 years)



The Ecological Footprint and Cities

"…of Calgary's total Ecological Footprint, 62 per cent is related to energy, the highest area of consumption. Clearly there is a great opportunity to influence change by taking action in this area."

"By looking at detailed indicators such as residential energy use or amount of green ener purchased…Calgary can begin to see what specific things can be done to make a differenc

Towards a Preferred Futu
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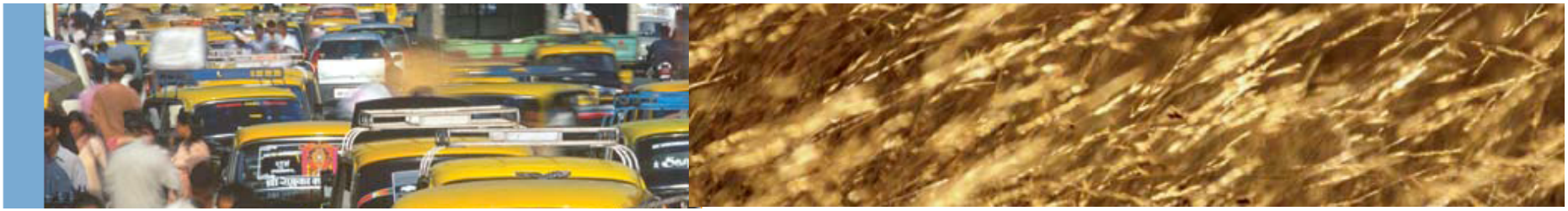
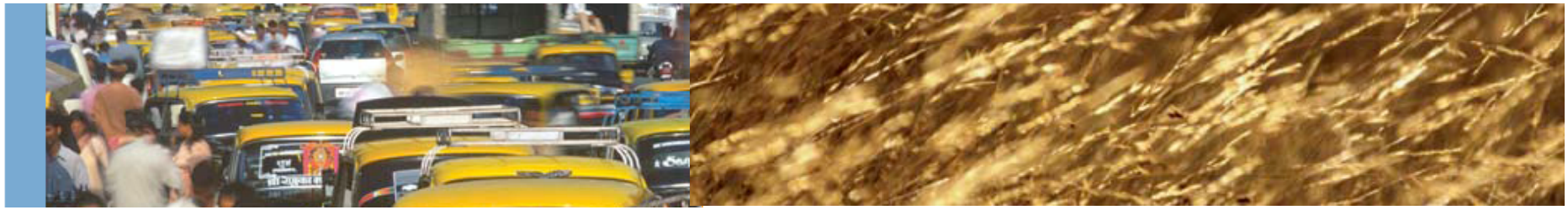
One Planet Living



Footprint and Biocapacity Factors that Determine Overshoot

							2.1 gha per person (2005 global biocapacity)	2.7 gha per pers (2005 glc footprin
Area	x	Bioproductivity			=	Biocapacity (SUPPLY)		**Gap between supply and demand: OVERSHOOT**
Population	x	Consumption per person	x	Resource and waste intensity		=	Ecological Footprint (DEMAND)	



www.footprintnetwork.org

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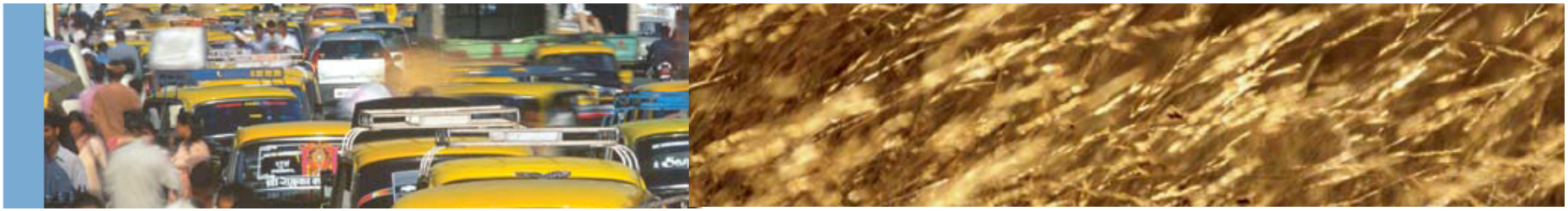
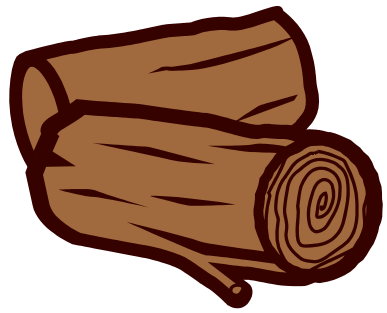


Calculating the Footprint



$$\frac{110\ m^3}{3.10\ m^3\ /US\ ha} \times \frac{3.10\ m^3\ /US\ ha}{2.36\ m^3\ /World\ ha} \times 1.33 = 62 \text{ global hectares}$$

Yield factor *Equivalence Factor* *Ecological Footprint*

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