

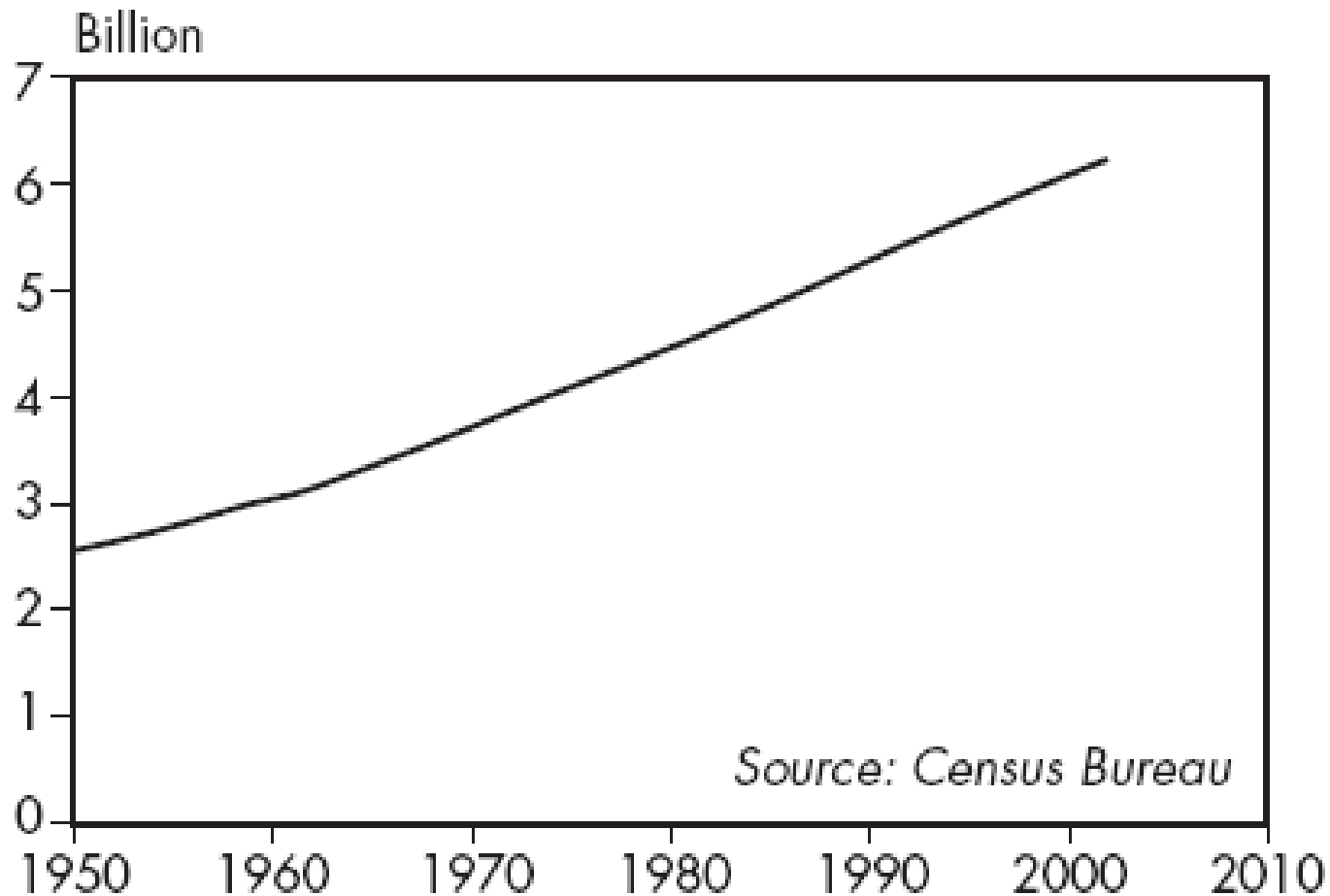
Sustainable Living

Toine van Megen

Innovations in Sustainable Habitats - The GRIHA Approach
Bangalore 10-12-2012

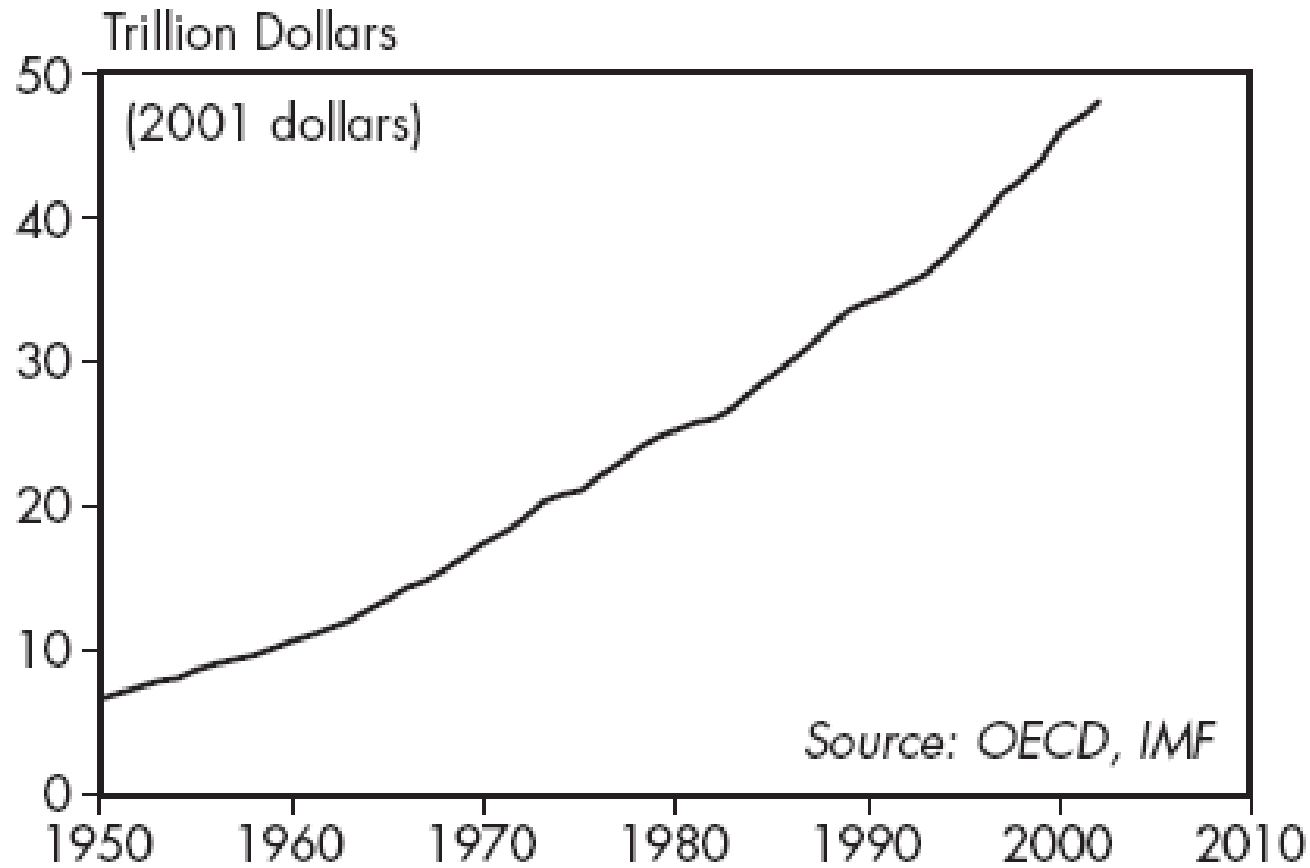
World population

Source: World Watch Institute



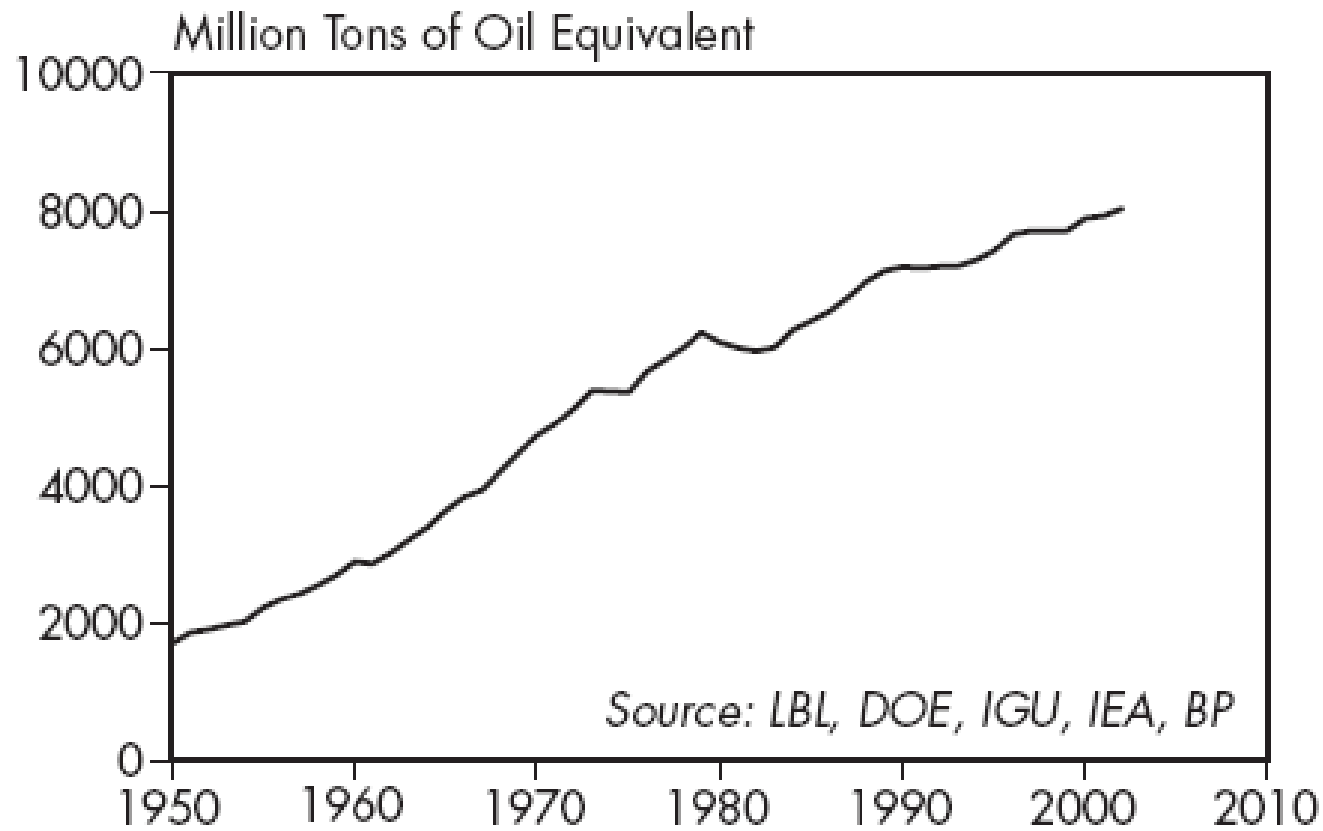
Gross World Product

Source: World Watch Institute



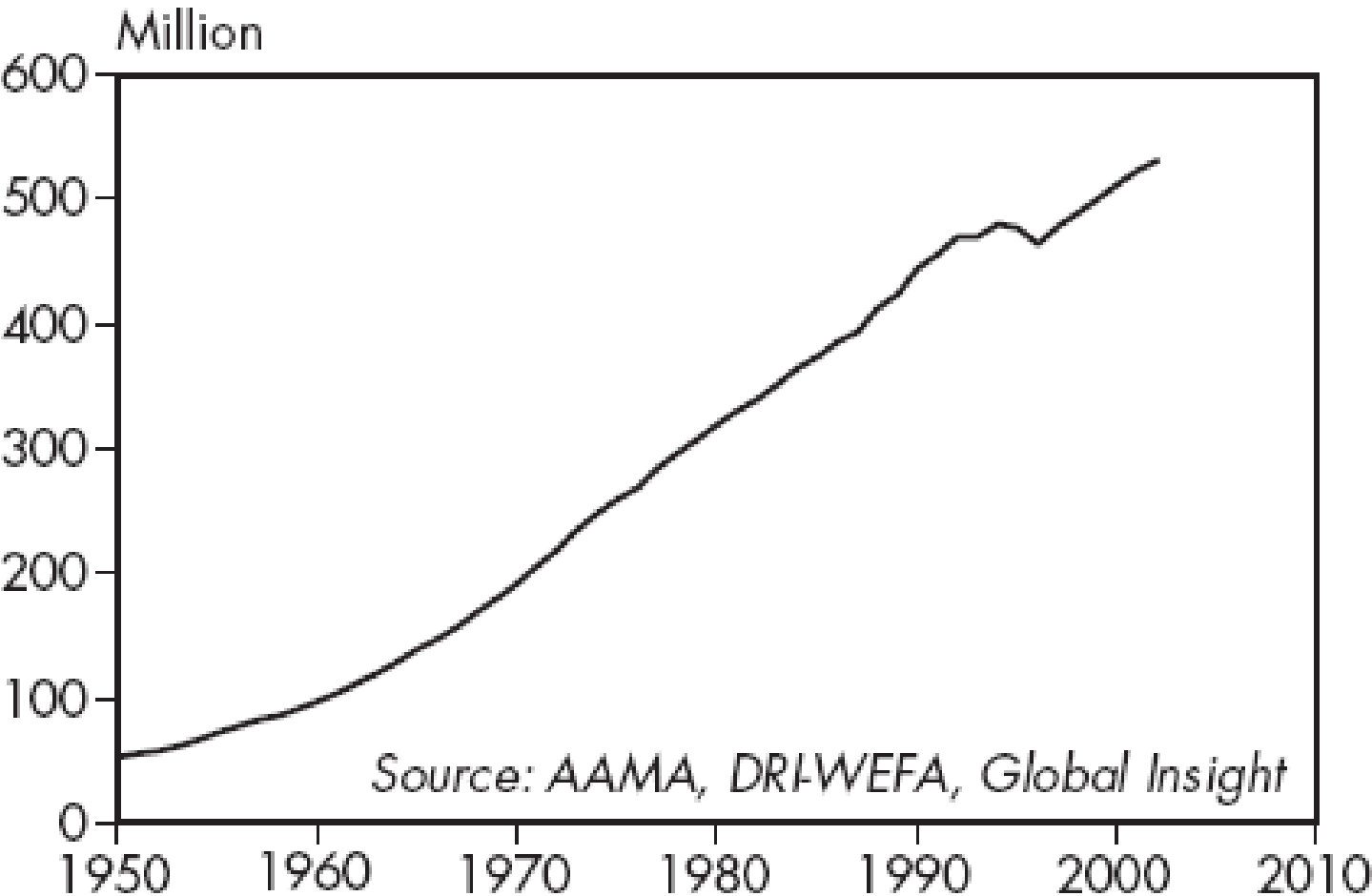
World fossil fuel consumption

Source: World Watch Institute



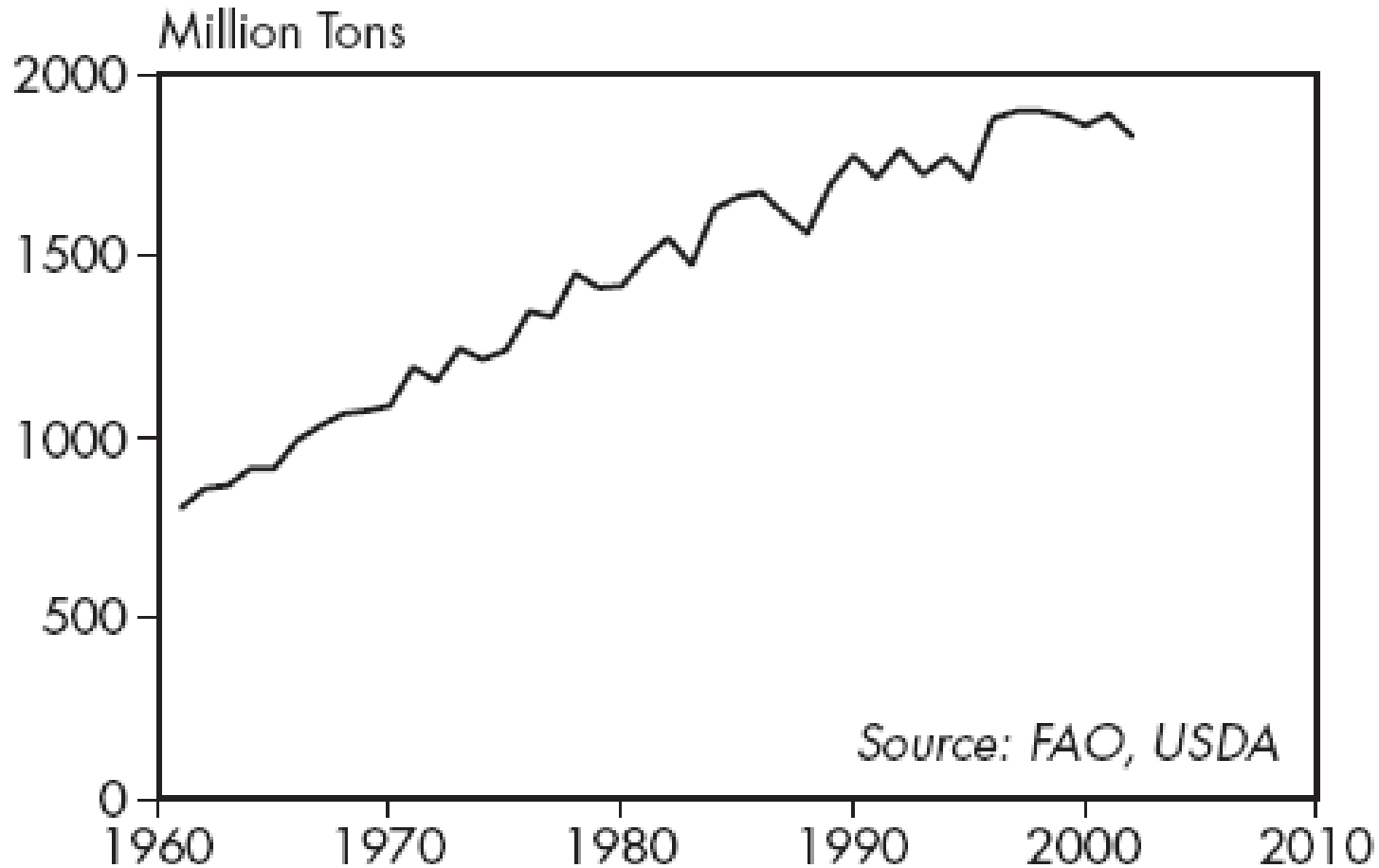
World passenger car fleet

Source: World Watch Institute



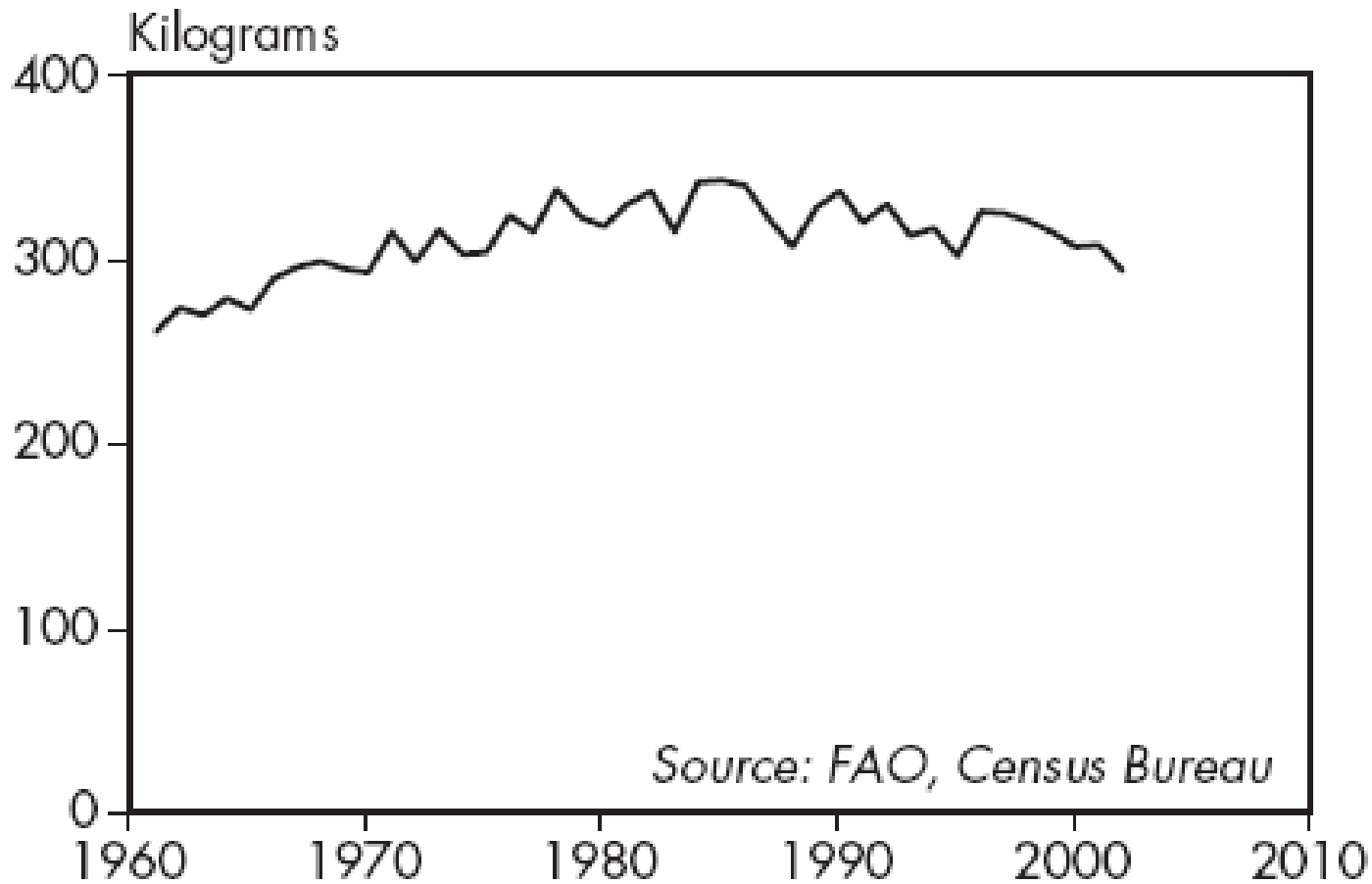
The world grain production

Source: World Watch Institute



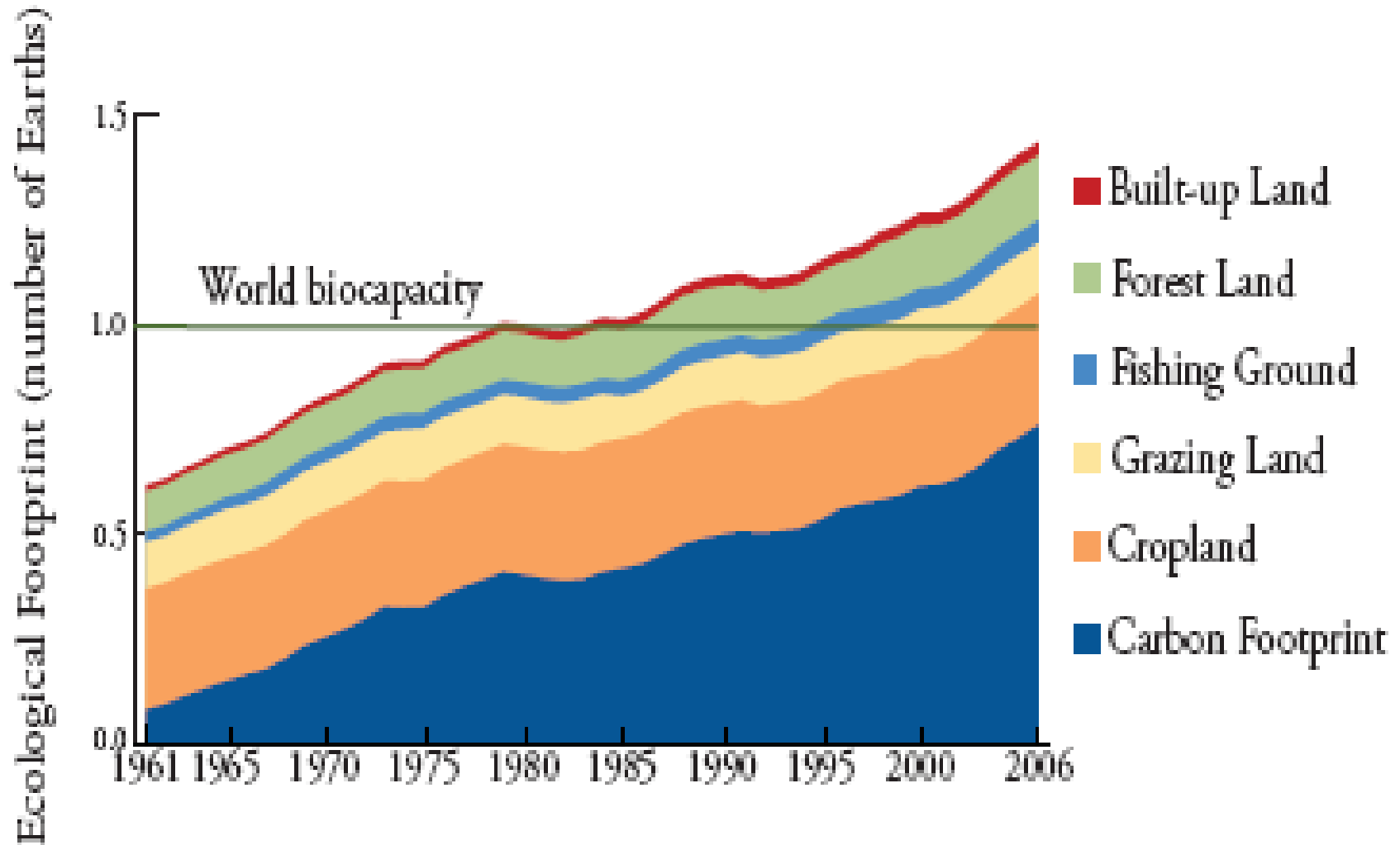
World Grain Production per Person

Source: World Watch Institute

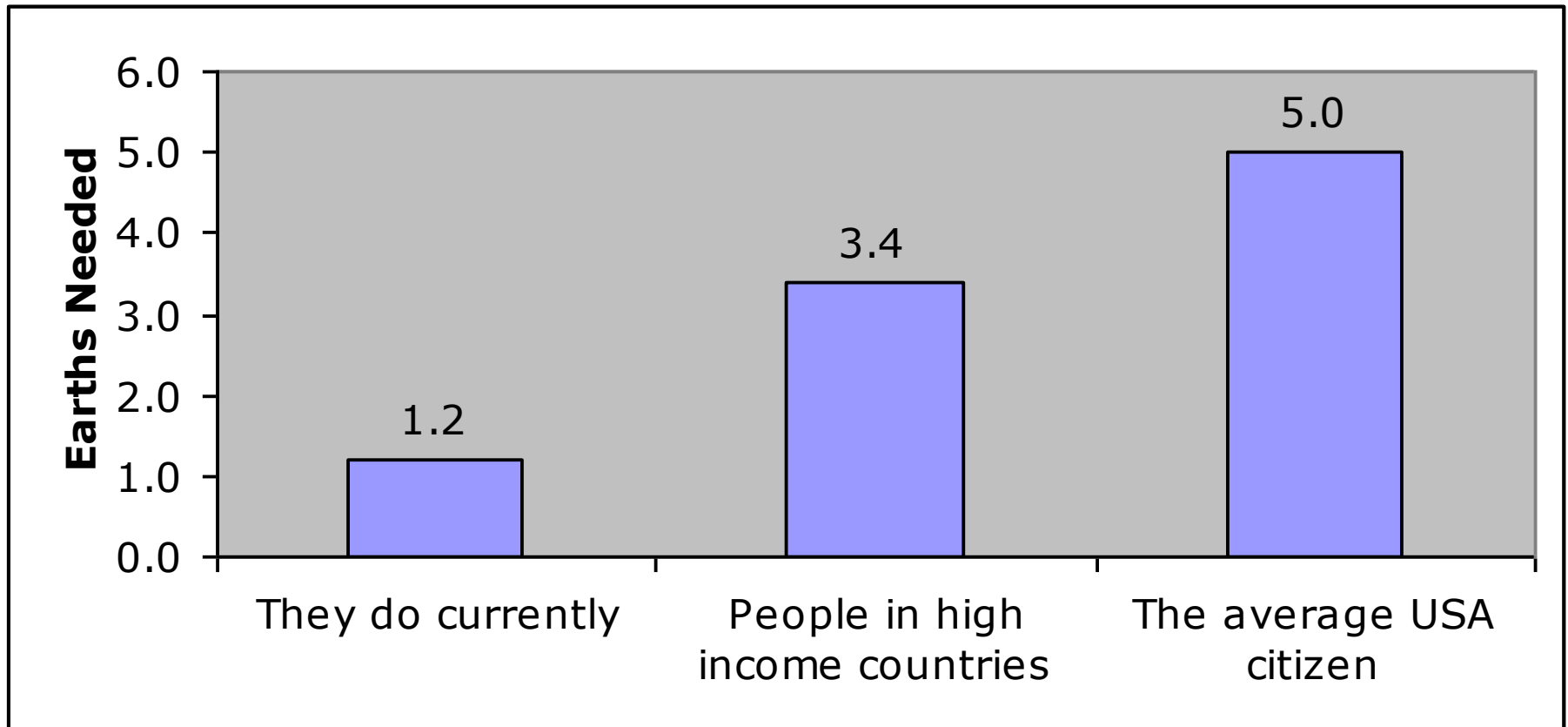


Global Footprint

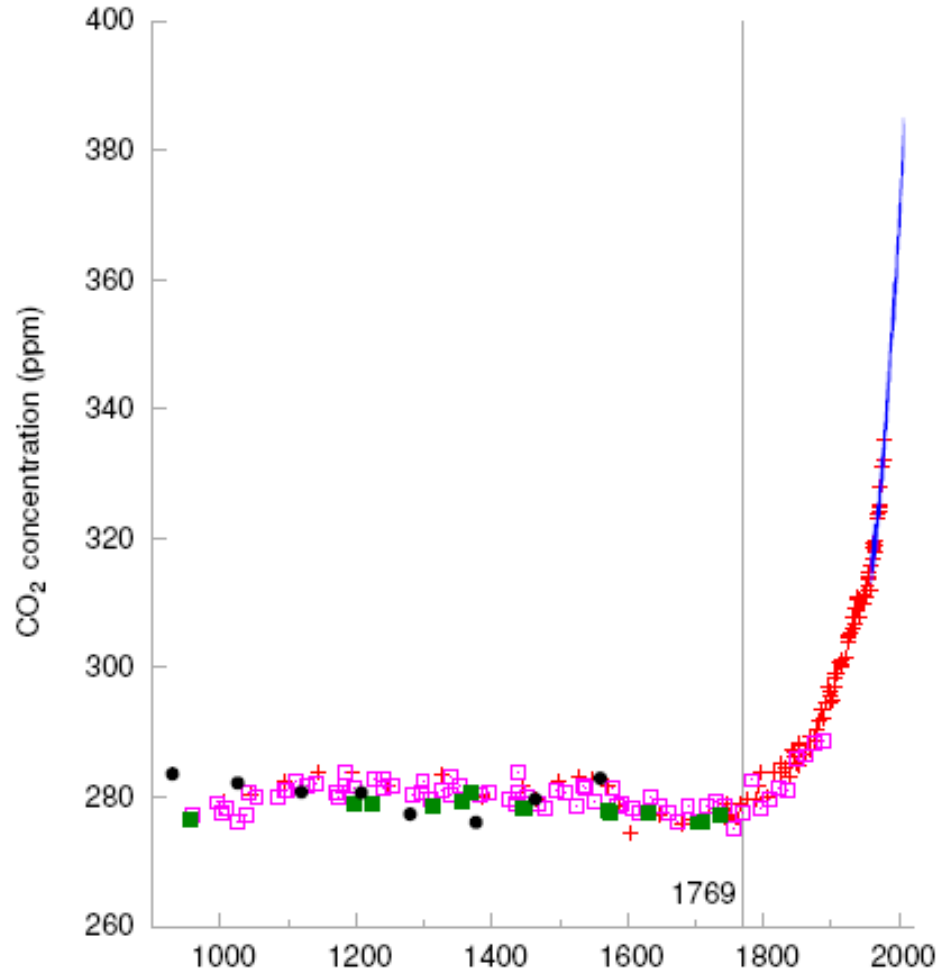
Source: Global Footprint Network



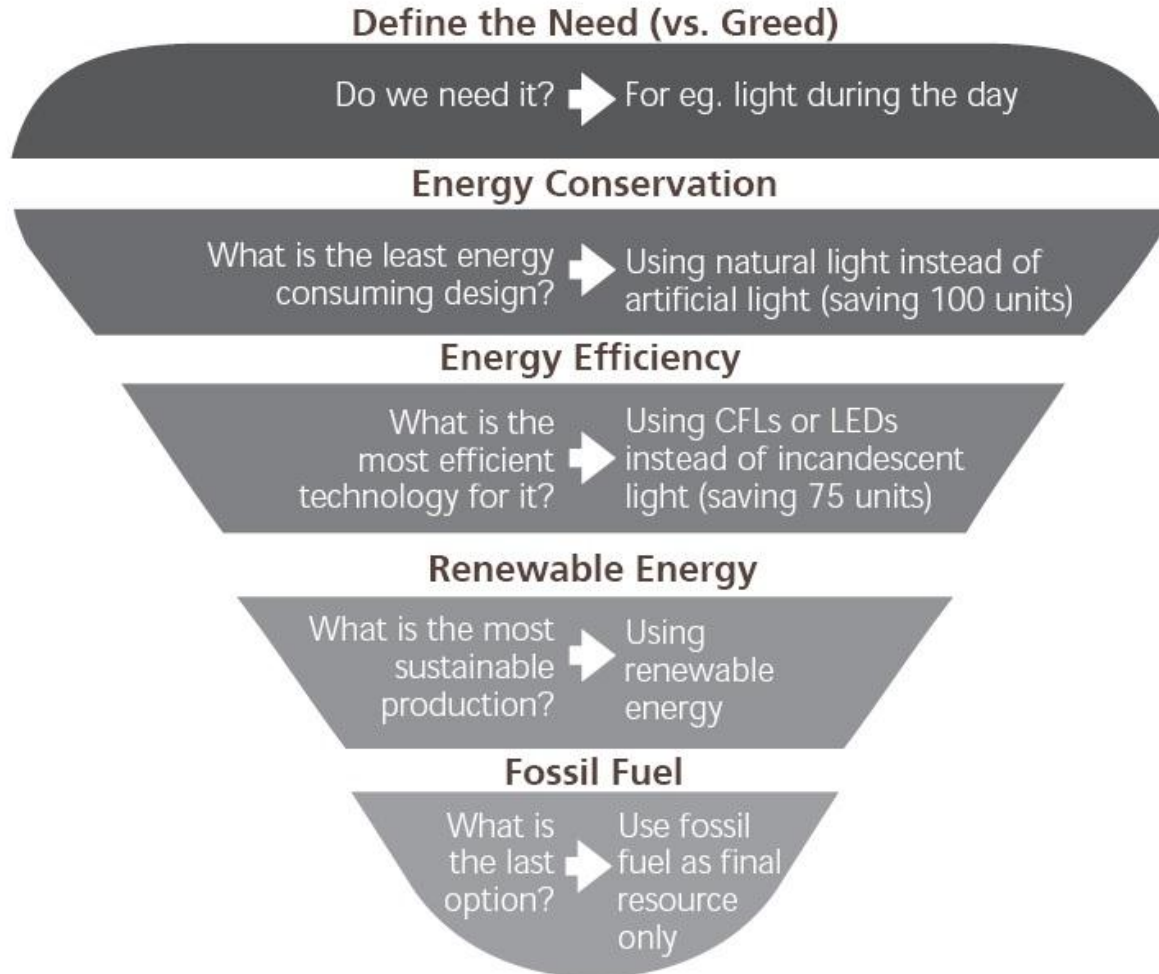
Number of earths needed if everyone consumed like. . .



Carbon dioxide (CO₂) concentrations (in parts per million) for the last 1100 years

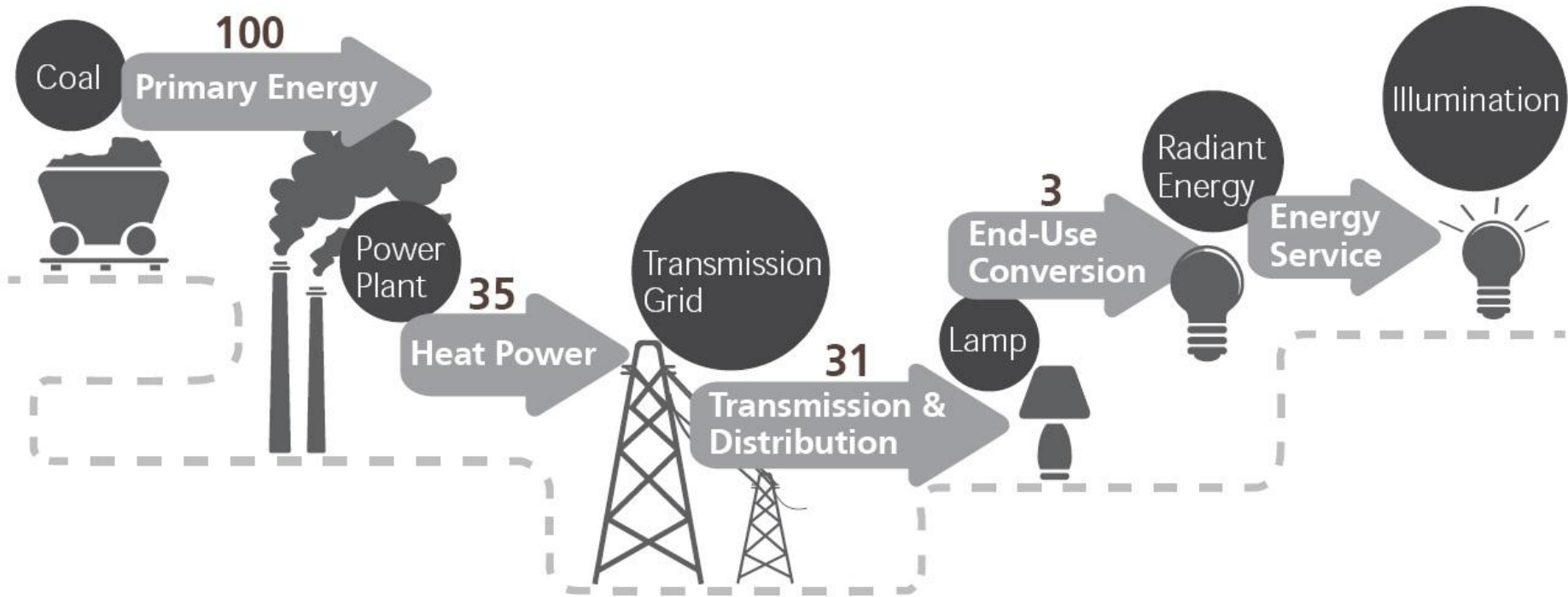


The Energy Pyramid



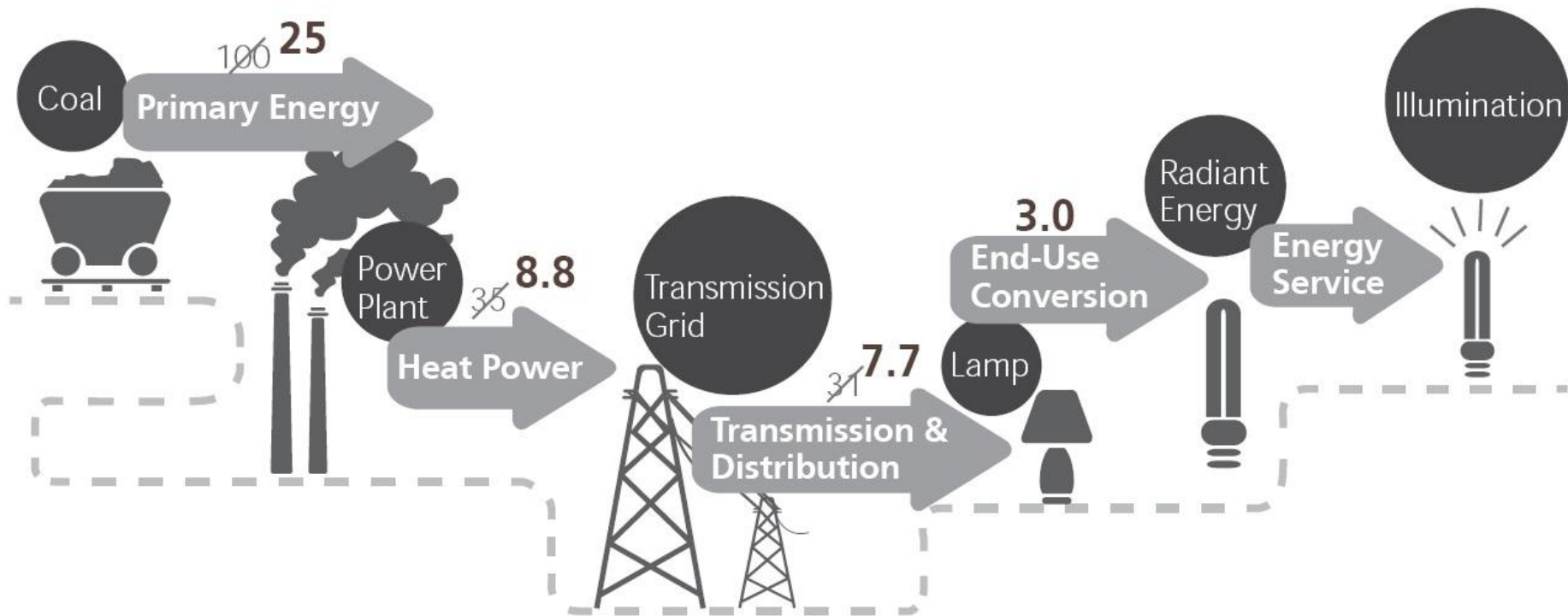
Source: Sustainable Urban Energy: A Sourcebook for Asia

Energy Saving



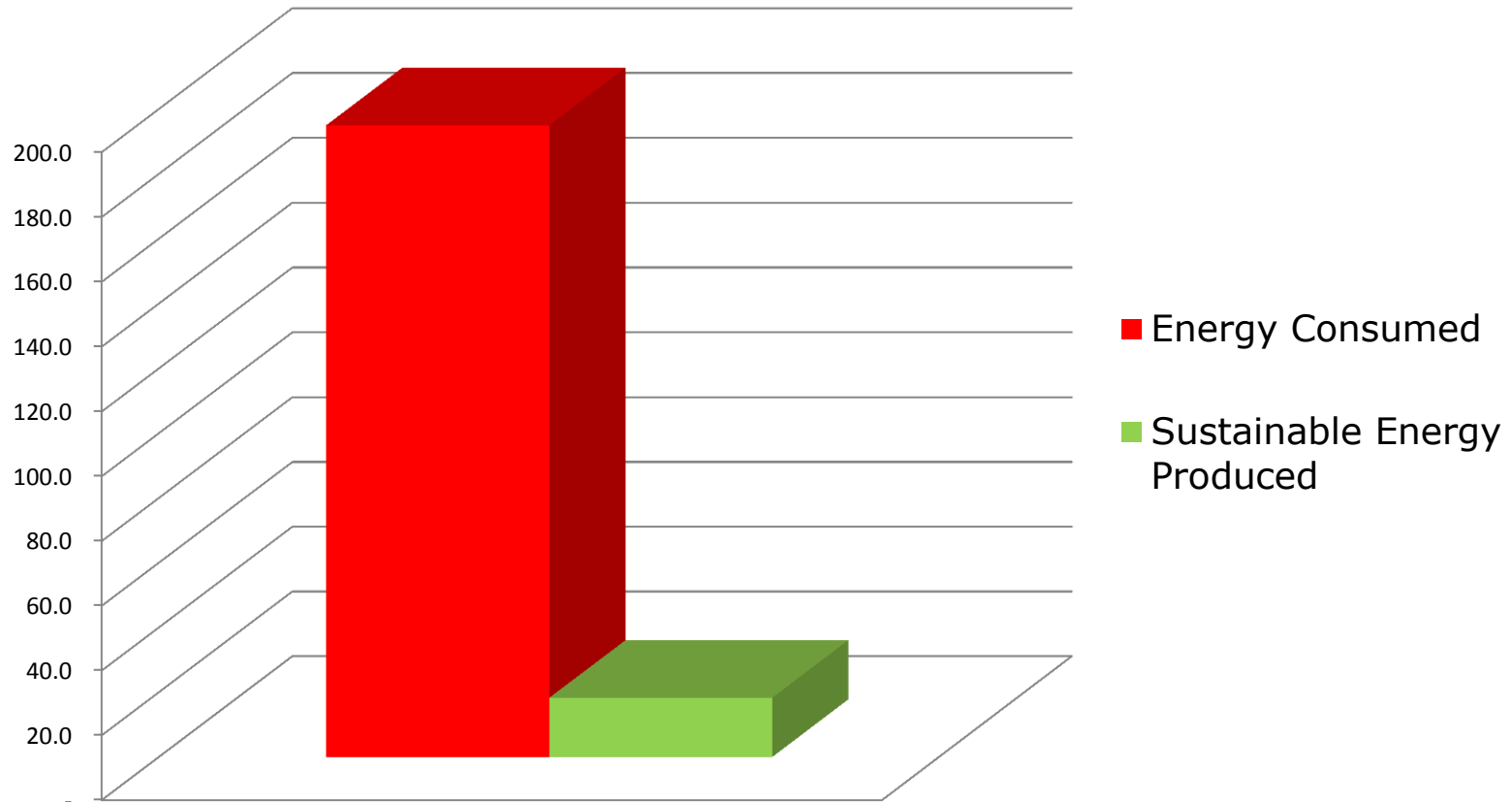
Source: Sustainable Urban Energy: A Sourcebook for Asia

Energy Saving

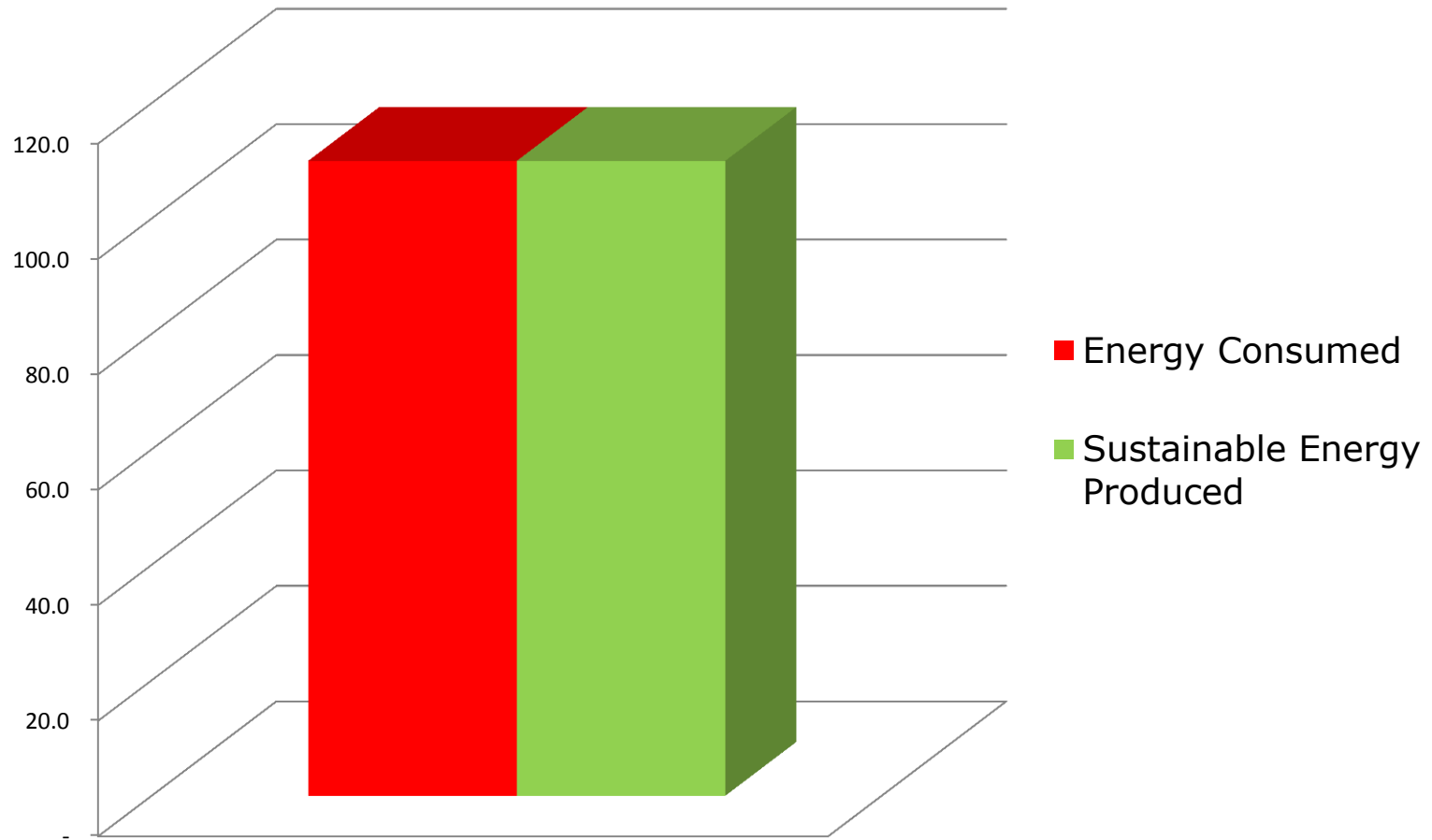


Source: Sustainable Urban Energy: A Sourcebook for Asia

The Energy Balance – Realistic (now)



How to get there?



Sustainable Living Examples in Auroville

yesterday



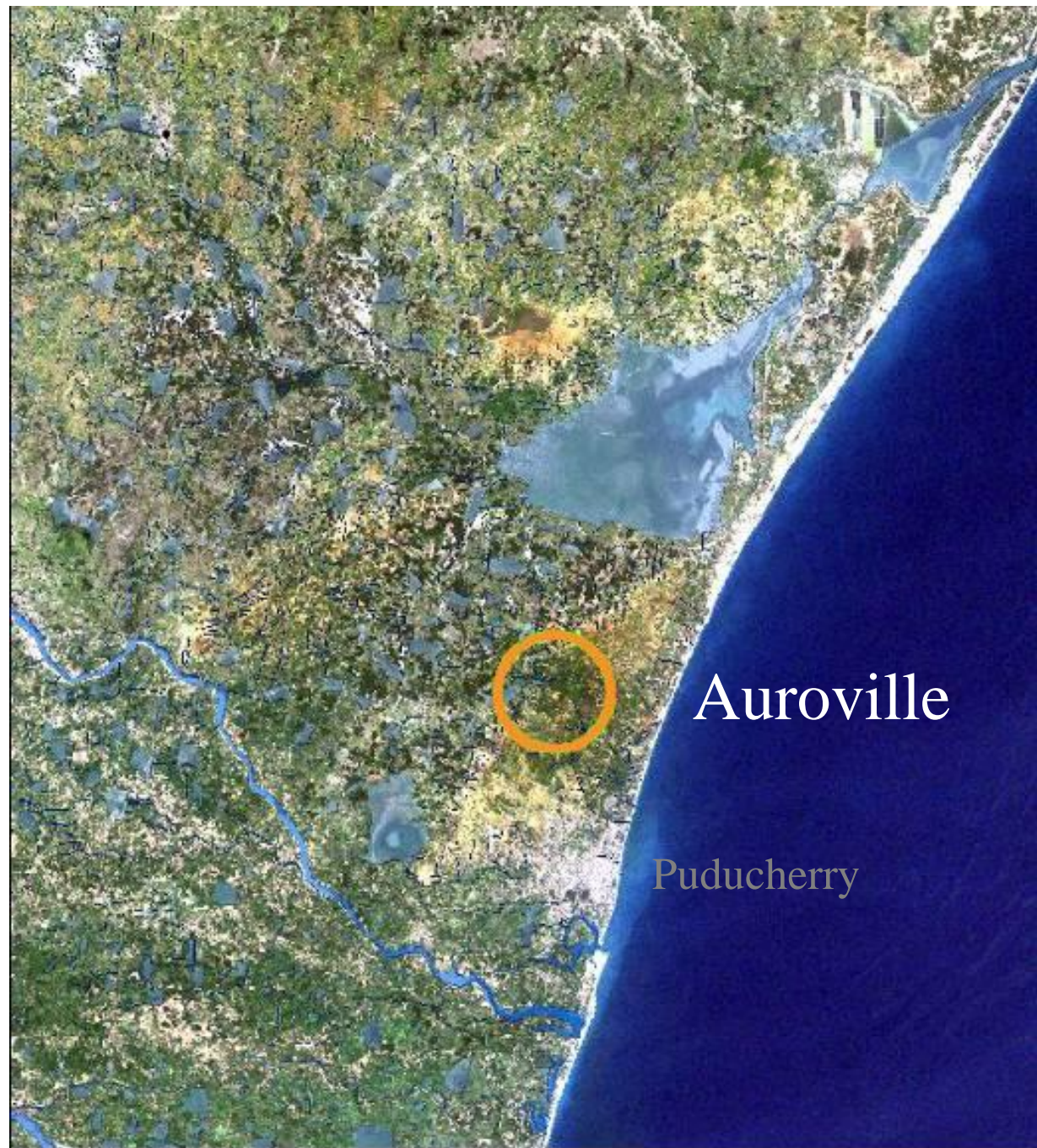
today



plan

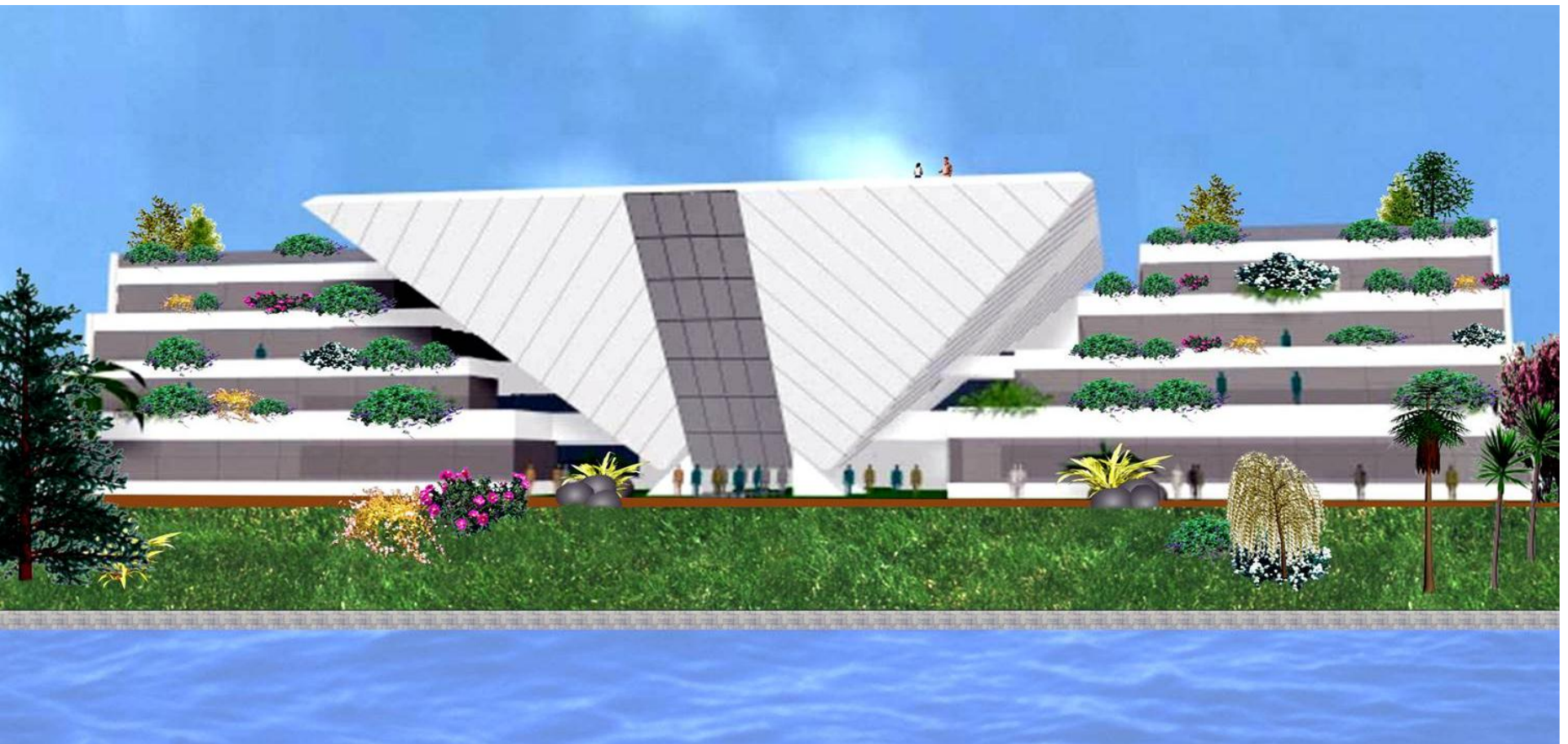


In Tamil Nadu on the
Coromandel coast



Architecture – the search for beauty in matter











Tibetan pavilion



Savitri Bhavan

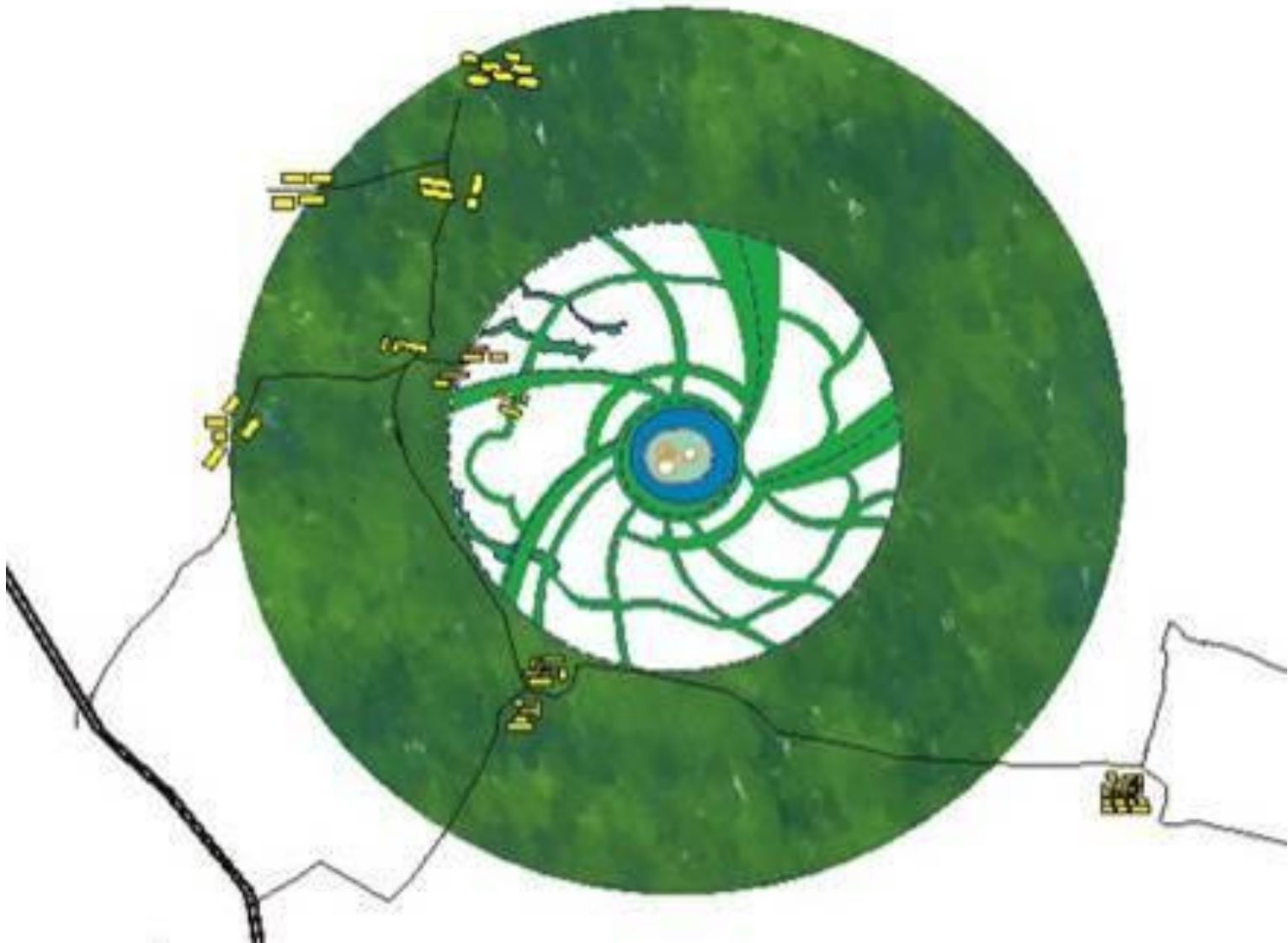








Green belt



Then....



Now.....



Innovative building technologies







Energy





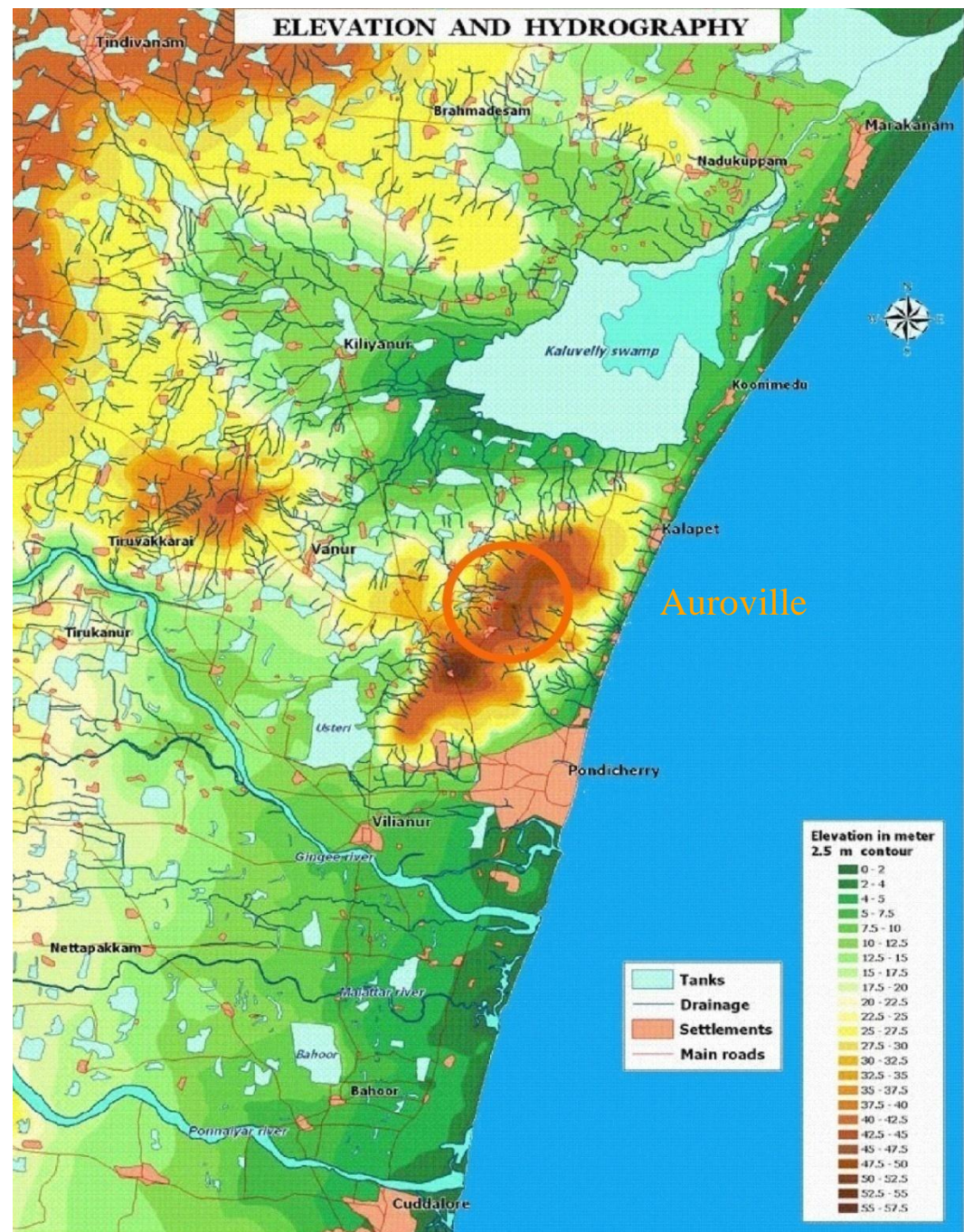
**(Re)-
searching**







Water









Organic farming





Auroville and the region









Sharing the Auroville experience





A city with a Soul – the Matrimandir



Personal Experience

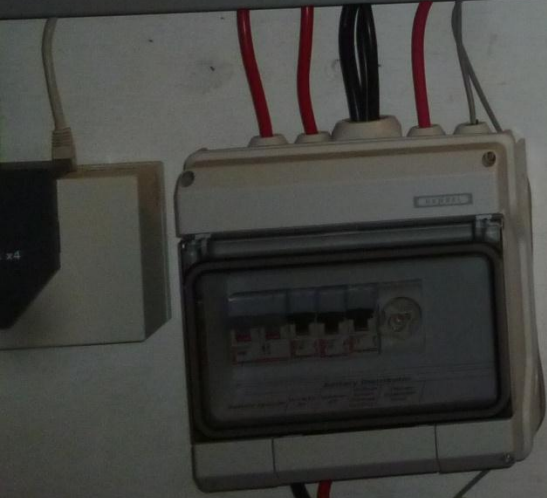
Measurement = knowledge = action = energy conservation
+ energy efficiency → energy budget

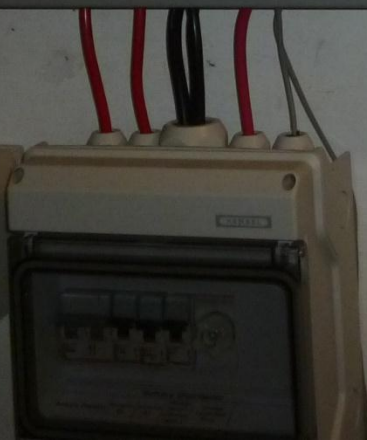














**PLEASE CLOSE
COVER BEFORE
START SWITCH**
कृपया स्विच चलाने से
पहले ढक्कन बंद कर दें
DANGER

MILLBORN
SWITCH FUSE UNIT
63 A 415V ac
MFD. BY: **MILLBORN**
JAIPUR





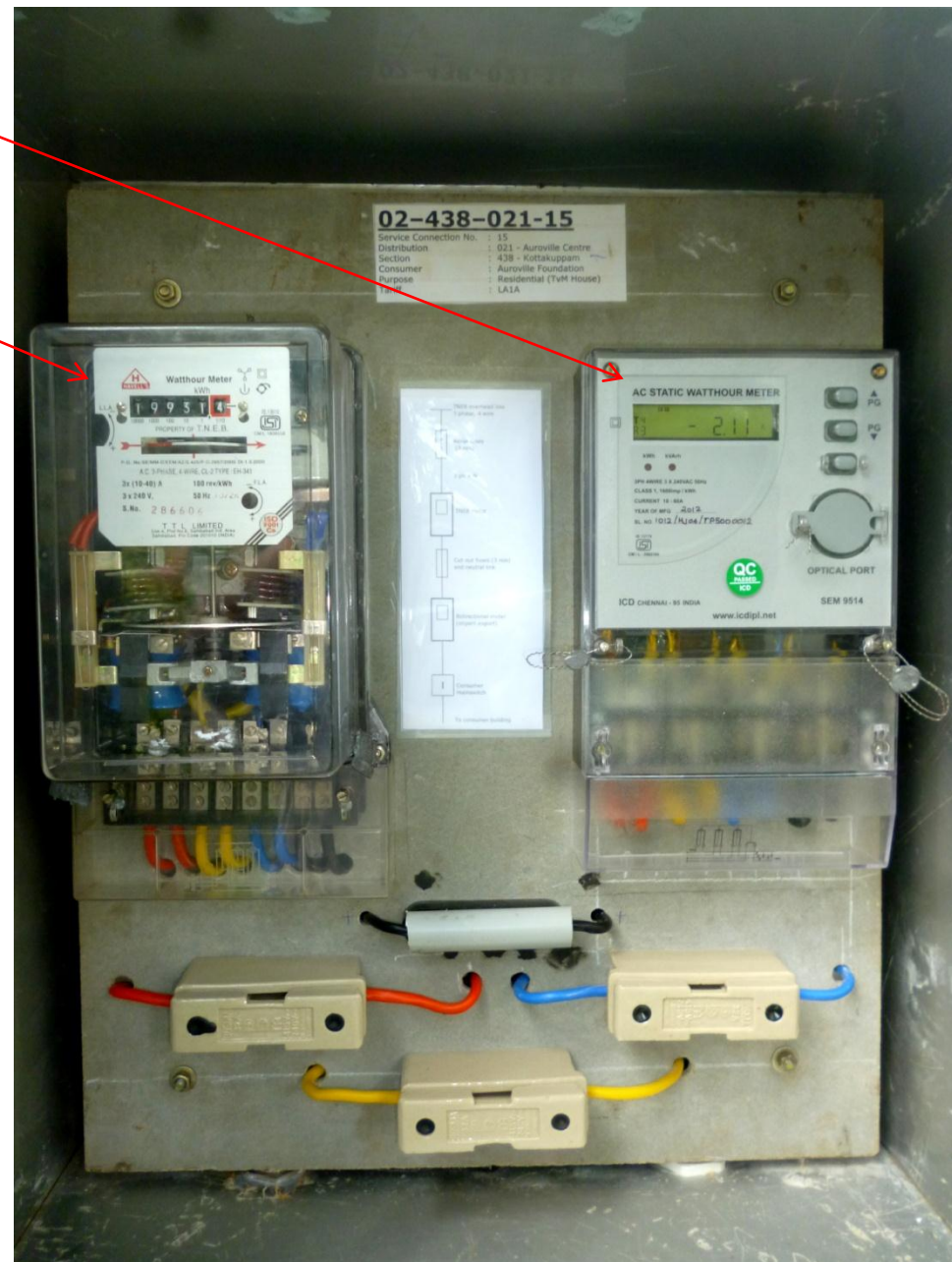
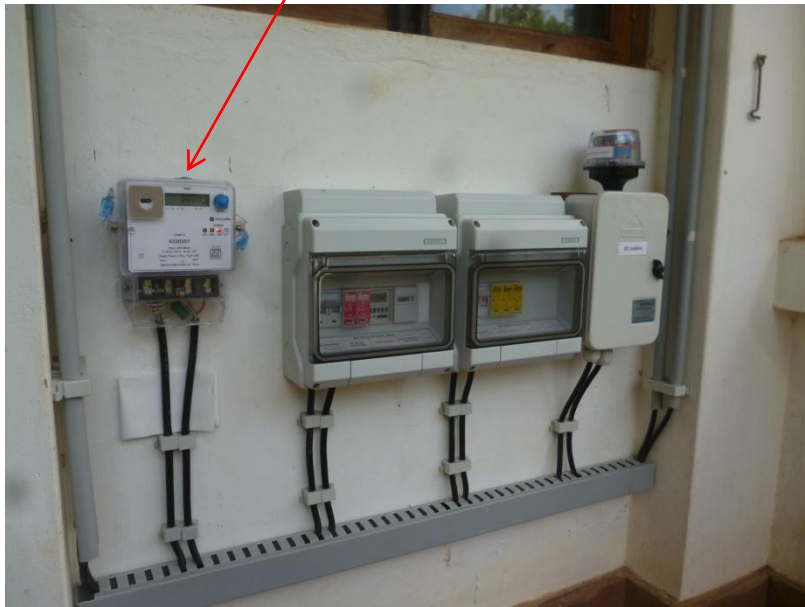




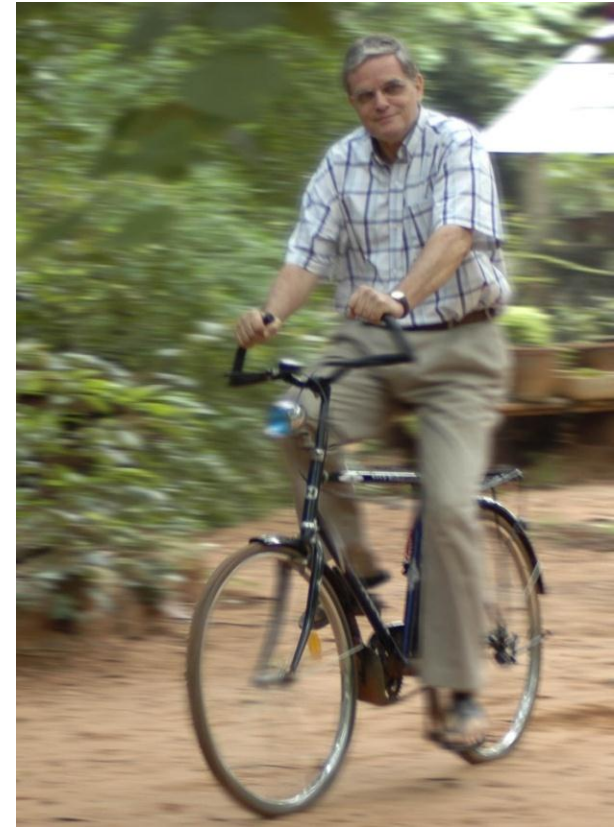
Import- export meter

Existing TNEB Meter

Solar Generation meter



- ❑ Energy budget
- ❑ Generate your own power
- ❑ Zero waste
- ❑ Eat to live, do not live to eat
- ❑ Walk and cycle



Q&A

Q1: What lifestyle sacrifices I have to make to lead a sustainable life style?

A1: None. Those who are not leading a sustainable life style are making sacrifices in terms of health, happiness and joy and are forcing future generations into having to make real sacrifices.

Q2?

Backup slides

"Agropolis"



Town



Navigable river



Market gardening and milk production



Firewood and lumber production



Crop farming without fallow



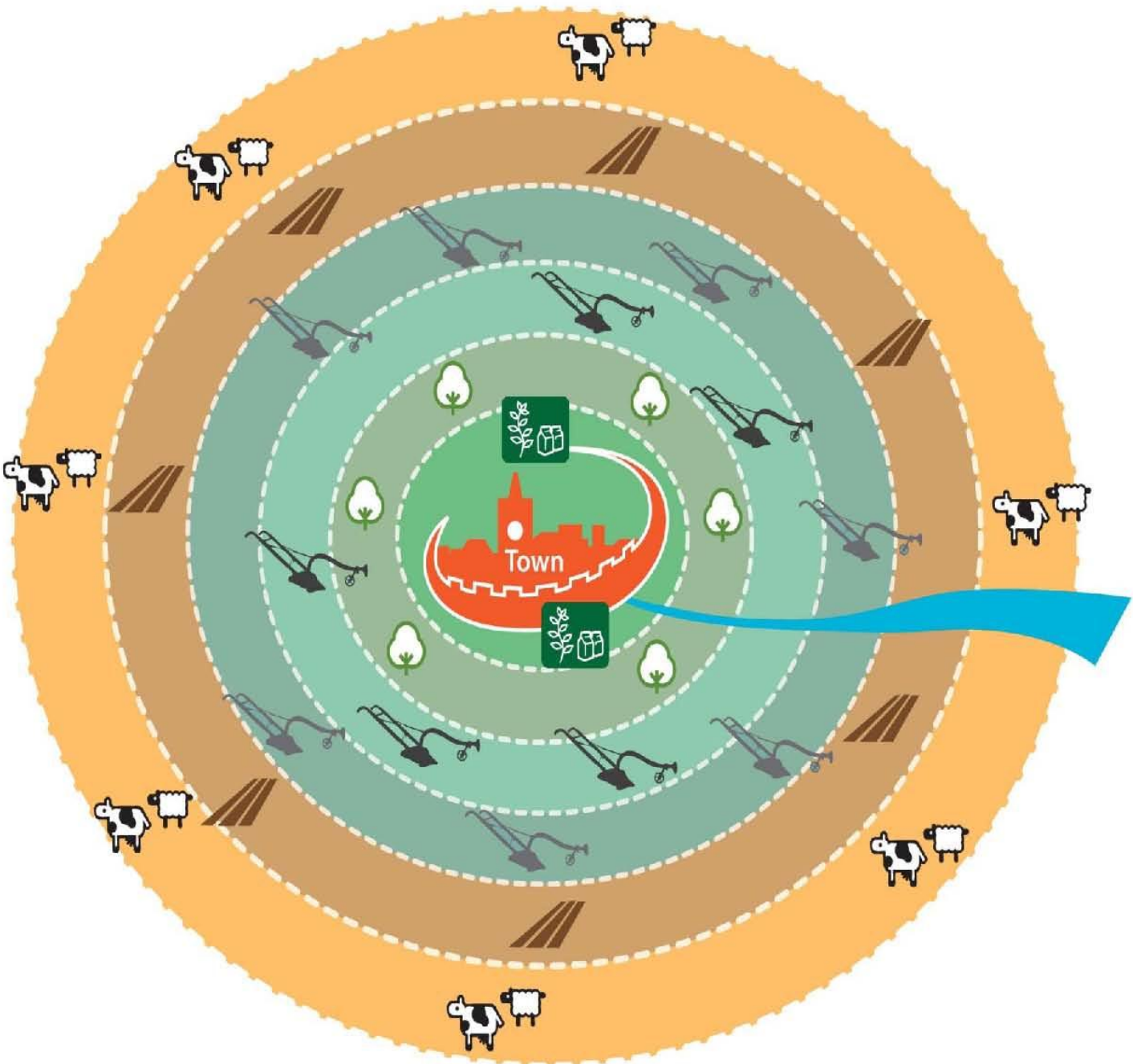
Crop farming, fallow and pasture



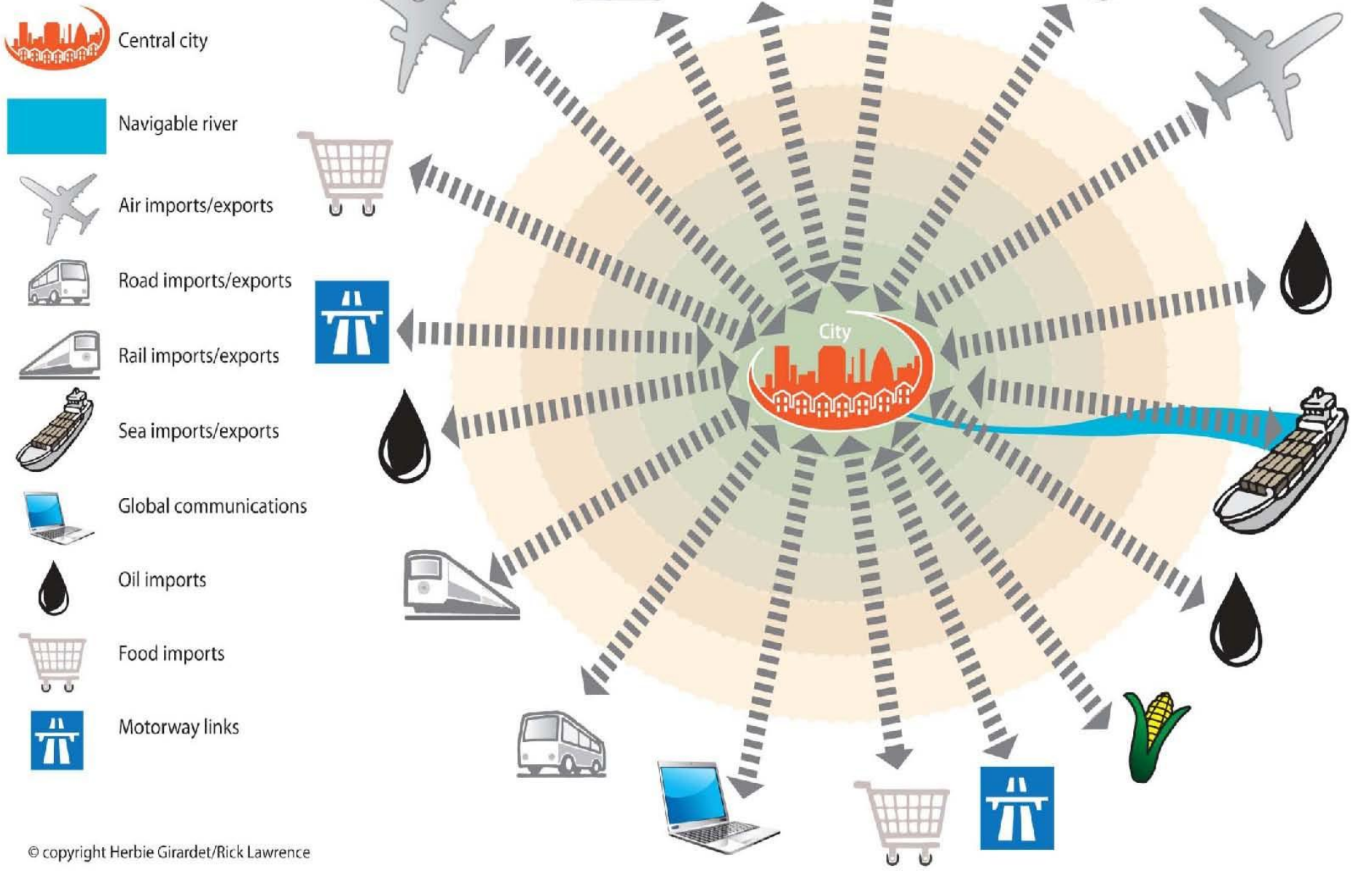
Three-field system



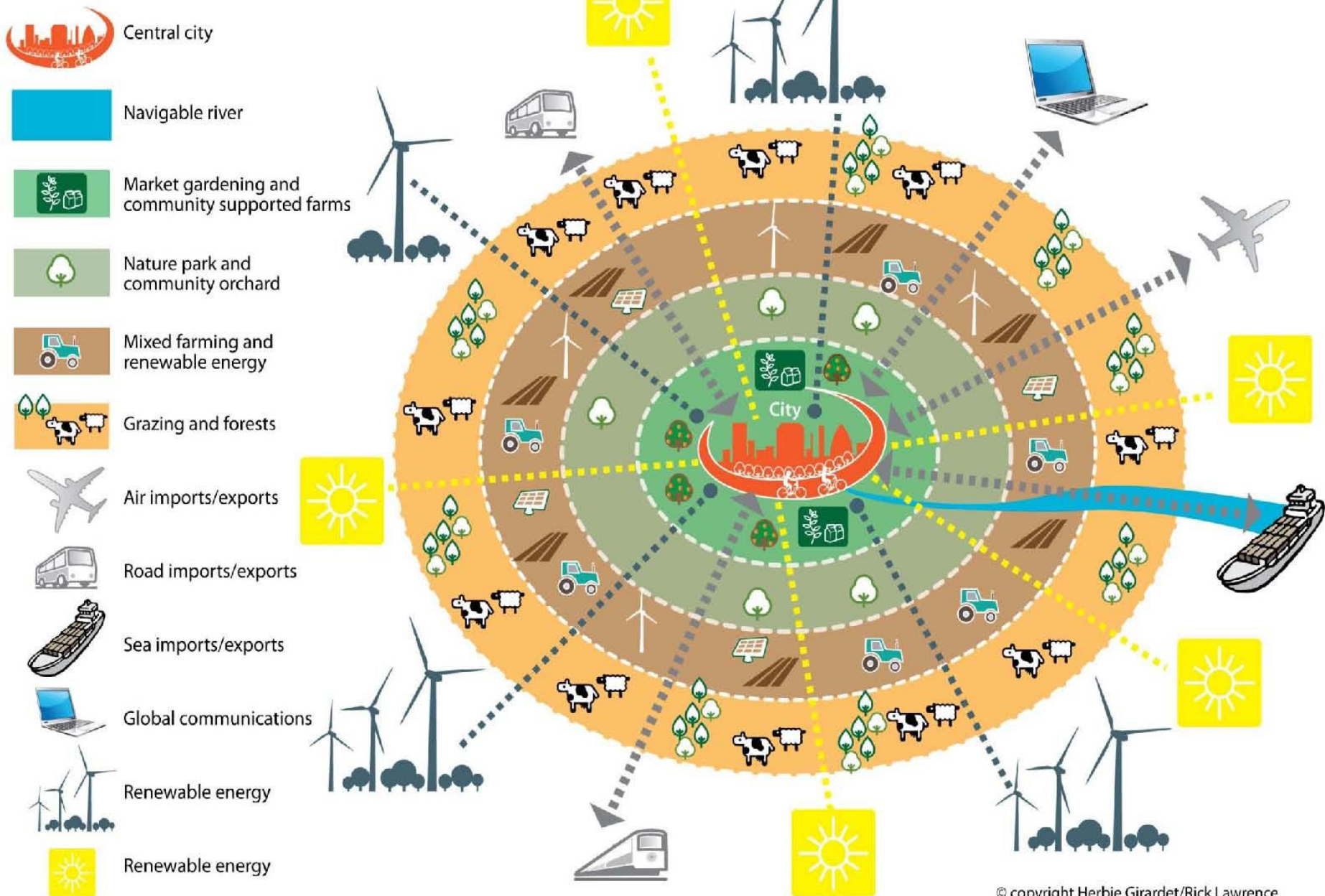
Livestock farming



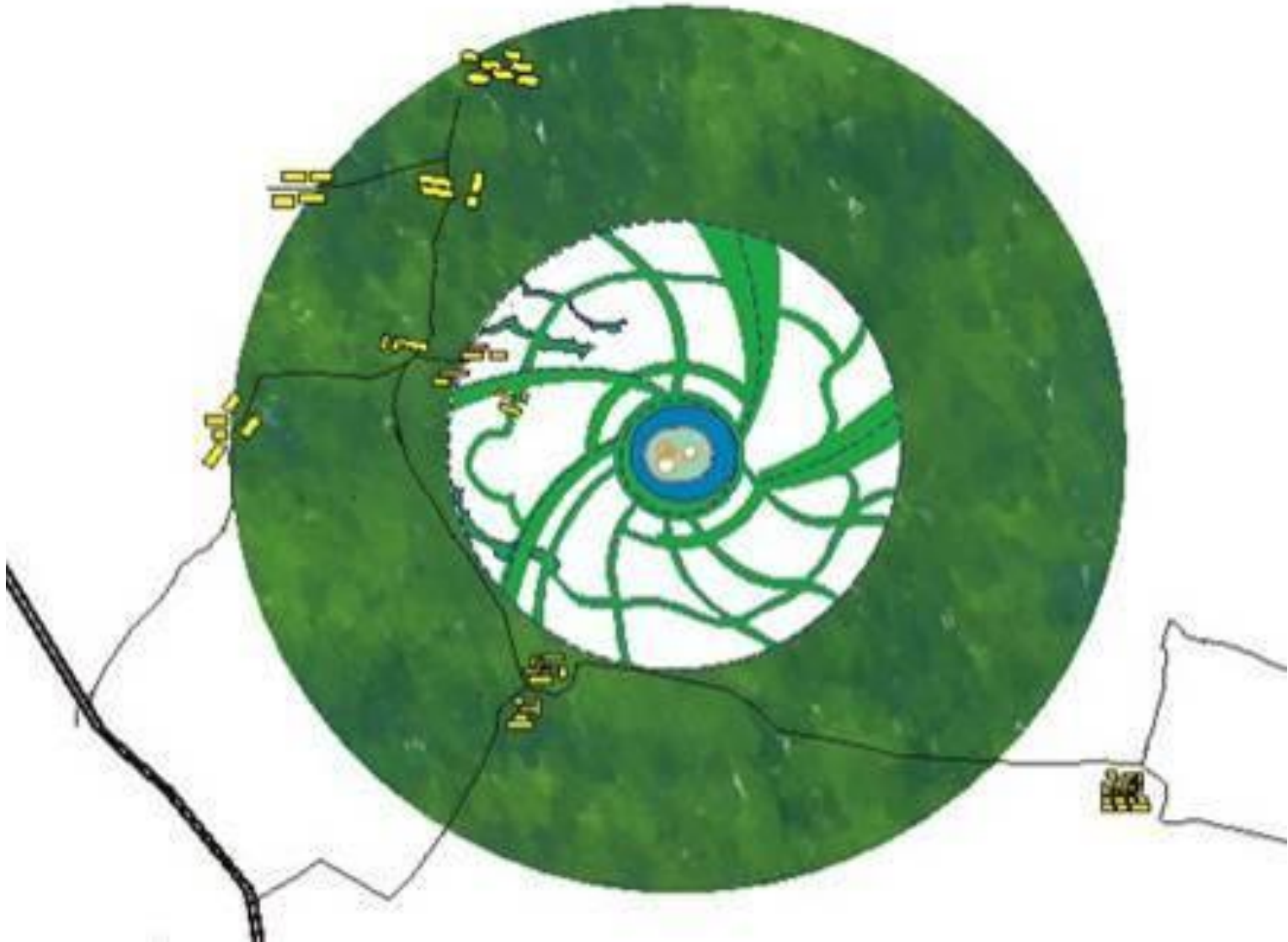
"Petropolis"



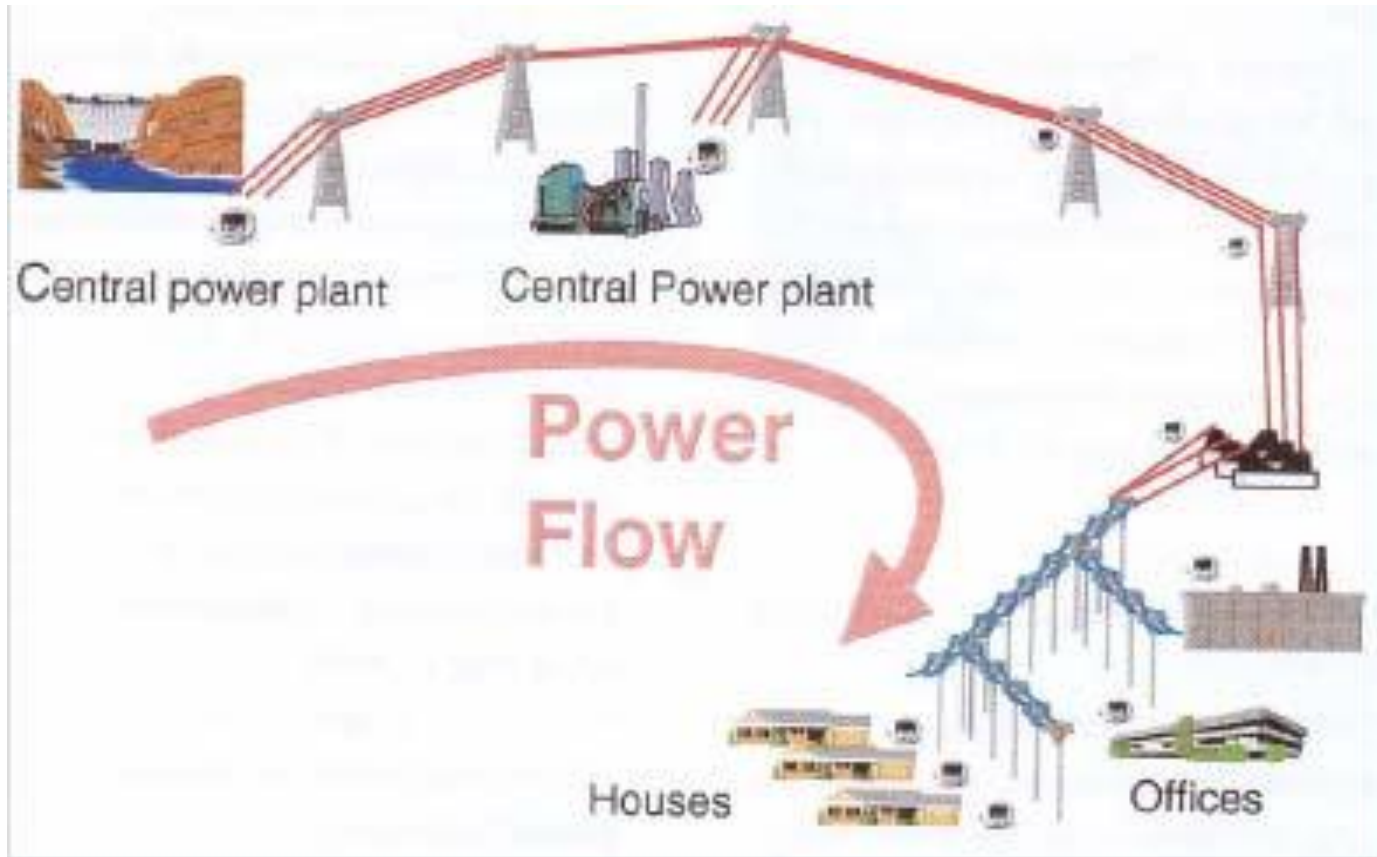
"Ecopolis"



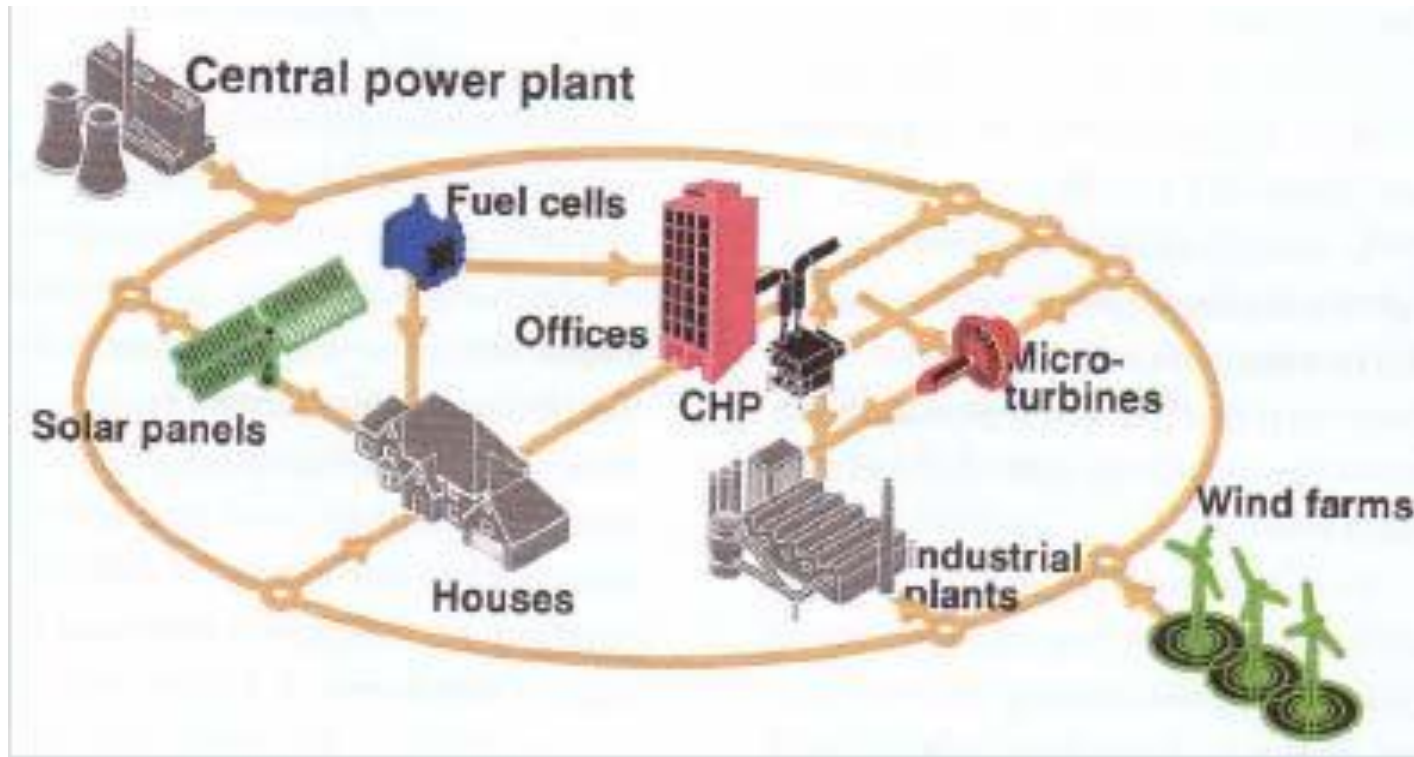
Regenerative City with a Green belt



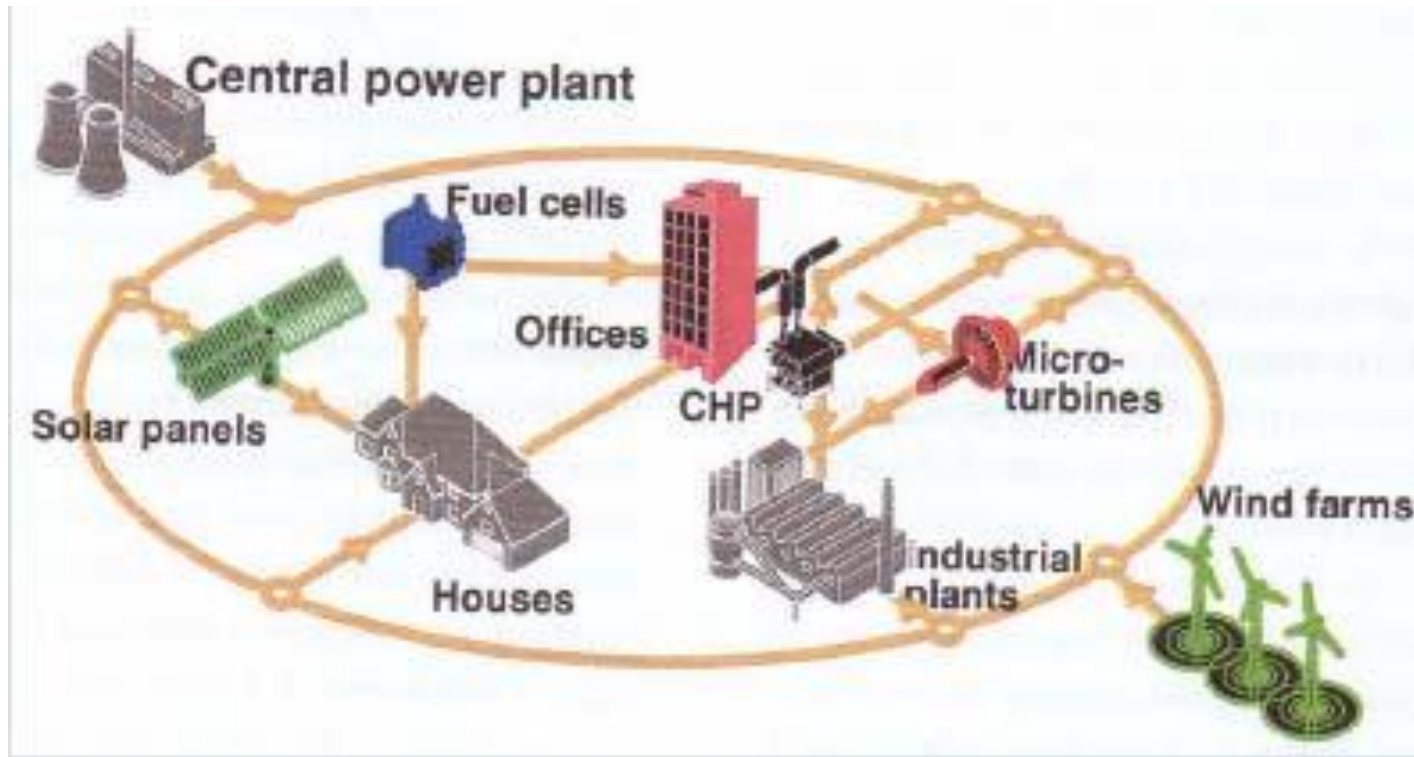
Renewable Energy Grid Penetration and the Smart Grid....



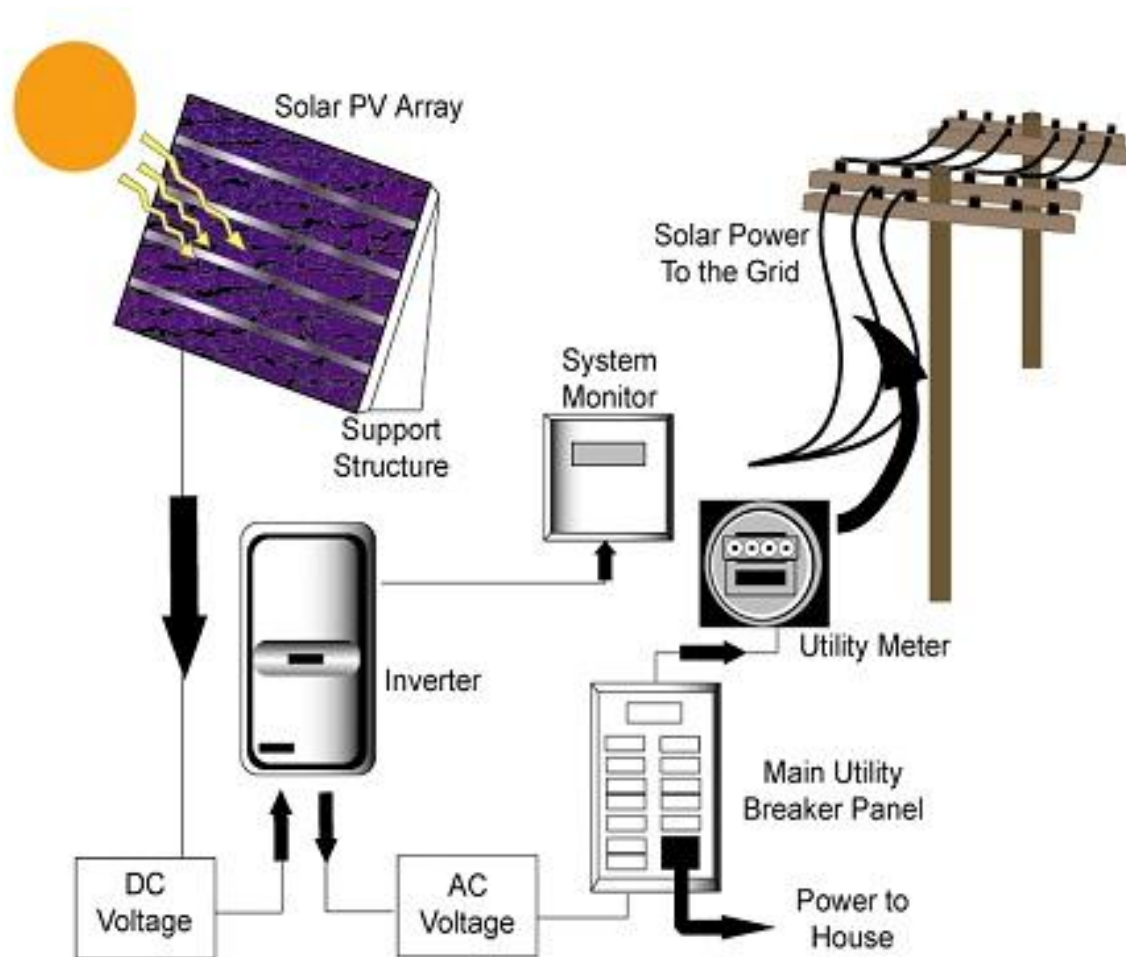
Renewable Energy Grid Penetration and the Smart Grid....



Renewable Energy Grid Penetration and the Smart Grid....



Grid-Connected Rooftop Solar



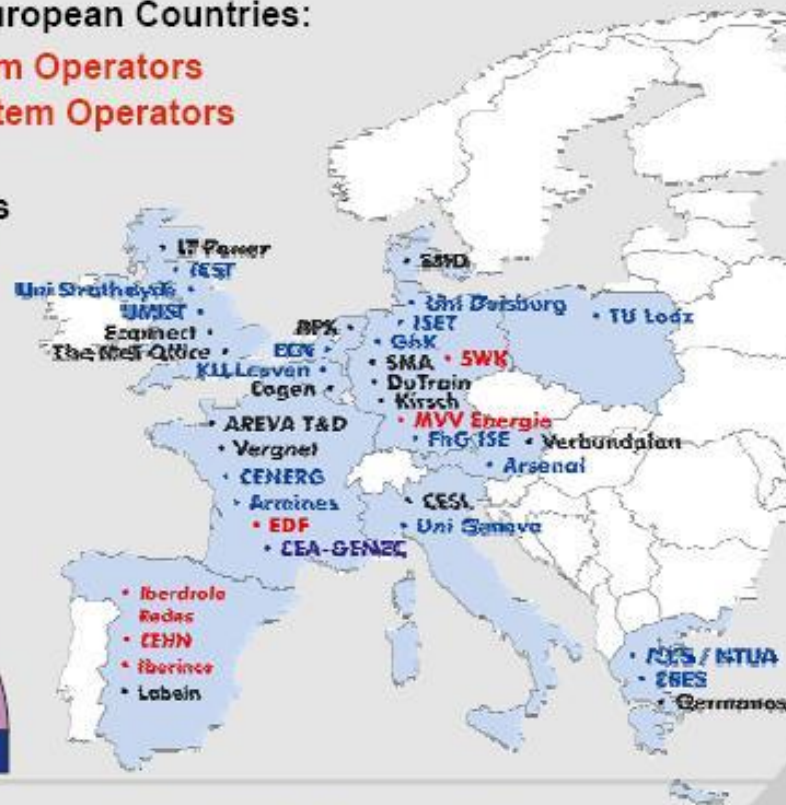
Renewable Energy Grid Penetration

EU-Project DISPOWER: Consortium



38 Partners in 11 European Countries:

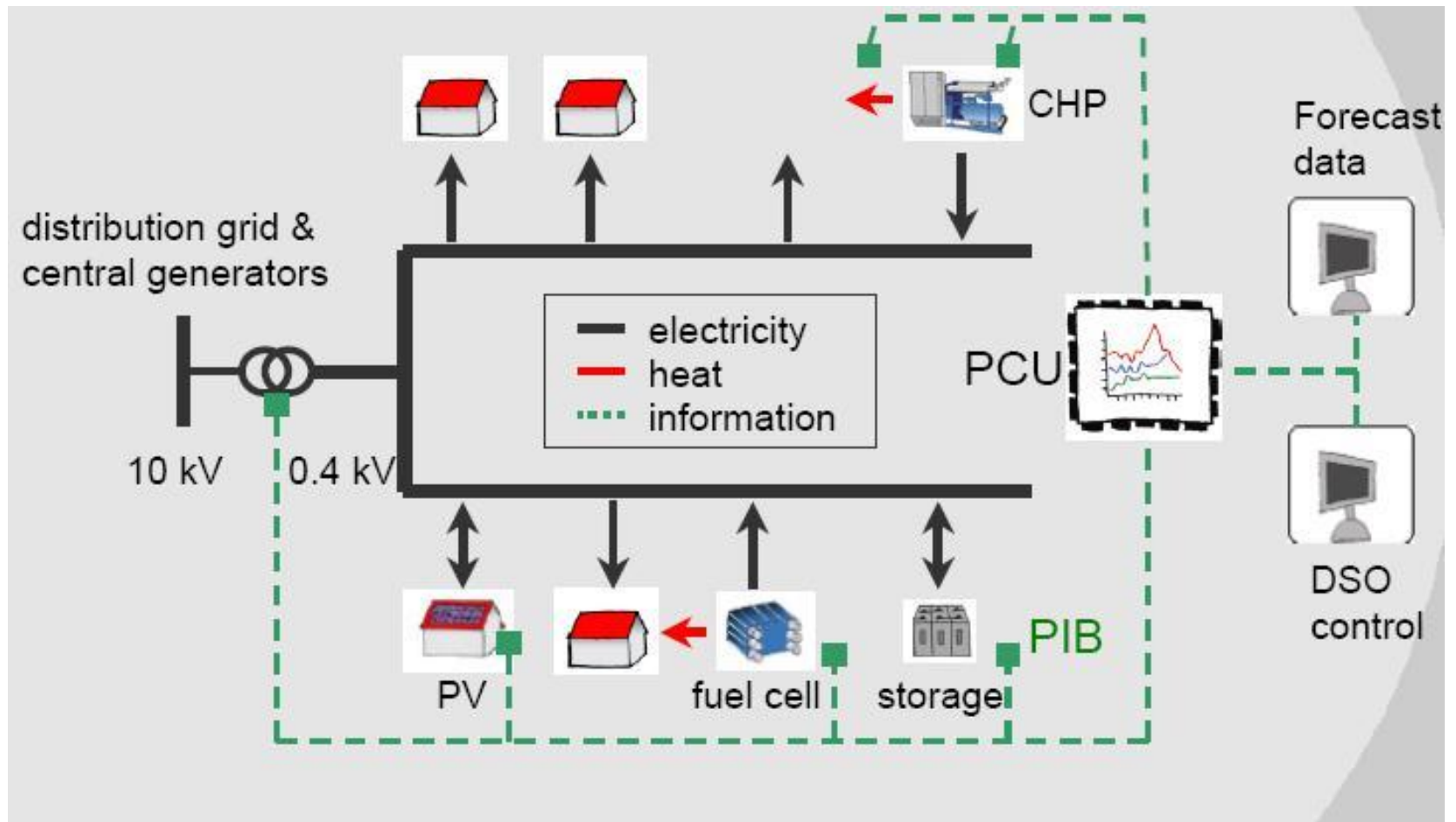
- Distribution System Operators
- Transmission System Operators
- Industry
- Service companies
- Research centres
- Universities



1st International Conference on Integration of RES and DER; 1st - 3rd December 2004, Brussels



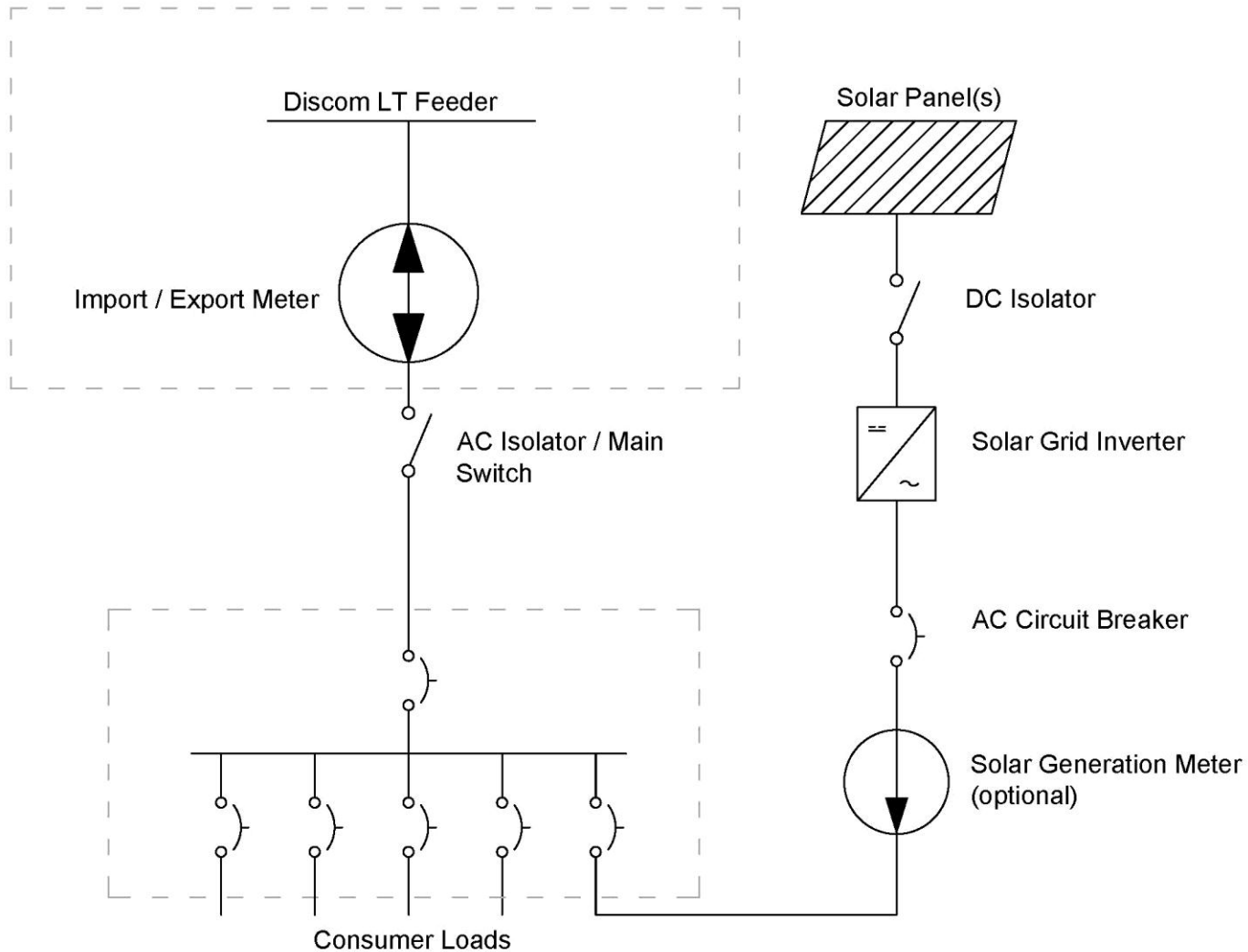
Renewable Energy Grid Penetration and the Smart Grid....



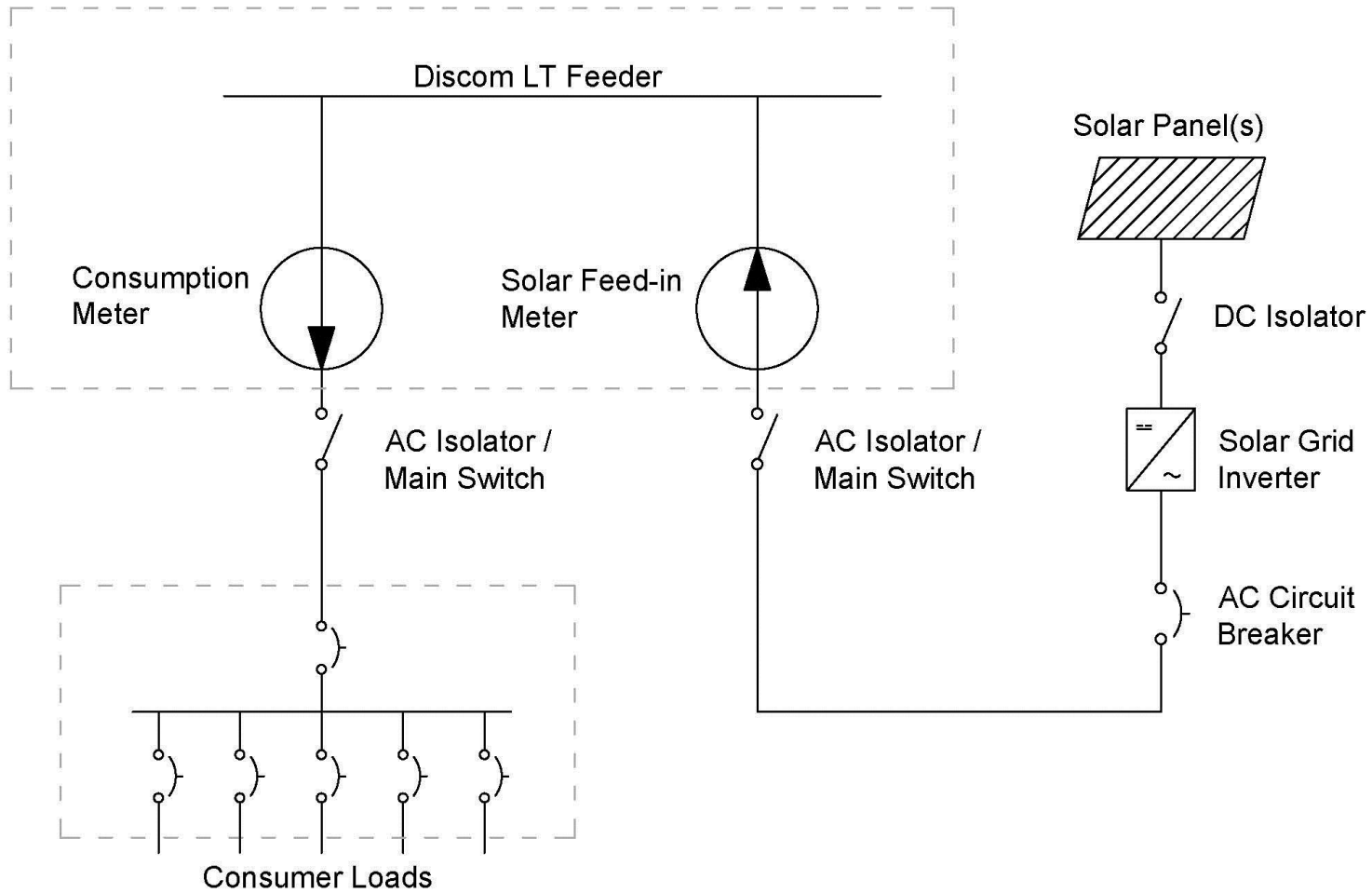
Grid-connected rooftop solar PV

Solar energy generated is consumed in the building with the surplus being exported to the grid and the shortfall being imported from the grid.

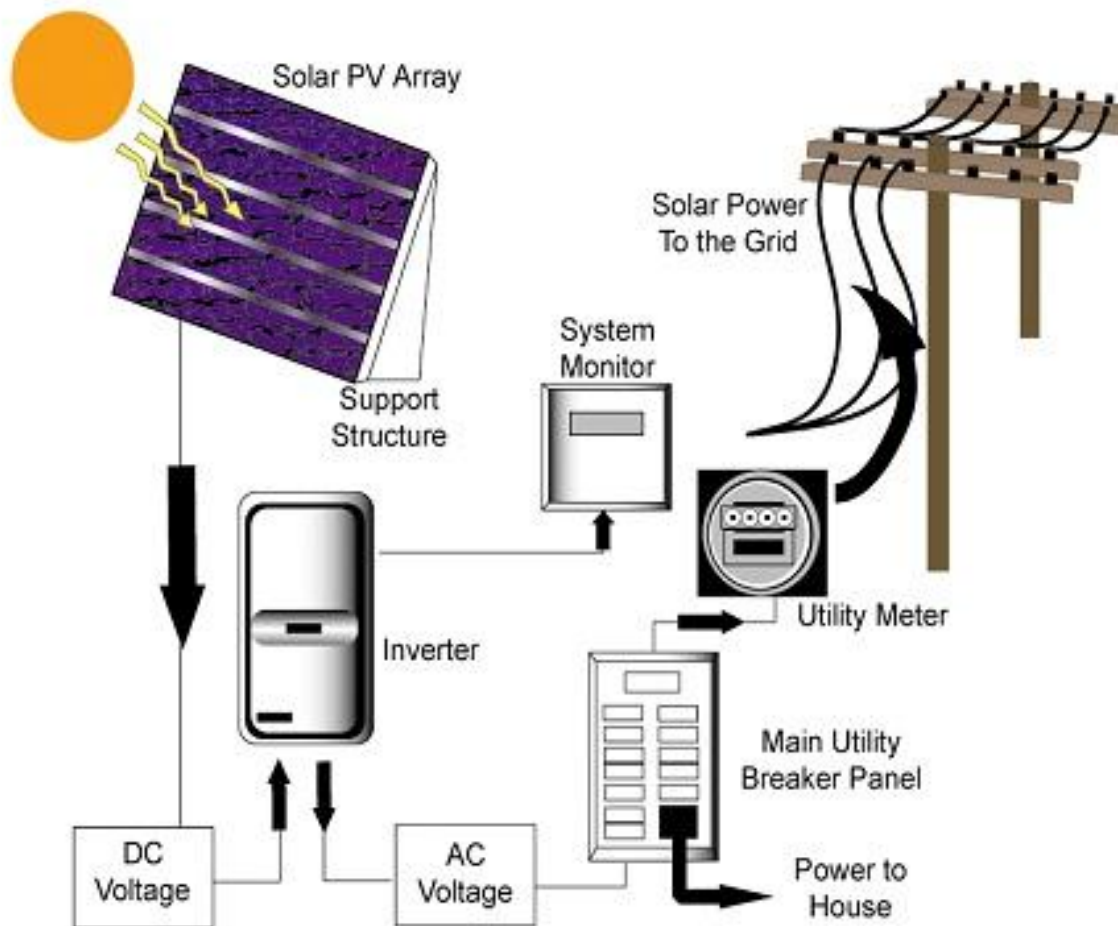
Net-metering



Gross feed-in



Grid-Connected Rooftop Solar



Rooftop Solar and Wind – World-wide



Every Consumer can become a *Prosumer*