DOBRY KLIMAT DLA POWIATÓW

ZWIĄZEK POWIATÓW POLSKICH

INSTYTUT NA RZECZ EKOROZWOJU

COMMUNITY ENERGY PLUS

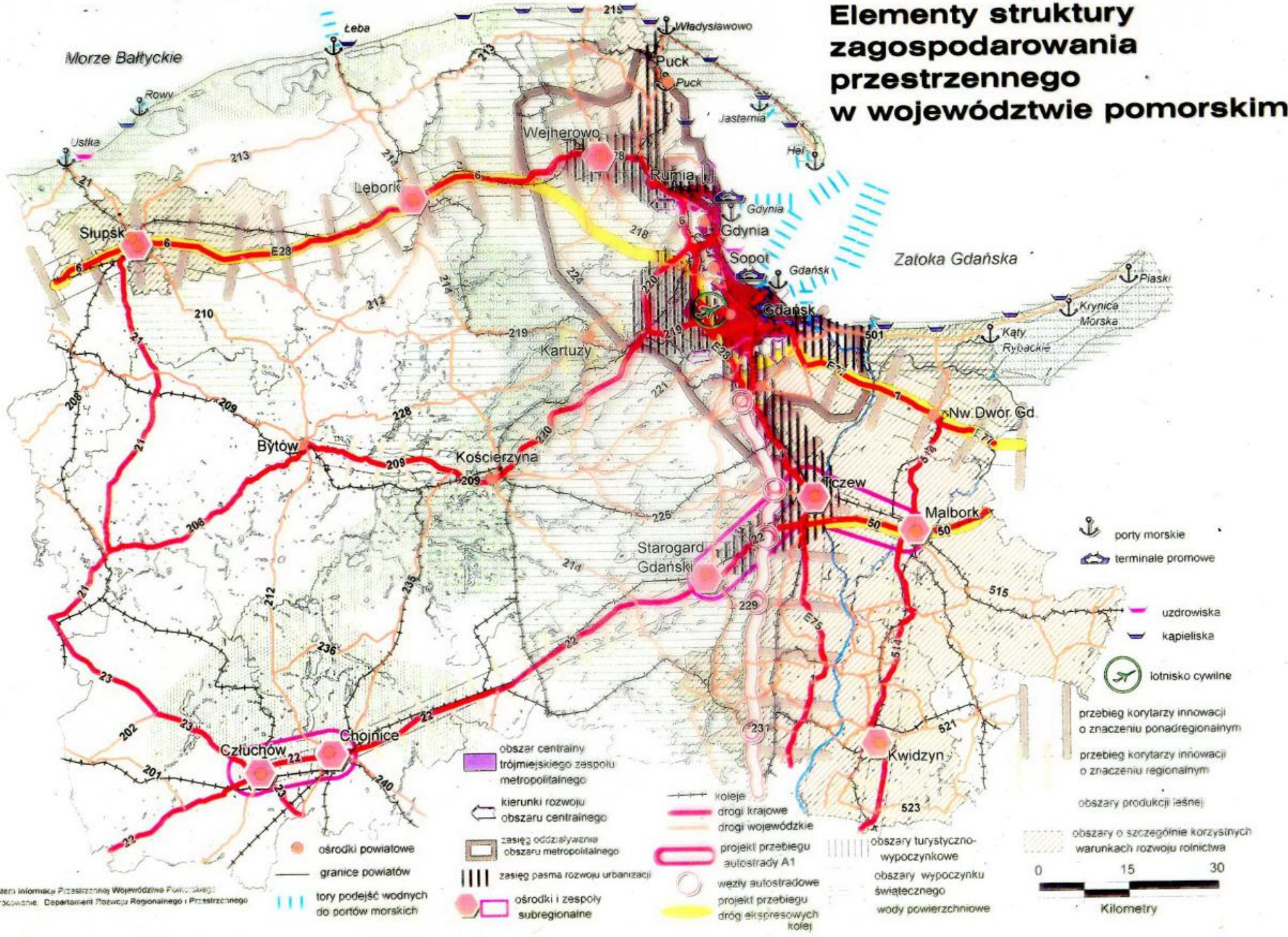
Starogard Gdański

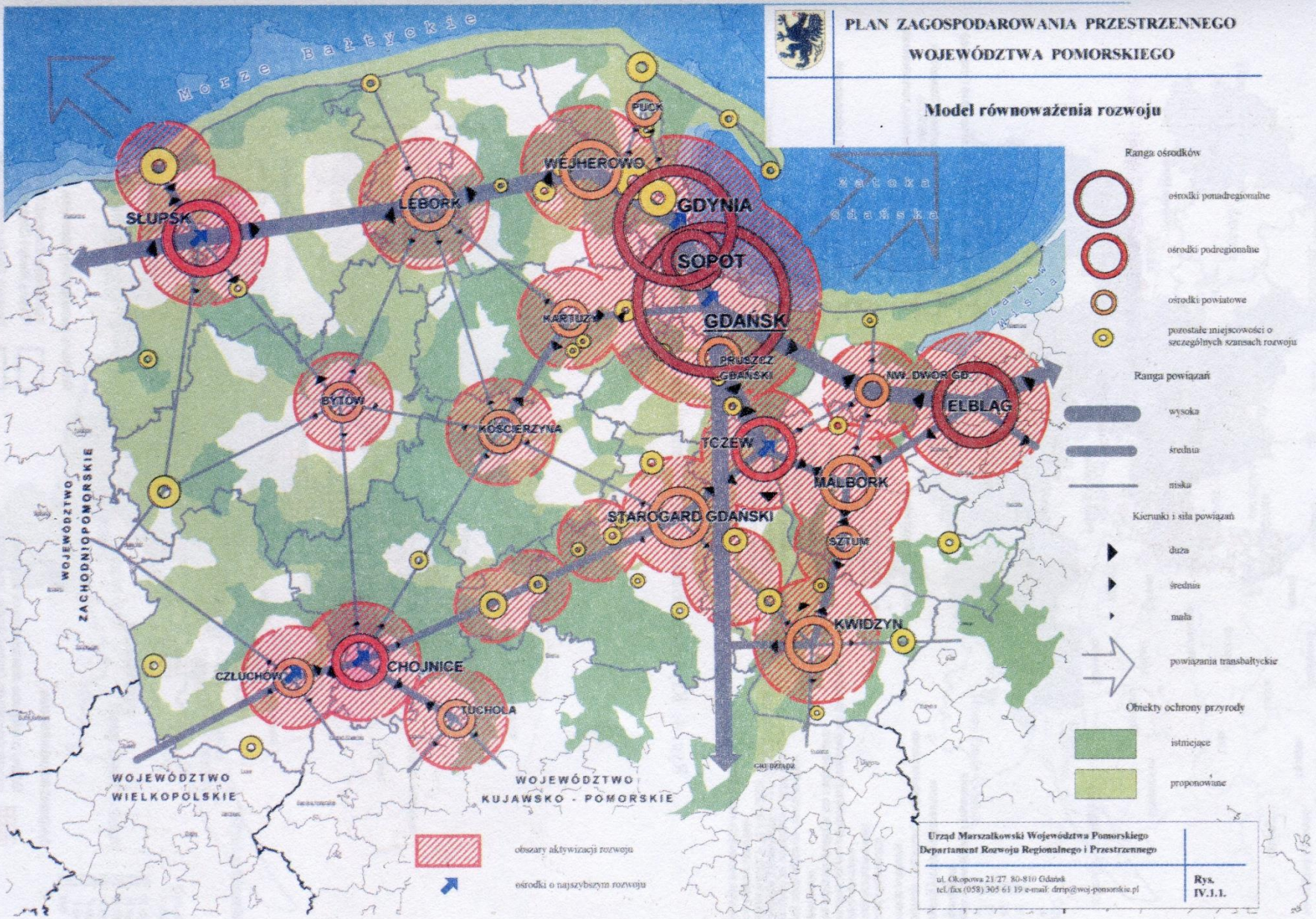
30.06.2015

Zielone Kociewie 2030

Projekt realizowany przy wsparciu finansowym instrumentu finansowego LIFE+ Komisji Europejskiej oraz Narodowego Funduszu Ochrony Środowiska i Gospodarki Wodnej

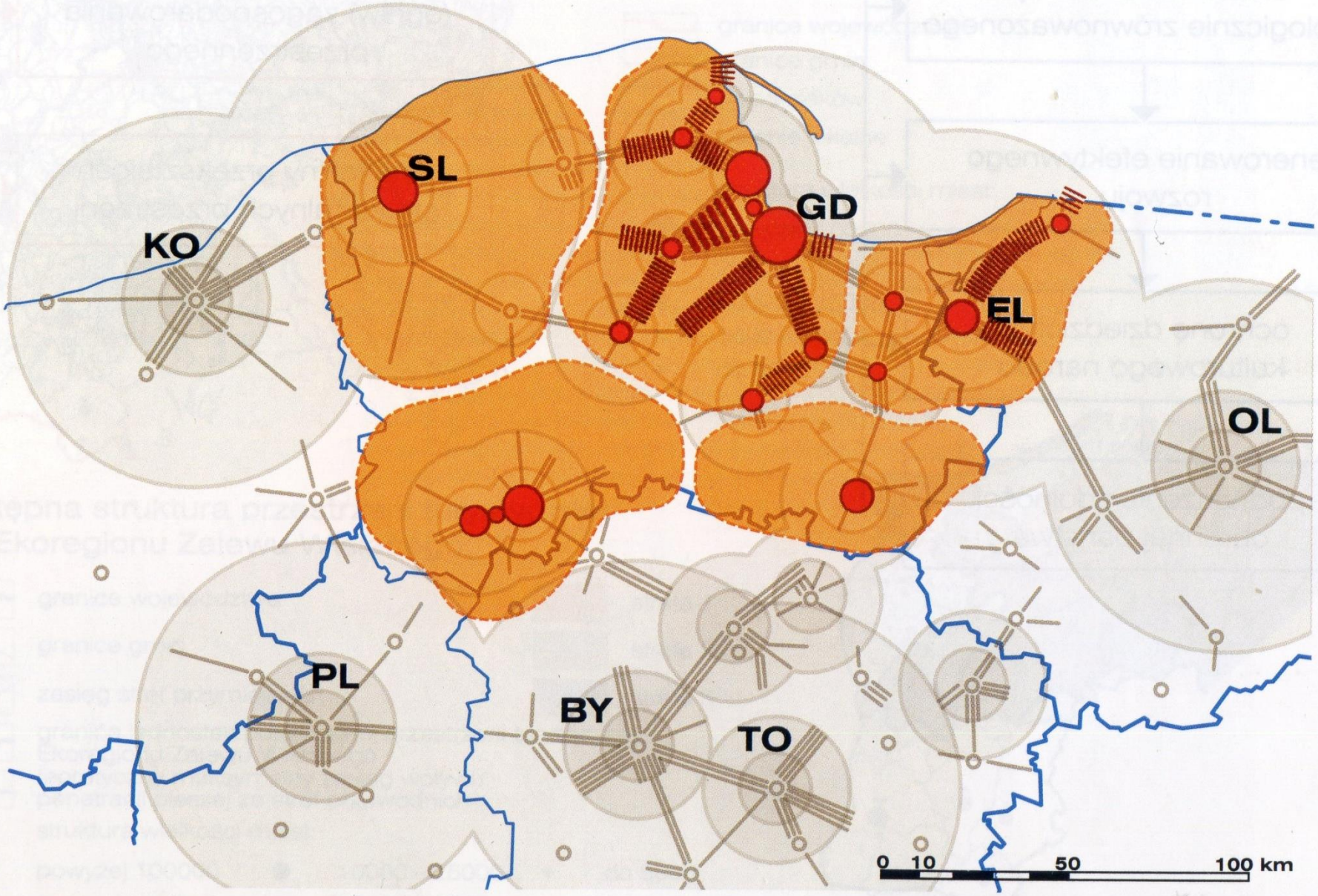
Elementy struktury zagospodarowania przestrzennego w województwie pomorskim

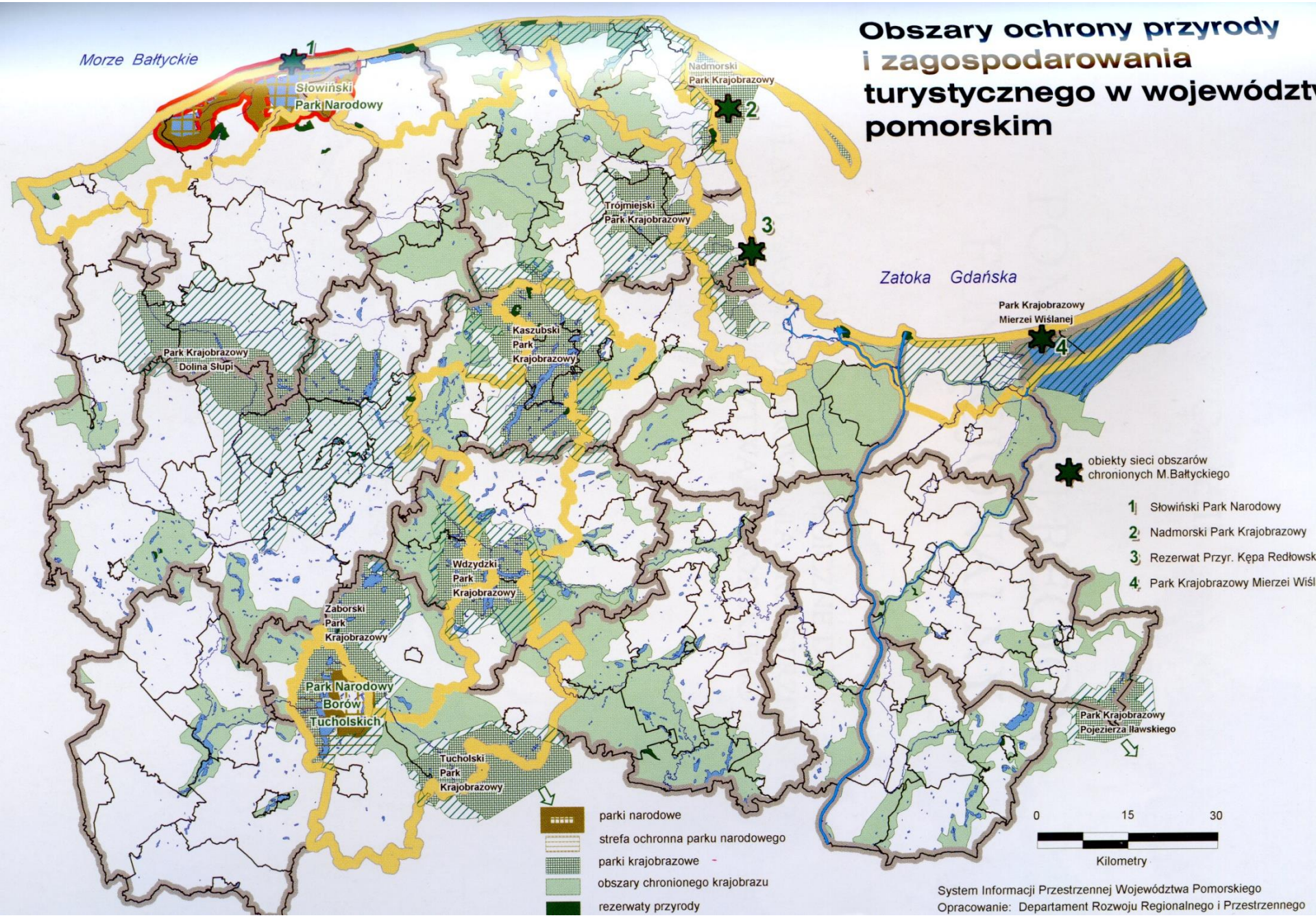




Ryc. 3. Model zrównoważonego rozwoju województwa pomorskiego.
Źródło: Plan zagospodarowania przestrzennego województwa pomorskiego (Rys. IV.1.1).

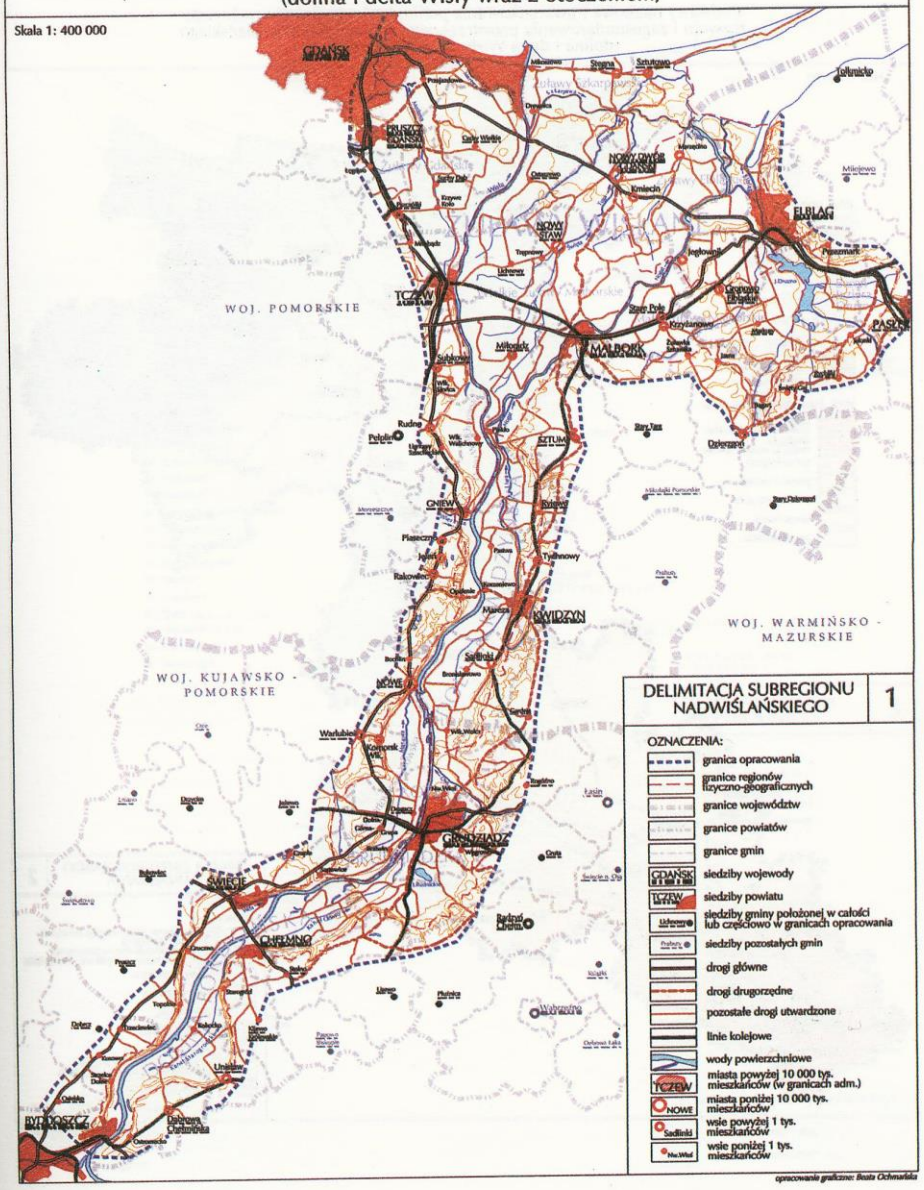
. Policentryczny model Pomorskiego Regionu Metropolitalnego




Obszary ochrony przyrody
i zagospodarowania
turystycznego w województw
pomorskim
Morze Bałtyckie
Słowiński
Park Narodowy
Nadmorski
Park Krajobrazowy
Trójmiejski
Park Krajobrazowy
Zatoka Gdańska
Park Krajobrazowy
Mierzei Wiślanej
Kaszubski
Park
Krajobrazowy
Park Krajobrazowy
Dolina Słupi
Wdzydzki
Park
Krajobrazowy
Zaborski
Park
Krajobrazowy
Park Narodowy
Borów
Tucholskich
Tucholski
Park
Krajobrazowy
Park Krajobrazowy
Pojezierza Iławskiego
obiekty sieci obszarów
chronionych M.Bałtyckiego
1 Słowiński Park Narodowy
2 Nadmorski Park Krajobrazowy
3 Rezerwat Przyr. Kępa Redłowsk
4 Park Krajobrazowy Mierzei Wiśl
parki narodowe
strefa ochronna parku narodowego
parki krajobrazowe
obszary chronionego krajobrazu
rezerwaty przyrody
0 15 30
Kilometry
System Informacji Przestrzennej Województwa Pomorskiego
Opracowanie: Departament Rozwoju Regionalnego i Przestrzennego

Podstawy naukowe i uwarunkowania polifunkcyjnego zrównoważonego rozwoju i zagospodarowania przestrzennego subregionu nadwiślańskiego (dolina i delta Wisły wraz z otoczeniem)

Skala 1: 400 000



DELIMITACJA SUBREGIONU NADWIŚLAŃSKIEGO 1

OZNACZENIA:

- granica opracowania
- granice regionów fizyczno-geograficznych
- granice województw
- granice powiatów
- granice gmin
- GDAŃSK — siedziby wojewody
- TCZEW — siedziby powiatu
- siedziby gminy położonej w całości lub częściowo w granicach opracowania
- siedziby pozostałych gmin
- drogi główne
- drogi drugorzędne
- pozostałe drogi utwardzone
- linie kolejowe
- wody powierzchniowe
- TCZEW — miasta powyżej 10 000 tys. mieszkańców (w granicach adm.)
- NOWE — miasta poniżej 10 000 tys. mieszkańców
- Sadlinki — wsie powyżej 1 tys. mieszkańców
- Nw.Wiel — wsie poniżej 1 tys. mieszkańców

opracowanie graficzne: Beata Ochmańska

Podstawy naukowe i uwarunkowania polifunkcyjnego zrównoważonego rozwoju i zagospodarowania przestrzennego subregionu nadwiślańskiego (dolina i delta Wisły wraz z otoczeniem)

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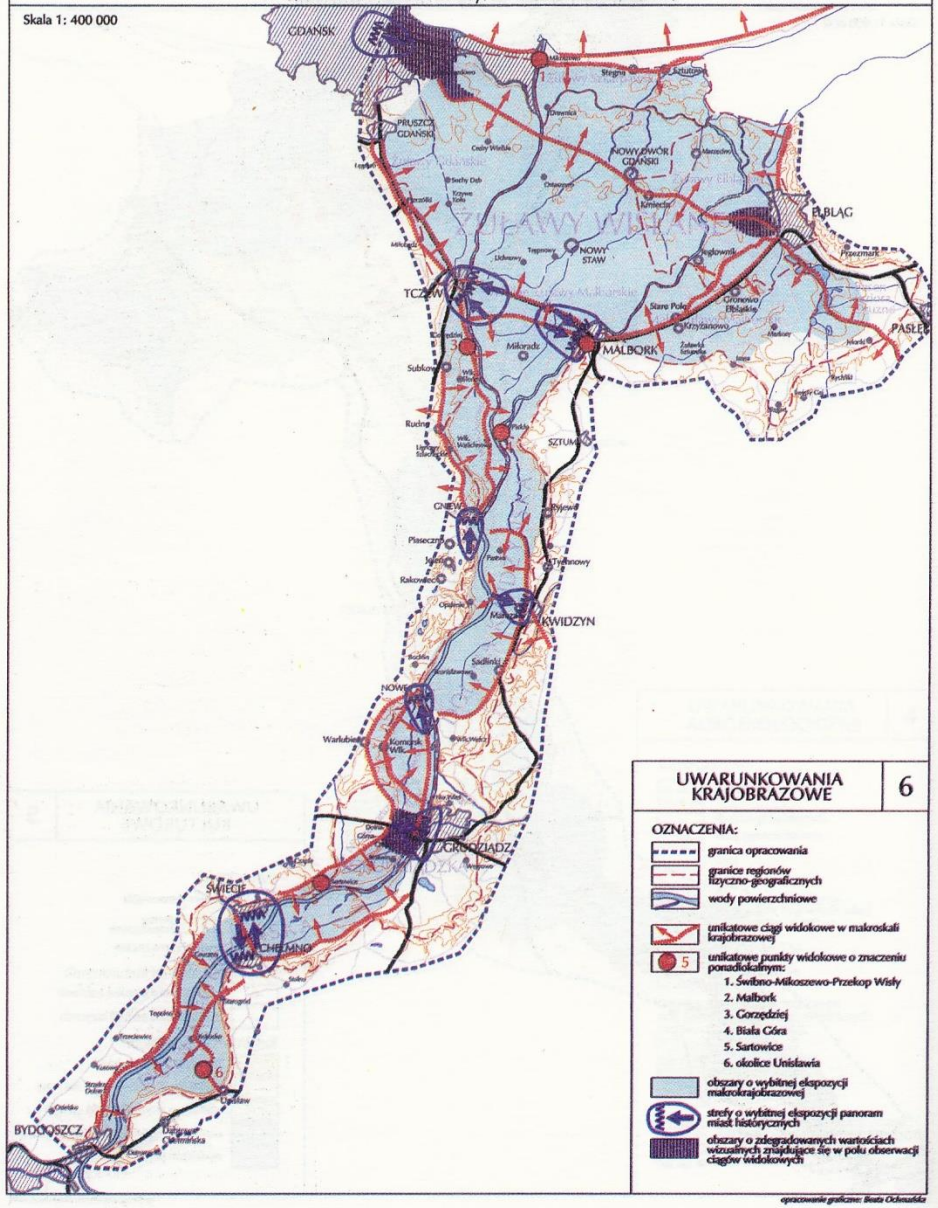


UWARUNKOWANIA KRAJOBRAZOWE 6

OZNACZENIA:

- granica opracowania
- granice regionów fizyczno-geograficznych
- wody powierzchniowe
- unikatowe ciągi widokowe w makroskali krajobrazowej
- 5 — unikatowe punkty widokowe o znaczeniu ponadlokalnym:
  1. Świbno-Mikoszewo-Przekop Wisły
  2. Malbork
  3. Gorzędziej
  4. Biała Góra
  5. Sartowice
  6. okolice Unisławia
- obszary o wybitnej ekspozycji makrokrajobrazowej
- strefy o wybitnej ekspozycji panoram miast historycznych
- obszary o zdegradowanych wartościach wizualnych znajdujące się w polu obserwacji ciągów widokowych

opracowanie graficzne: Beata Ochmańska

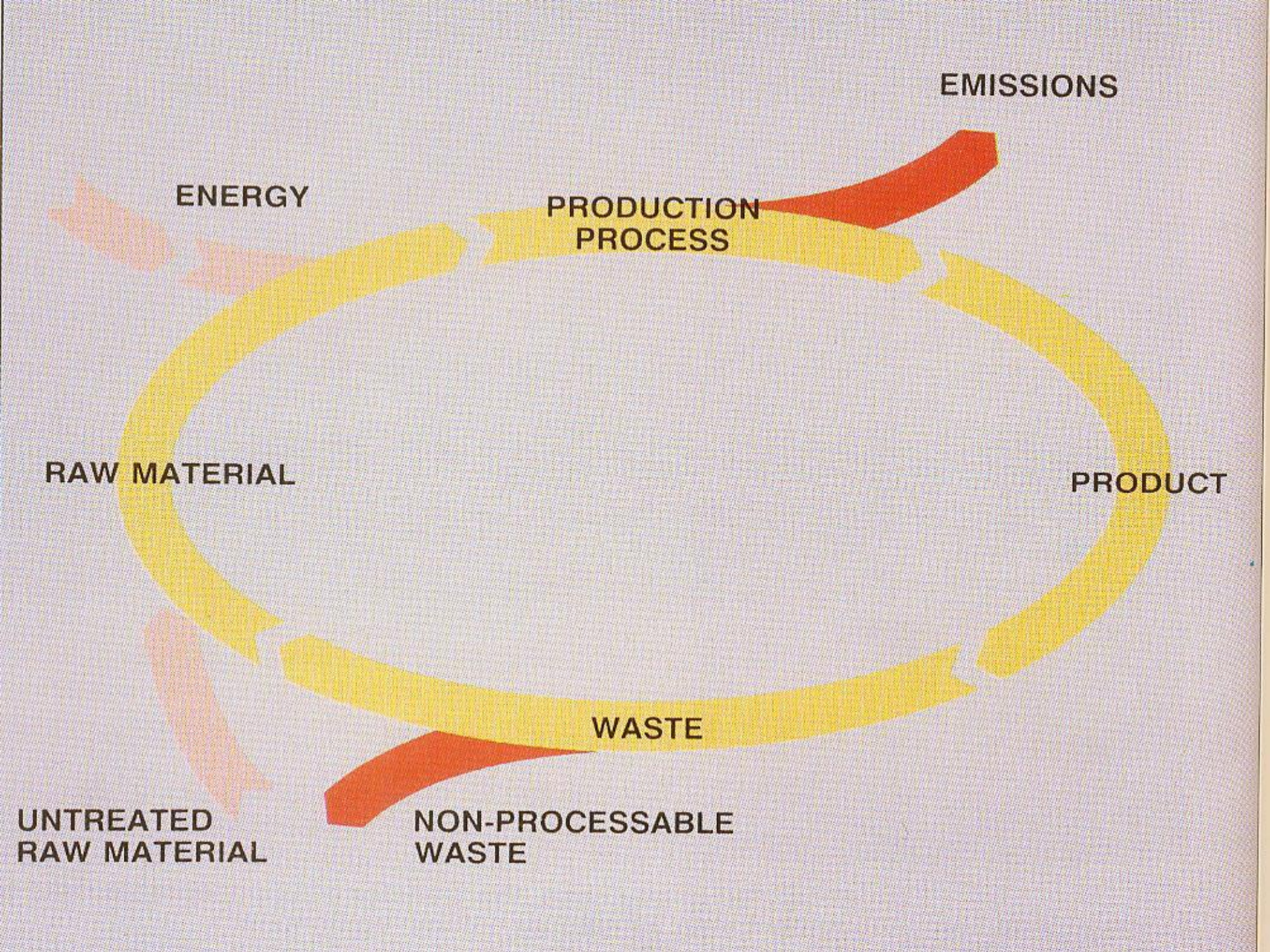
środowisko - gospodarka – społeczeństwo
(triple bottom line)

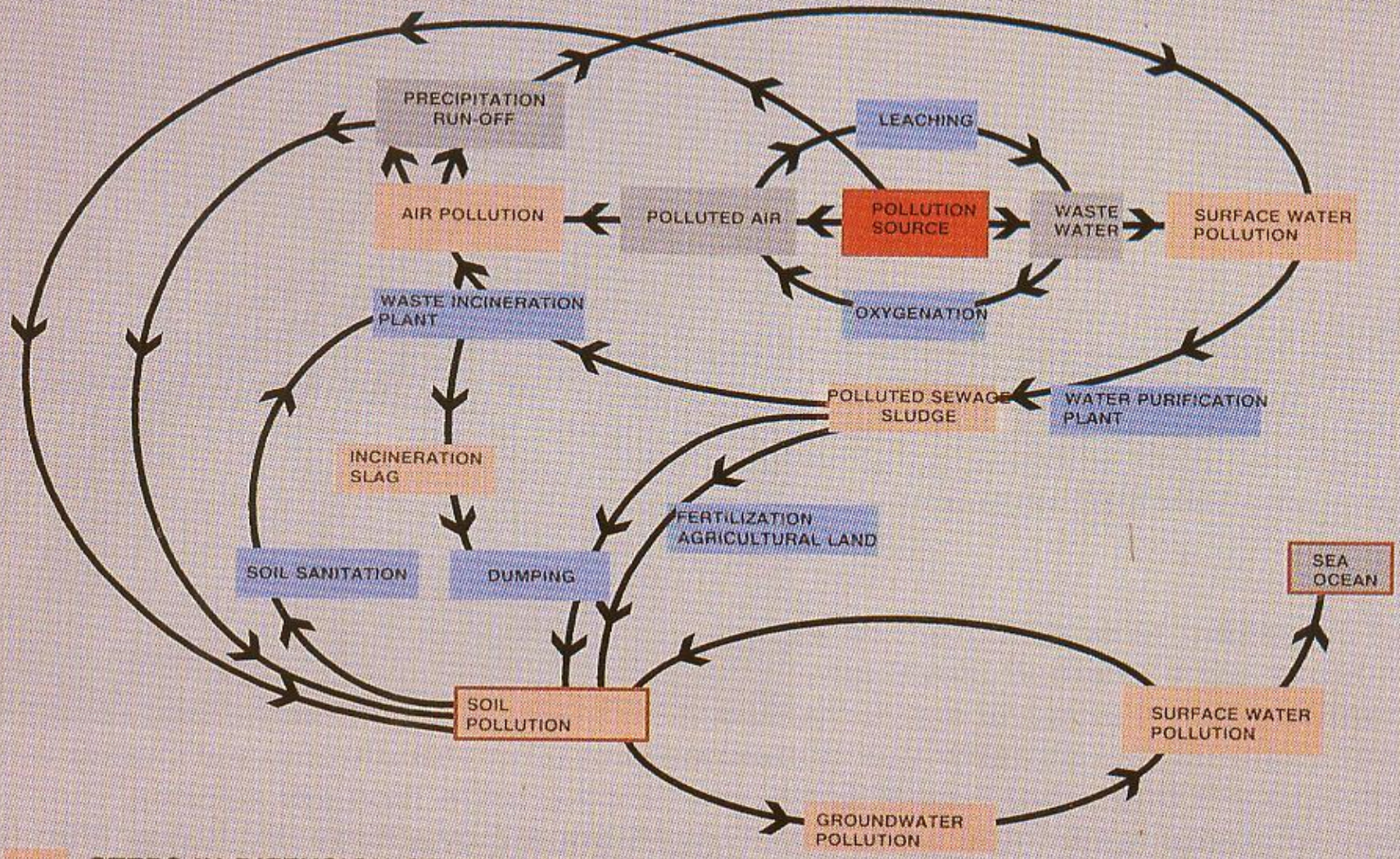
Podejście sieciowe
(nexus approach)

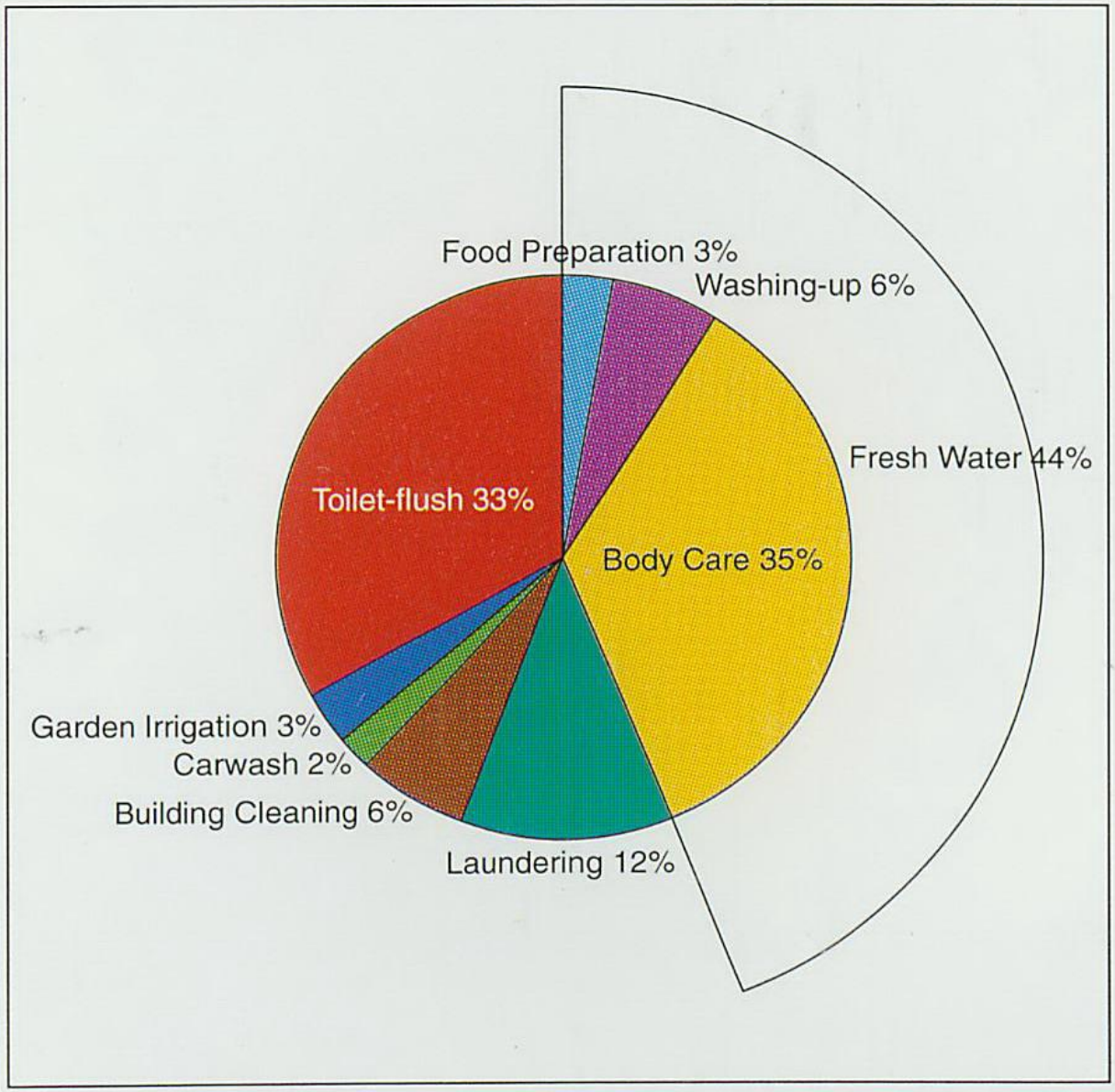
Planowanie i projektowanie zintegrowane
(integrated planning & design)

Zarządzanie hierarchiczne czy sieciowe
(network governance)

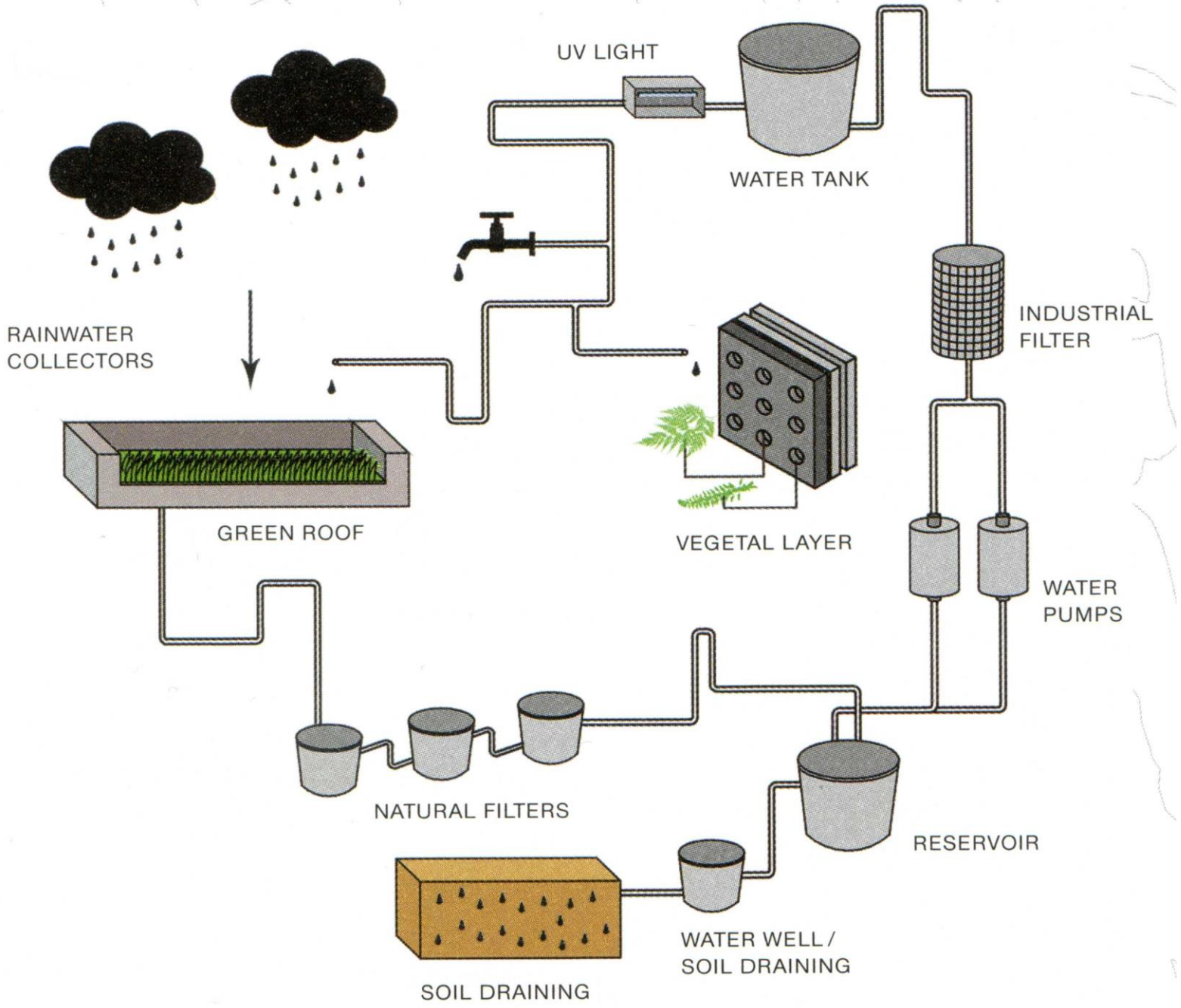
Świadomość społeczna i uczestnictwo
(public awareness and participation)


EMISSIONS
ENERGY
PRODUCTION PROCESS
RAW MATERIAL
PRODUCT
WASTE
UNTREATED RAW MATERIAL
NON-PROCESSABLE WASTE


PRECIPITATION RUN-OFF
LEACHING
AIR POLLUTION
POLLUTED AIR
POLLUTION SOURCE
WASTE WATER
SURFACE WATER POLLUTION
WASTE INCINERATION PLANT
OXYGENATION
POLLUTED SEWAGE SLUDGE
WATER PURIFICATION PLANT
INCINERATION SLAG
FERTILIZATION AGRICULTURAL LAND
SOIL SANITATION
DUMPING
SEA OCEAN
SOIL POLLUTION
SURFACE WATER POLLUTION
GROUNDWATER POLLUTION
STEPS IN DIFFUSION OF POLLUTION
MEASURE
ACCUMULATION


Food Preparation 3%
Washing-up 6%
Fresh Water 44%
Toilet-flush 33%
Body Care 35%
Garden Irrigation 3%
Carwash 2%
Building Cleaning 6%
Laundering 12%

2.24


UV LIGHT
WATER TANK
RAINWATER
COLLECTORS
INDUSTRIAL
FILTER
GREEN ROOF
VEGETAL LAYER
WATER
PUMPS
NATURAL FILTERS
RESERVOIR
WATER WELL /
SOIL DRAINING
SOIL DRAINING

A graphic summary of the 2002 report

City Limits

A resource flow and ecological footprint analysis of Greater London

The population of Greater London in 2000 was 7,400,000.

In the year 2000 London consumed

49 million tonnes of materials and 154,407 GigaWatt hours (GWh) of energy (or 13,276,000 tonnes of oil equivalent). This produced 41 million tonnes of carbon dioxide. Less than 1% of London's energy came from renewable sources.

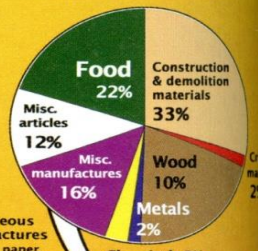
6.9 million tonnes of food was consumed in London in 2000, of which 81% was imported from outside the UK.

Water consumption reached 866,000,000,000 litres of which 28% was leakage.

Download or order the full report from the City Limits website:

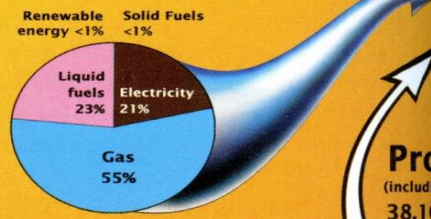
www.citylimitslondon.

Imports
25,029,000 tonnes

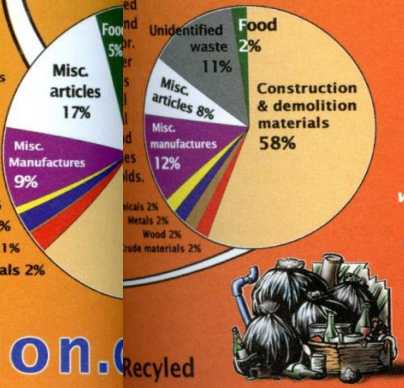


Miscellaneous manufactures includes paper, card, textiles, leather and clothing.

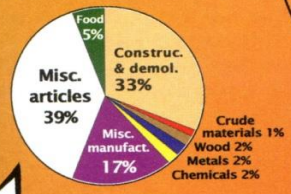
Energy inputs
(tonnes of oil equivalent)
13,276,000 tonnes



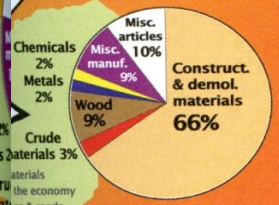
Miscellaneous articles includes arms, ammunition and other unknown commodities.



Exports
14,076,000 tonnes



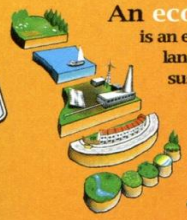
Stock
16,442,000 tonnes



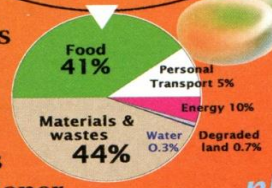
Waste
26,273,000 tonnes

Of household waste:
71% *was landfilled*
20% *incinerated &*
9% *was recycled*

An ecological footprint is an estimation of the area of land and sea needed to sustainably provide all the energy, water, food and other materials that we consume.



The ecological footprint of London's tourists was estimated at 2.4 million gha - an additional 0.32 gha per Londoner.



This is equal to 6.63 global hectares per Londoner.

Were every person in the world to consume at this rate we'd need at least three planets!

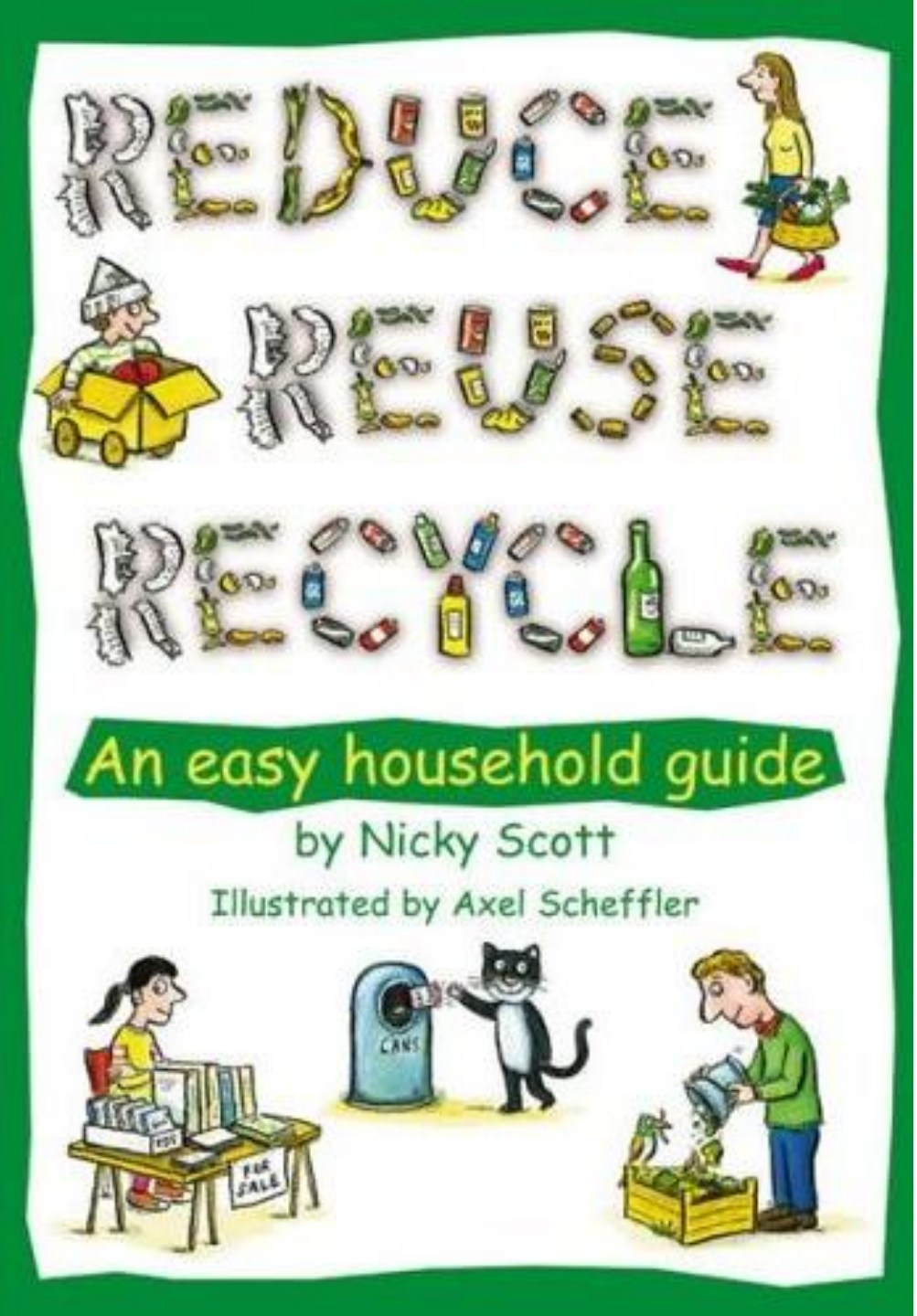
The UK average is 6.3 gha per person.
The global 'earthshare' is 2.18 gha per person.
but this will drop to about 1.44 gha by 2050.

Not all of the footprint is directly attributable to individual action. Government, businesses and others all have an impact.

City Limits used a range of *Business-as-usual* and *Evolutionary* scenarios to reflect current practice and existing improvement targets. *Revolutionary* scenarios were also created to show that a combination of lifestyle and technological changes could achieve interim sustainability targets for 2020.

For Londoners to be sustainable by 2050 their ecological footprint will need a **35%** reduction by 2020 and **80%** by 2050.

Prepared by
Best Foot Forward
Bringing sustainability down to earth
www.bestfootforward.com



ograniczyć

ponownie wykorzystać

przetworzyć

Przewodnik dla gospodarstwa domowego

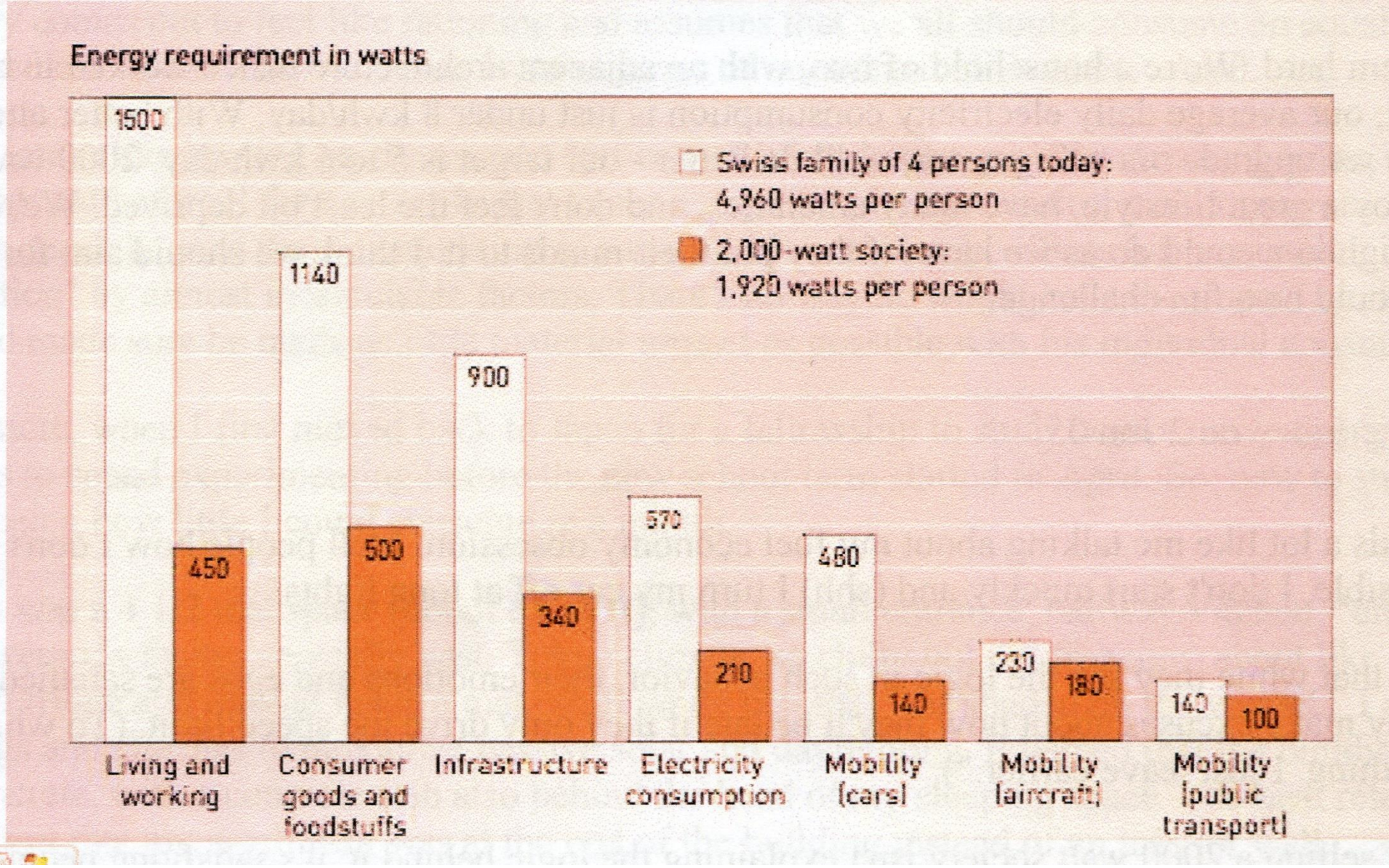
Ecological footprint for UK lifestyle in hectares per person

Based on a 4-person household

		Car mileage		Public transport	Air travel	Electricity & gas	Water	Domestic Waste	Office Footprint energy & paper	Food inc transport but not packaging	Overall Eco-Footprint	
Typical UK lifestyle	Owns car Holidays by plane every year Recycles 11% Eats out-of-season, highly packaged, imported food	0.90 10,000 km/yr	0.41	0.00	0.30	0.45 Mix of wood CHP Inc credit for landfill diversion	0.002 ~80 litres/day	1.70	0.60 Non-renewable energy & virgin paper	1.63	5.19	
BedZED Conventional lifestyle	Owns a car & commutes to work by public transport Holidays by plane every year Recycles 60% Moderate meat eater & some imported food	0.45 5,000 km/yr	0..32	0.30 4,000 km/yr	0.30	0.10 Mix of wood CHP Inc credit for landfill diversion	0.001 ~31 litres/day	1.02	0.60 Non-renewable energy & virgin paper	1.06	4.36	
BedZED Ideal	Lives & works at BedZED Recycles office paper No car - ZEDcars club member Holidays by plane every 2 years Recycles 80% at home Low meat diet with local fresh food	0.09 1,000 km/yr	0.04 20 people per club car	0.30 4,000 km/yr	0.15	0.10 Mix of wood CHP Inc credit for landfill diversion	0.001 ~31 litres/day	0.34	0.16 Joint 50:50 closed-loop office paper scheme	0.72	1.90	
Global Average											2.40	
Global Available	Leaving 10% of bio-productive land for wildlife										1.90	

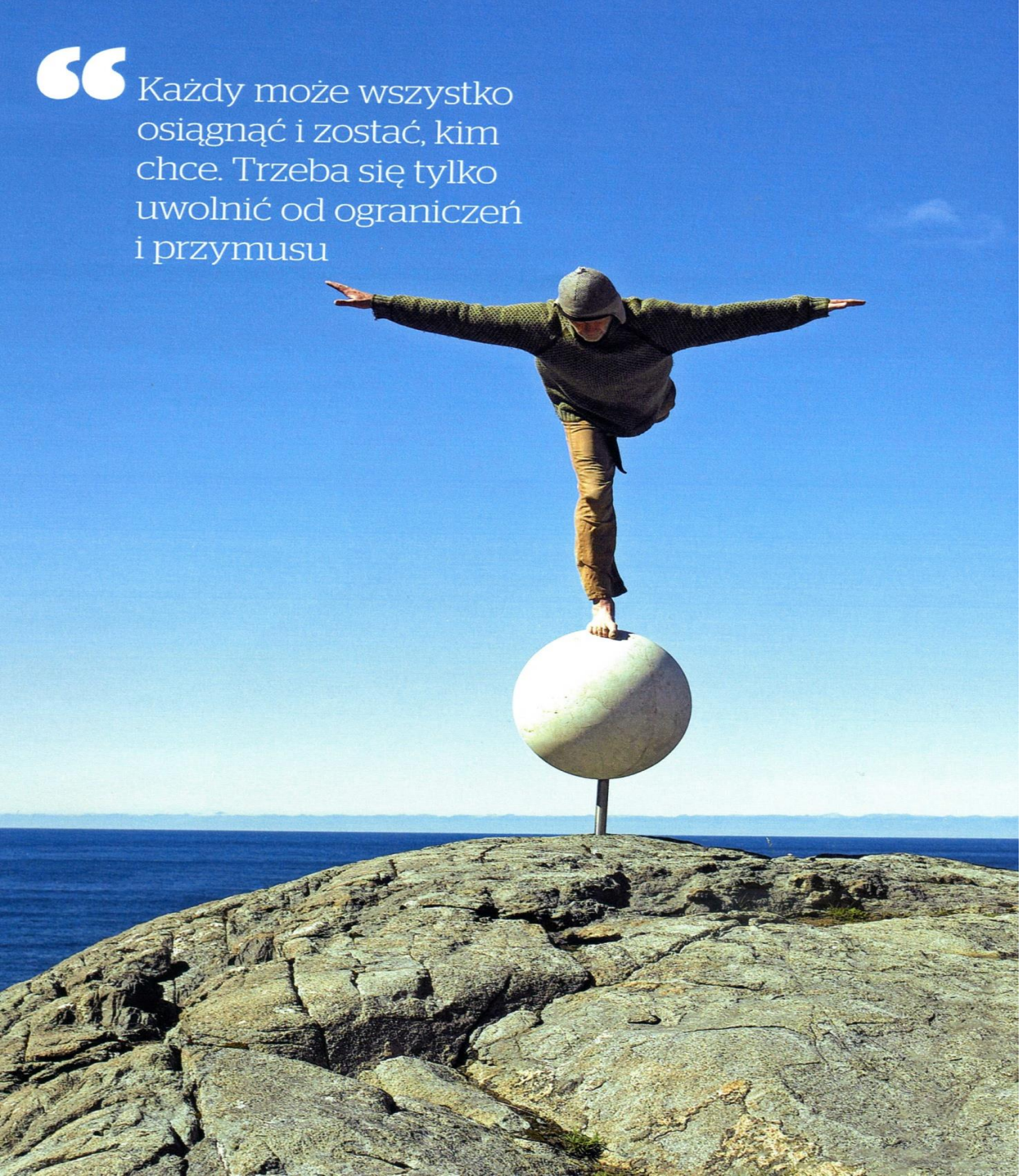
- what right do we have to consume more than our fair share of limited international resource ?

zedfactory.com



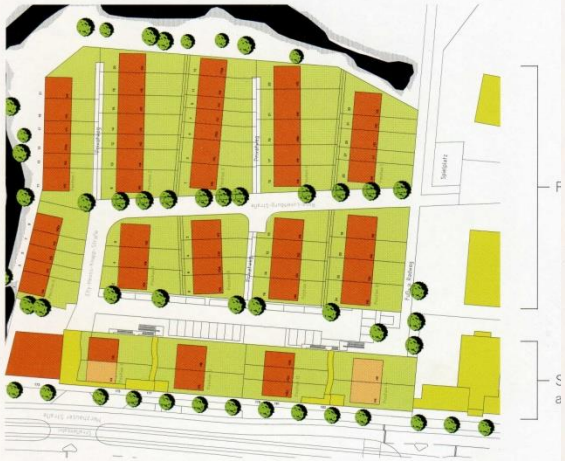
2000 Watt Society

Jestem za, a nawet … przeciw!

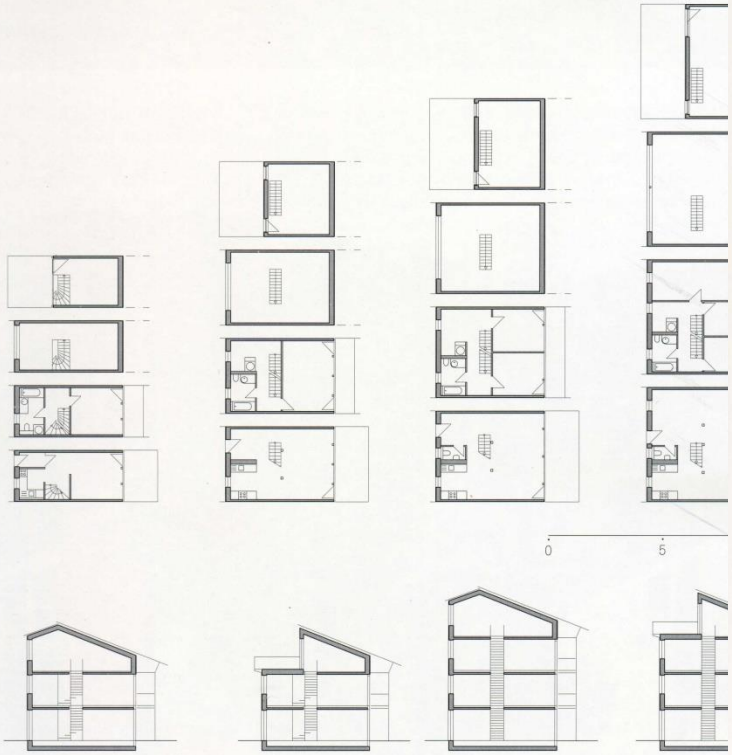

Każdy może wszystko osiągnąć i zostać, kim chce. Trzeba się tylko uwolnić od ograniczeń i przymusu


ZUKUNFT

Plans, sections, diagrams



Site plan



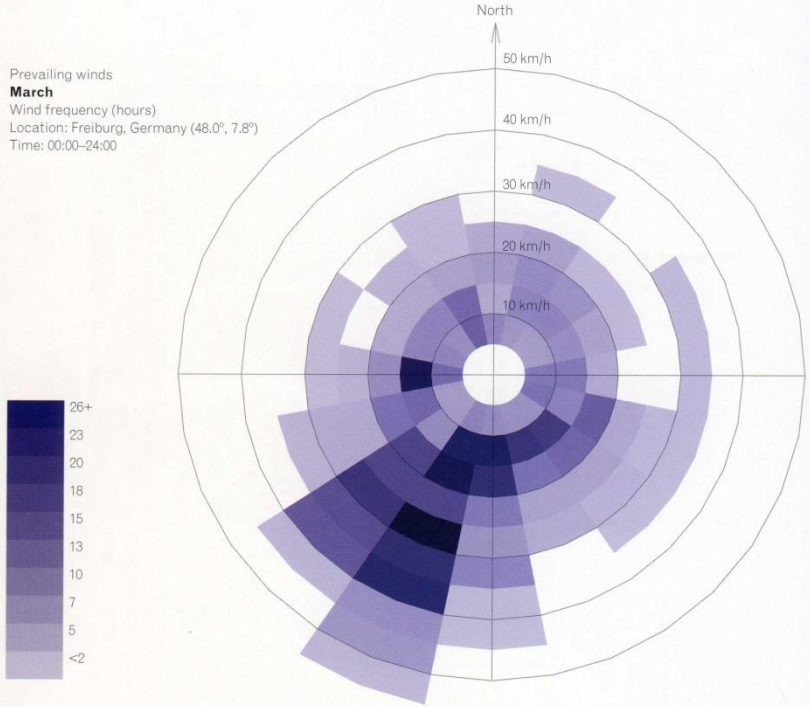
Sample floor plans and sections of row houses

Wind studies

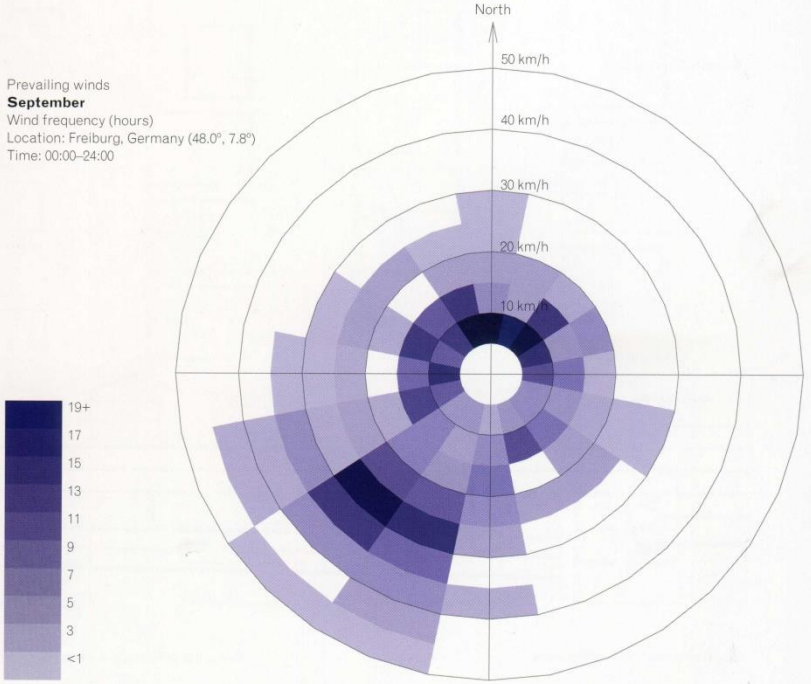
Project location:
Freiburg, Germany

Wind data location:
Freiburg, Germany

Prevailing winds
March
Wind frequency (hours)
Location: Freiburg, Germany (48.0°, 7.8°)
Time: 00:00–24:00



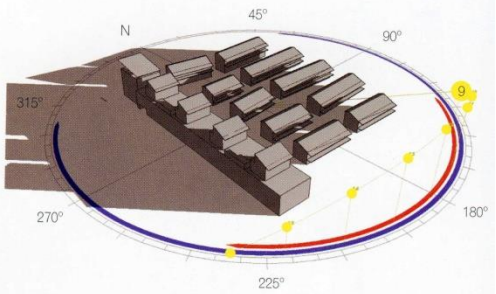
Prevailing winds
September
Wind frequency (hours)
Location: Freiburg, Germany (48.0°, 7.8°)
Time: 00:00–24:00



udies

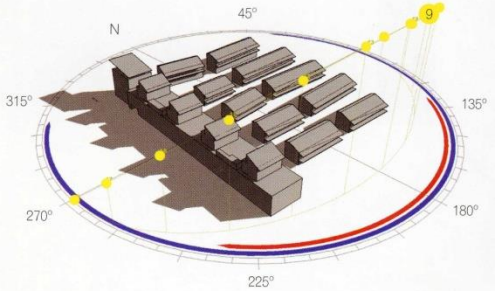
mber

09:00

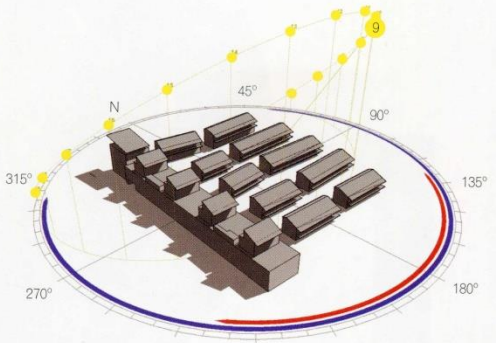


/September

09:00



09:00

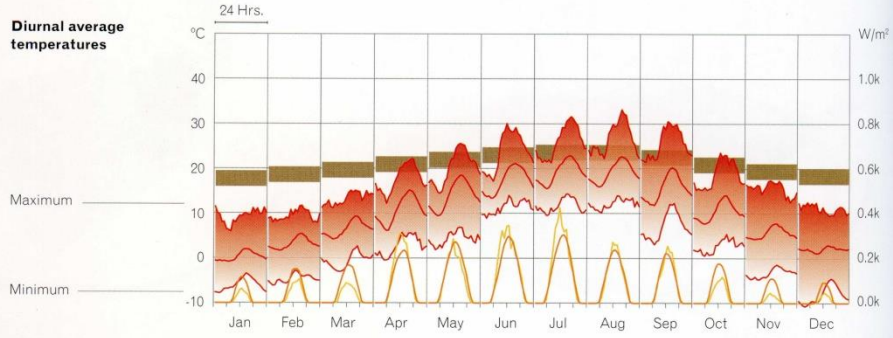


Climate data

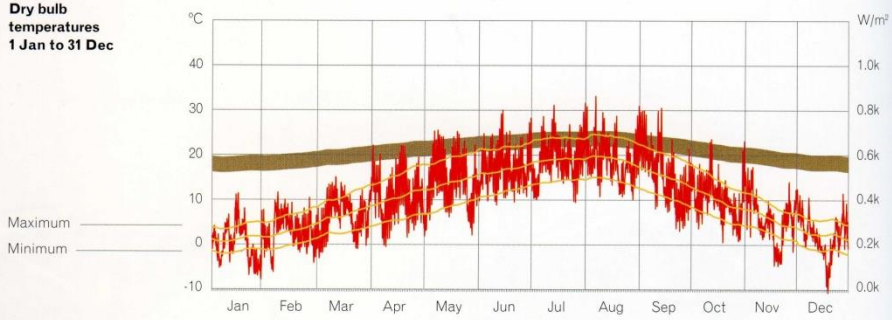
Project location:
Freiburg, Germany

Climate data location:
Freiburg, Germany

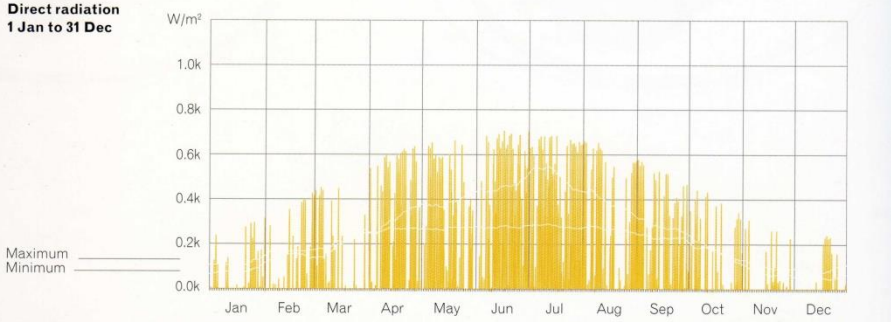
Diurnal average temperatures



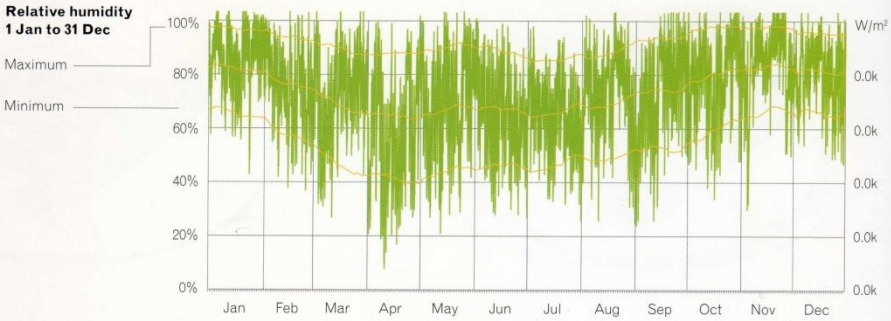
Dry bulb temperatures 1 Jan to 31 Dec



Direct radiation 1 Jan to 31 Dec



Relative humidity 1 Jan to 31 Dec



Temperature (°C)

Relative humidity (%)

Wind apeed (W/m²)

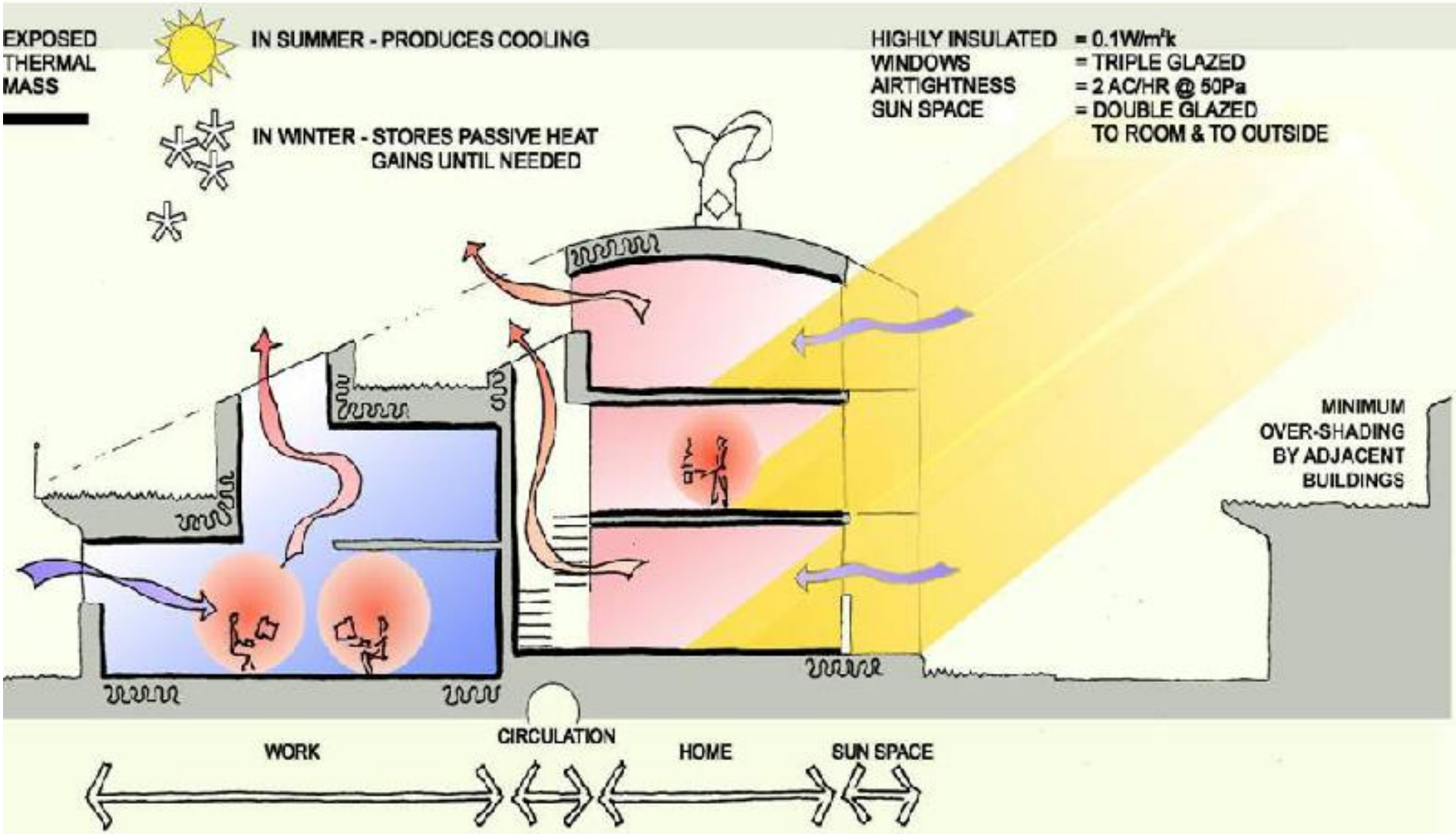
Direct aolar (W/m²)

Diffuse aolar (W/m²)

Cloud cover (%)

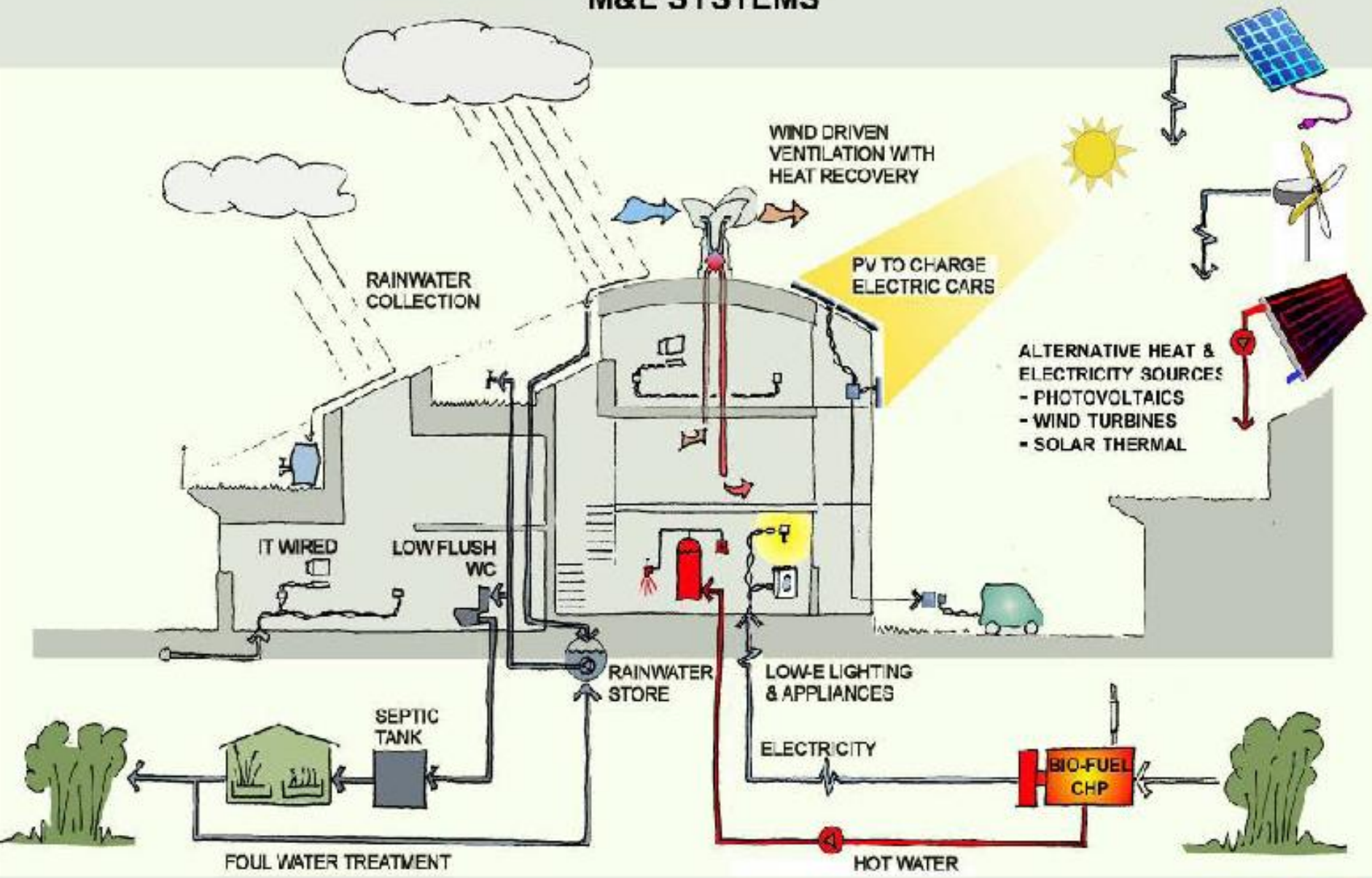
Thermal neutrality

		(18°C and 65°F base temperature; average 5 years)
	Cooling Degree Days:	227 cooling degree days °C (375 cooling degree days °F)
	Conservation strategies:	Modest-sized units; thermal and luminous zoning PDi
	Passive solar strategies: solar shading	Direct solar gain, daylighting, operable windows, cross ventilation,
	Active solar strategies:	Photovoltaic system, solar hot-water thermal system
	Other renewable energy strategies:	None
	High-performance strategies:	High-performance building envelope, triple glazing, heat recovery from facade-integrated ventilation components, high-performance ventilation system, energy-efficient appliances and lighting systems, neighborhood woodchip heat and power plant
ance profile [14]	Total annual building energy consumption:	Sonnenschiff: estimated 10–20 kWh/m²/yr (3.2–6.3 kBtu/sq ft) Plusenergie®haus: estimated 10–15 kWh/m²/yr (3.2–4.8 kBtu/sq ft)
	Total annual on-site energy produced:	Not available
	Size of photovoltaic system:	Estimated total: 455 kW (112 kW for Sonnenschiff; 333 kW for 50 Plusenergie®haus)[15]
	Size of solar thermal system:	evacuated tube solar hot-water heating for domestic hot water (size not available)
	Carbon dioxide emissions:	Not available

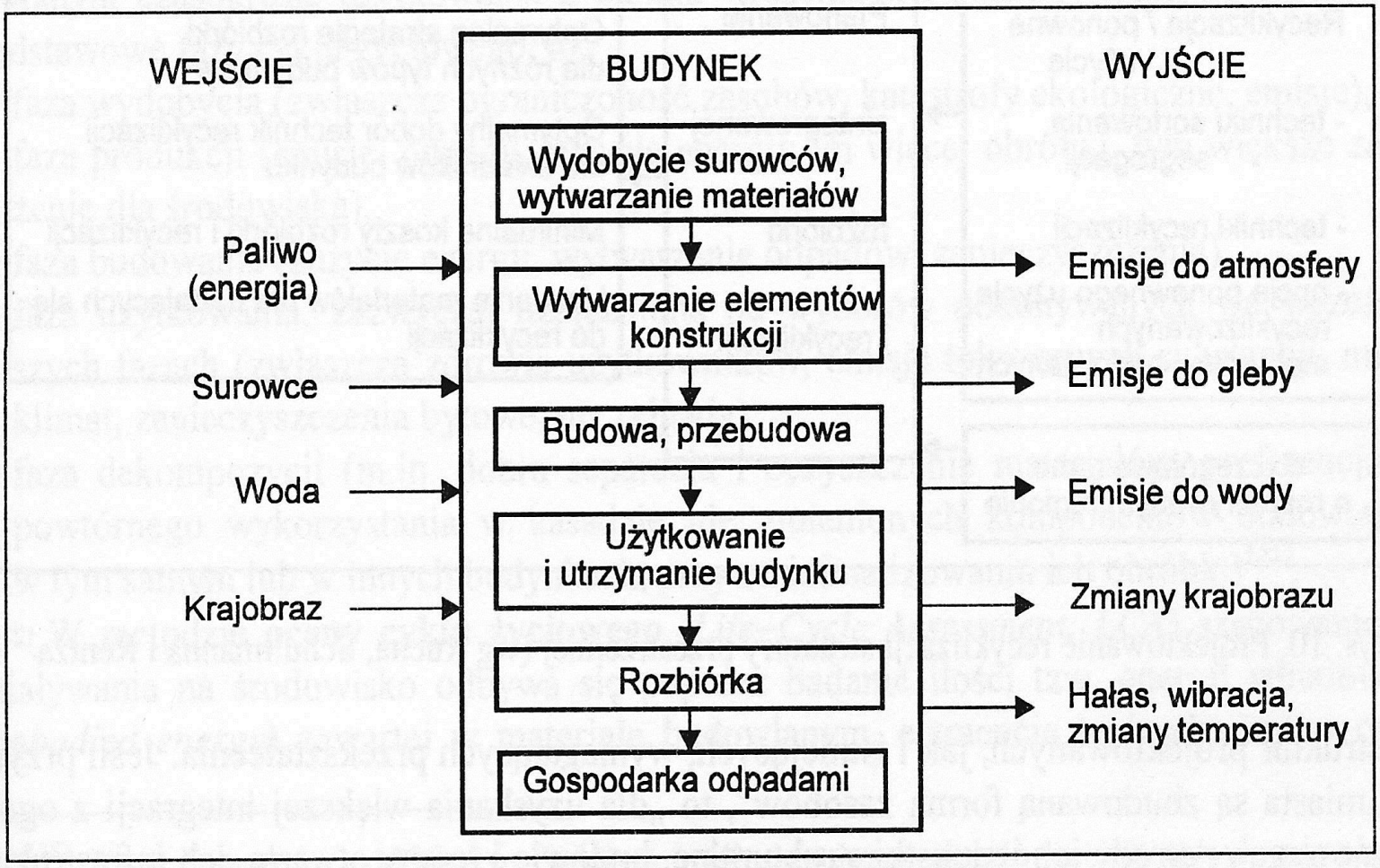

EXPOSED THERMAL MASS
IN SUMMER - PRODUCES COOLING
IN WINTER - STORES PASSIVE HEAT GAINS UNTIL NEEDED
HIGHLY INSULATED = 0.1W/m²k
WINDOWS = TRIPLE GLAZED
AIRTIGHTNESS = 2 AC/HR @ 50Pa
SUN SPACE = DOUBLE GLAZED TO ROOM & TO OUTSIDE
MINIMUM OVER-SHADING BY ADJACENT BUILDINGS
WORK
CIRCULATION
HOME
SUN SPACE
NORTH FACING WINDOWS
GOOD DAYLIGHT
MINIMUM SOLAR HEAT GAIN
EXTENSIVE SOUTH FACING GIVING GOOD, PASSIVE SOLAR HEAT GAIN GLAZED BUFFER SUN SPACE.
MINIMUM NORTH GLAZING FOR DAYLIGHT.

ARUP

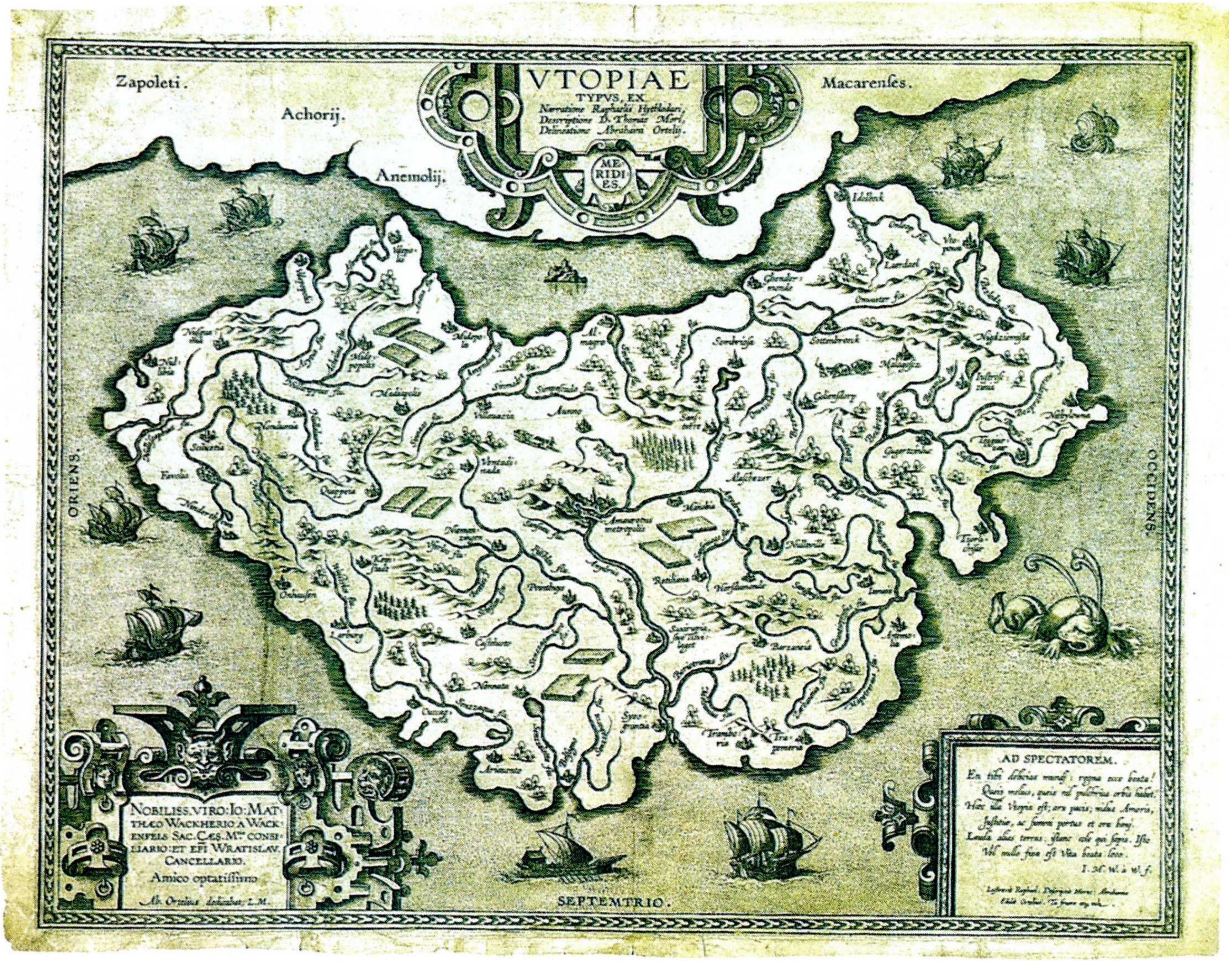
M&E SYSTEMS



Cykl życiowy budynku



Rys. 8. Współoddziaływanie struktury przestrzennej i jej otoczenia (wg Hanne Krogh i Klausa Hansena[125])


VTOPIAE
TYPVS, EX
Narratione Raphaelis Hythlodæi,
Descriptione D. Thomæ Mori,
Delineatione Abrahami Ortelij.
MERIDIES.
Zapoleti.
Achorij.
Anemolij.
Macarenses.
ORIENS.
OCCIDENS.
SEPTEMTRIO.
Amaurotum metropolis
NOBILISS. VIRO: IO: MATTHÆO WACKHERIO A WACKENFELS SAC. CÆS. M.ᵗⁱˢ CONSILIARIO: ET EPI WRATISLAV. CANCELLARIO.
Amico optatissimo
Ab. Ortelius dedicabat; L.M.
AD SPECTATOREM.
En tibi delicias mundi: regna ecce beata!
Quis melius, quis vel pulchrius orbis habet.
Hic ille Vtopia est; ara pacis; nidus Amoris,
Justitiæ, ac summi portus et ora boni.
Lauda alias terras: istanc cole qui sapis. Isto
Vel nullo fixa est Vita beata loco.
I. M. W. à W. f.

2

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