The Chinese cities grew enormously last decades, spreading to nearly infinity. Almost a billion people will live in the cities by 2025. A sharp, radical and significant course change to a new urban model is necessary to guide China towards a balanced future. The Wall can be this guide.

Chengdu forms the perfect study-case for this challenge.

THE WALL 墙城
PREPARING FOR CHINA’S URBAN BILLION
为中国的十亿万城市时刻准备着
CHINA

CHENGDU

WALL

SITE

NEIGHBOURHOOD

CHINA 2030
CHINA WANTS TO BECOME WORLD’S LEADING ECONOMY...

...WITH ALL ITS CONSEQUENCES
CHINESE CITIES ARE GROWING TO ALMOST INFINITY
PRECIOUS LANDSCAPE IS GETTING LOST
TRAFFIC JAMS ARE DAILY ANNOYANCES
AIR POLLUTION IS TREMENDOUS
WORKING CONDITIONS ARE PATHETIC
LIVING STANDARD IS RISING BUT STILL VERY LOW
YANGJI VILLAGE, GUANGZHOU, MARCH 21ST 2012
Yangji Village, Guangzhou, March 21st 2012

Source: A Look Inside China, The Atlantic, March 26 2012
A BILLION PEOPLE WILL LIVE IN CHINESE CITIES BY 2025...

...THAT IS 70% OF THE CHINESE POPULATION
40,000,000,000 SQM of floor area need to be built...

...that is 1 Manhattan every 2 years.
SCATTERED GROWTH PATTERN

source: McKinsey Global Institute China All City model; McKinsey Global Institute analysis; 2009
CONDENSED GROWTH PATTERN

source: McKinsey Global Institute China All City model; McKinsey Global Institute analysis; 2009
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Source: city visits; interviews; McKinsey Global Institute Analysis
Chinese cities in 2010

- Population > 5mln
- Population > 7mln
- Population > 10mln
80% OF CHINESE VEGETATION
1/5 OF ALL ENDANGERED FLORA AND FAUNA
CHINA’S CULTURAL AND HISTORIC CITY
CHINA’S BEST TOURIST CITY 2006

source: cultural China

讓我們走西

LET'S GO TO THE WEST
CDB 25km @ 15km/h = 1h40min
Outskirts 45km @ 80km/h = 0h35min
2h15min
“IT IS SAID THAT IF A DOG SEES THE SUN, IT STARTS TO BARK AT THE INTRUDER.”
INDUSTRY

TRANSPORTATION

- 27%
- 52%
- 8%
- 10%
- 2%
- other

commercial and residential heating
consumer and commercial products
agriculture

source: EPA2008 / McKinsey Global Institute analysis

TRANSPORT

INDUSTRY

estimated NOx concentrations mg/m³, 2025

base forecast
expanded public transit, density, fleet
tightened emissions industry
target

- 40%
- 50%

Shenzhen example

-90%
LOCALIZED FEEDER SYSTEM
WALL TRAIN

WBD
Wall Business District

local station
Route 50km @ 80km/h    = 0h38min
Transition 2x     = 0h10min
18 stops @ 1min      = 0h18min
1h11min
clustered industries plugged into the Wall cycle system
FAR = Floor Area Ratio
floor area of all floors / plot area

FAR 5.4
FAR 5.4

FAR = Floor Area Ratio
floor area of all floors / plot area
VERTICAL CITIES ASIA

HORIZONTAL CITIES ASIA
ELEGANCY AND IMPRESSIVENESS
ENCLOSURE AND SEPARATION

THE COLLECTIVE
FAR 5.4

FAR = Floor Area Ratio
floor area of all floors / plot area
PARIS

FAR = 3.5
NEIGHBOURHOOD
HOMOGENEOUS
SOULLESS
MORNING EXERCISE
SITE AREA
7.200sqm

60m
120m
- 2mm waxed concrete ('cire')
- glass
- fibre netting embedded mortar
- Sto-Verotec 12mm
- 30mm cavity / Sto-Ventec system
- 50mm insulation glued
- 40mm insulation behind timber stud
- PCM ventilation unit - PCM
- PCM ventilation unit - continuous fresh air inlet
- PCM ventilation unit - grate
- wooden panel with grate for ventilation
- prefabricated wooden frame with windowframe attached to it, ventilation inlet included
- 2mm waxed concrete ('cire')
- glass fibre netting embedded in mortar
- Sto-Verotec 12mm
- 30mm cavity / Sto-Ventec system
- 50mm insulation glued behind timber stud
- PCM ventilation unit - PCM
- PCM ventilation unit - continuous fresh air inlet
- PCM ventilation unit - grate
- wooden panel with grate for ventilation
- prefabricated wooden frame with windowframe attached to it, ventilation inlet included
- aluminium profile
- 2mm waxed concrete ('cire')
- glass fibre netting embedded in mortar
- Sto-Verotec 12mm
- 30mm cavity / Sto-Ventec system
- 50mm insulation glued behind timber stud
- vapourpassable foil
- 135mm cavity metal stud covering wall
- Gypframe 75
- 2x12,5mm Gyproc panels
- glass fibre netting embedded in mortar
- 2mm waxed concrete ('cire')
- prefabricated wooden frame with windowframe attached to it, ventilation inlet included
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- Gypframe 75
- 2x12,5mm Gyproc panels
- glass fibreglass embedded mortar
- 2mm waxed concrete ('cire')
- prefabricated wooden frame with windowframe attached to it
- weather resistant coverage
- silicone weather sealant
- closed cell polyethylene backer material
- structural silicone sealant
- polyisobutylene primary seal
- double side adhesive foam tape
- silicone secondary seal
- spacer
- 5/15/4 double glazing
- sealant
- silicone gasket
- windowframe
- silicone gasket
- coverage
- 2mm waxed concrete ('cire')
- glass fibre netting embedded mortar
- Sto-Verotec 12mm
- 30mm cavity / Sto-Ventec system
- 50mm insulation glued behind
- 40mm insulation behind timber stud
- PCM ventilation unit - PCM
- PCM ventilation unit - continuous fresh air inlet
- PCM ventilation unit - grate
- wooden panel with grate for ventilation
- prefabricated wooden frame with windowframe attached to it, ventilation inlet included
CHINA 2030
URBAN POPULATION WILL DOUBLE TO ONE BILLION
70% WILL BE IMMIGRANTS
LOSS OF ARABLE LAND WILL GO BELOW GOVERNMENTS MINIMUM OF 120MLN HA
7% TO 20% OF LANDSCAPE WILL BE LOST
3 BILLION CUBIC METERS OF WATER WILL BE SHORT
ENERGY DEMAND WILL TRIPLE
MEAT CONSUMPTION WILL DOUBLE
SOLID WASTE WILL INCREASE BY 150%
THE WALL 墙城
PREPARES CHINA FOR ITS URBAN BILLION
为中国的十万亿城市时刻准备着
LOCALISED FEEDER SYSTEM

GROWING CITY RELIES ON CAR USE

URBAN SPRAWL

DENSITY

EXISTING METRO SYSTEM

UNDERGROUND PARKING

CARBON CAPTURE

EXISTING METRO SYSTEM

GREEN HOUSES

INDUSTRY

DWELLINGS

INDUSTRY

DWELLINGS

GREEN HOUSES

A

B

C

D

E

F

G
Source: http://www.klimaatinfo.nl/china/chengdu.htm
ENGLISH STORAGE

source: Trax Technik
20°C

ENERGY STORAGE

25°C

(source: Trox Technik)
Continuous natural ventilation inlet (PCM)

Hybrid ventilation system

Possible natural ventilation inlet (opening window)