



# French Development Agency

## Financing Low Carbon cities in Asia

**Seminar on Low Carbon Initiatives of Cities for CHG  
mitigation and Adaptation to Climate change**

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- **Who is AFD ?**
- **AFD strategy :**
  - Promoting low carbon urban development
  - Financing development of sustainable cities
- **AFD tools and activities in supporting low carbon cities: a few examples**

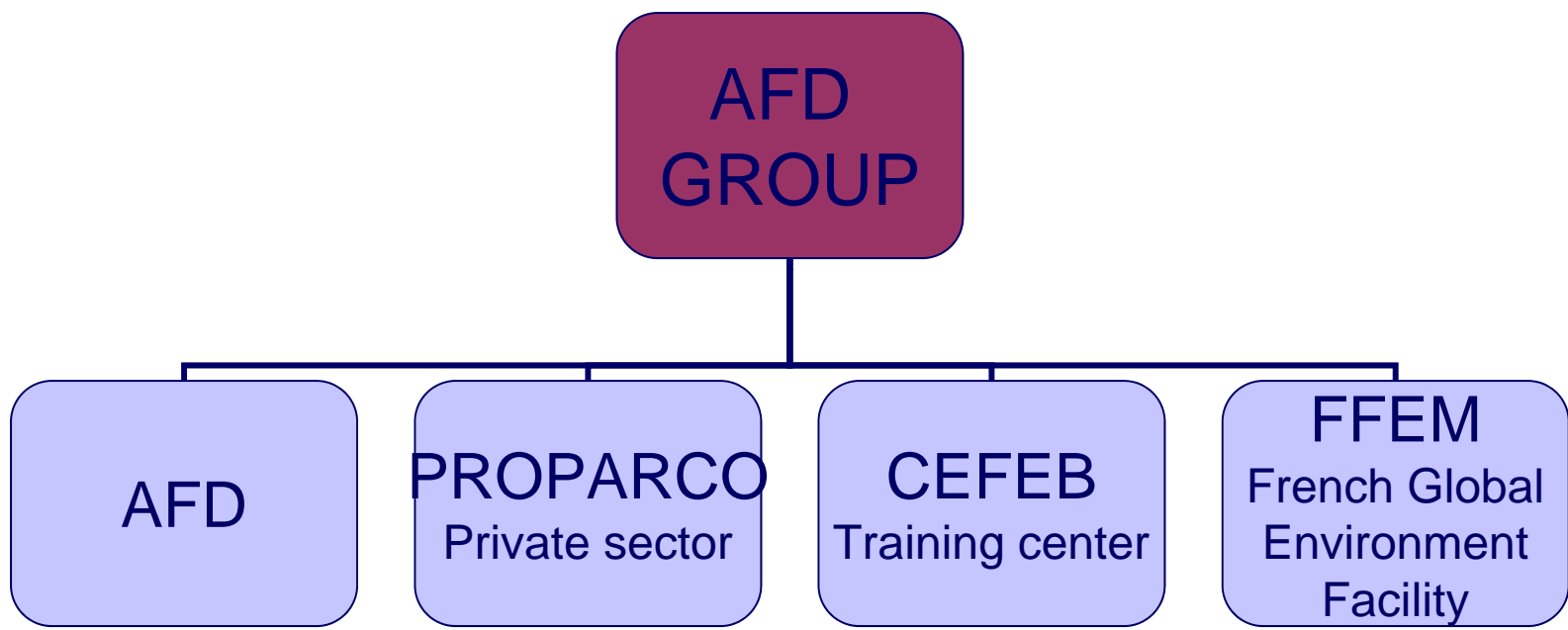
# AFD, the French Development Agency



## French ODA Agency

- AFD is the Groupe Agence Française de Développement, a bi-lateral development finance institution established in 1941
- AFD mission is to finance development according to France's Overseas Development Assistance policies
- AFD is 100% State-owned and works on behalf of the French government

# AFD, the French Development Agency



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## Present in 60+ countries

- AFD's activities are aimed at reducing poverty and inequalities (Millennium Development Goals), promoting sustainable economic growth (green and socially inclusive), and protecting “Global Public Goods” of benefit to all humanity.
- Protecting Global Public Goods includes
  - the fight against climate change and pandemics;
  - the preservation of biodiversity;
  - the promotion of social and environmental responsibility;
  - as well as aid to countries weakened by strife, war and natural disasters.

# AFD, the French Development Agency



## EUR 7 billion annual commitments in 2010

- Asia region = average of 20-25% of commitments
- Infrastructure & urban development = 25% of yearly commitments

## Wide range of financing tools

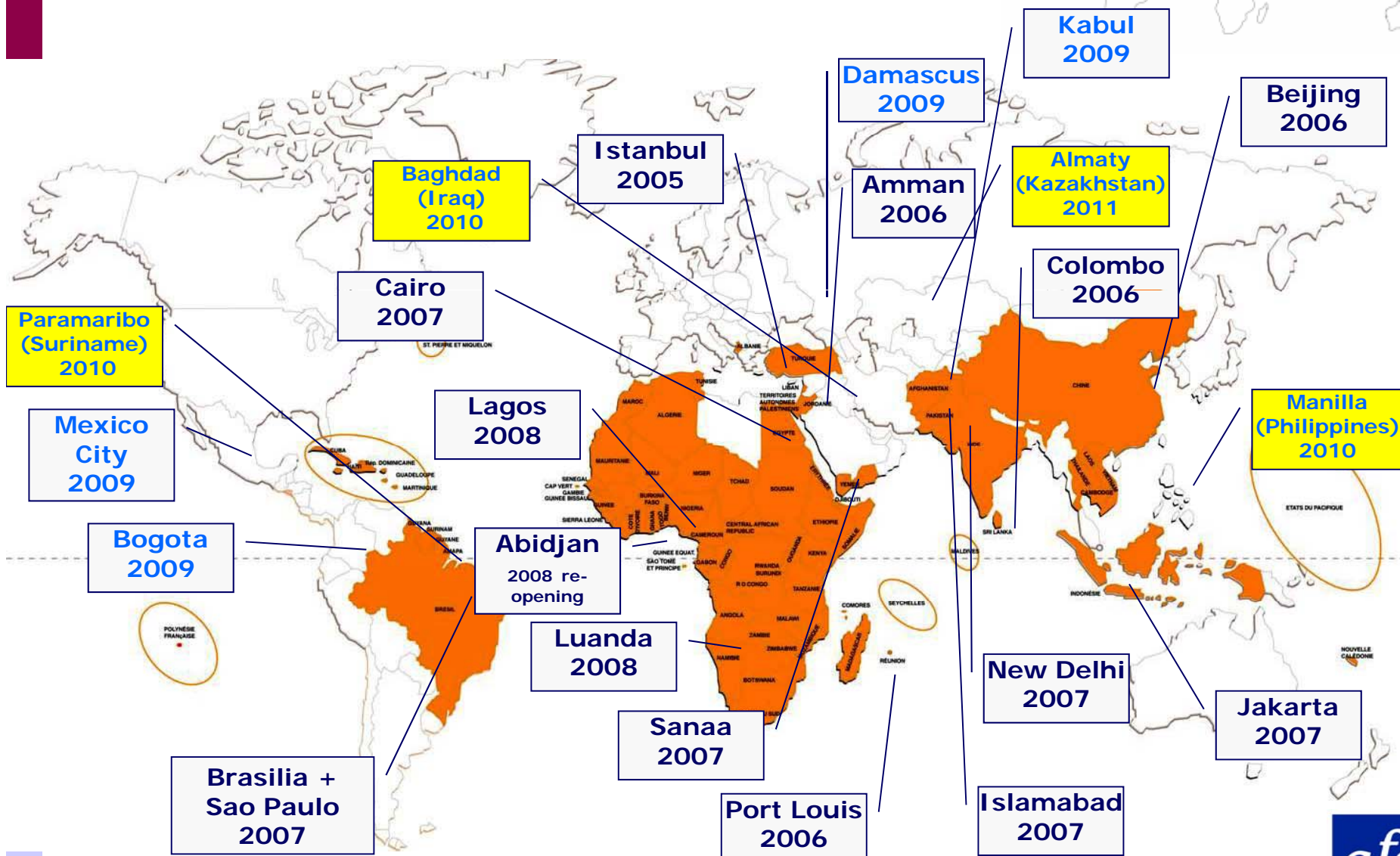
- Grants (projects, study funds)
- Sovereign loans (from concessional to market conditions)
- Non sovereign loans (concessional or market conditions)
- Private sector loans (market conditions)
- Partial risk guarantees, loan guarantees, Guarantees on loans in local currency
- Equity financing

## Untied aid

## AFD works hand-in-hand with many partners:

- national, regional and local governments;
- local authorities and municipalities;
- international agencies;
- non-governmental organizations; foundations;
- private companies; entrepreneurs;
- and local banks, microfinance institutions and capital markets...

# AFD's field office expansion



# AFD has 20 years experience in financing LGs directly



- In French Overseas Territories, AFD provides direct loans to LG since 1990
  - About 250 public borrowers in a portfolio of 2 billion euros
  - Municipalities and municipally controlled entities (transport, water, wastewater, electricity...)
  - "Régions", "départements" and territoires (sort of provinces)
  - Hospitals, public and semi-public companies (housing, airports, harbours...)
  - Yearly commitments: about 150 loans, 250 million euros
- Since 2004, AFD provides direct loans to LGs in emerging and developing countries
- AFD also provides intermediate financing to LGs through local banks, local funds or institution or through sovereign financing
- AFD has a dedicated department for LGs and Urban development with 20 experts (local finance, urban planning, institutional framework)



## Supporting low carbon cities (or "C-lean Urban Development")



- Promoting low carbon urban development
- Financing development of sustainable cities

## Municipalities can play a key role in Energy & CO2 savings



- As **direct energy consumers** with high potential for energy savings (street lighting, public buildings, municipal transport fleets, schools, hospitals... )
- As **urban planner**, with strong energy issues on supply and demand sides (land uses, building codes, transport, urban wastes ...)
- As **owner of urban infrastructures** (local electricity grid, waste treatment units, public transport ...)

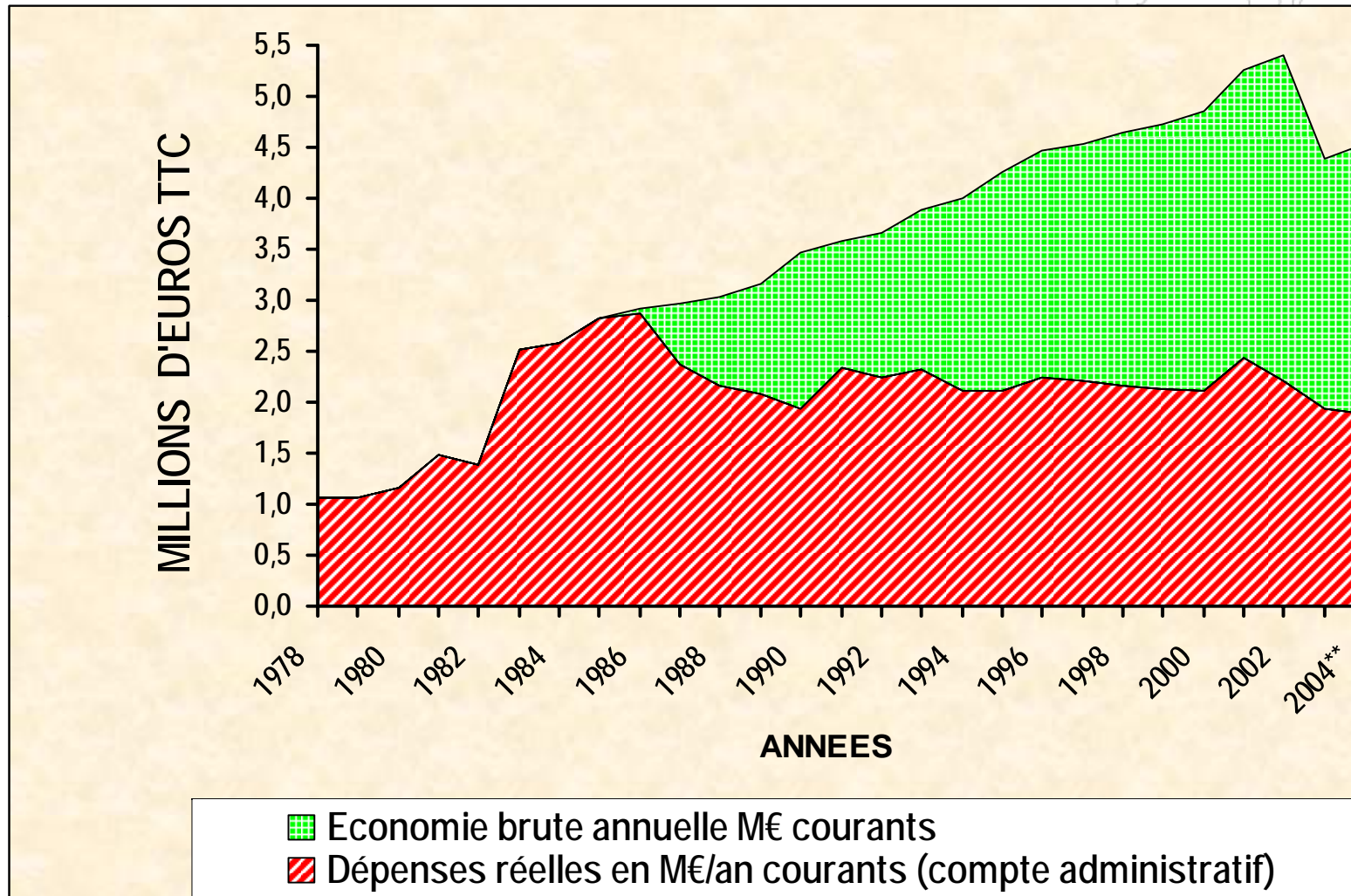
# Integrate Energy Management in the urban organization



**Energy Unit** to coordinate actions on demand and supply sides

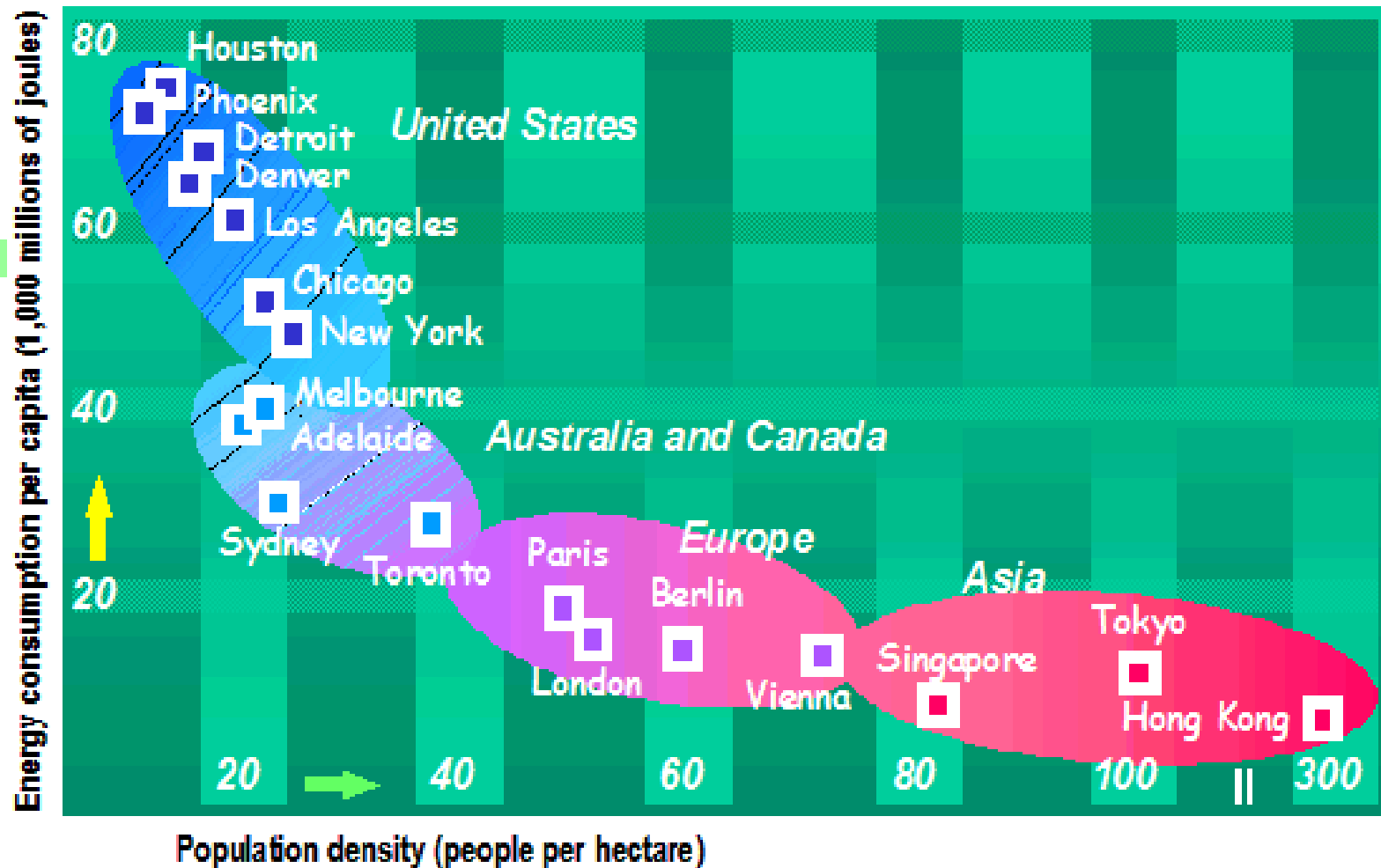
- Acting on the main energy consuming sectors
  - Buildings (Residential and Commercial)
  - Urban Transport
  - Urban Wastes
  
- Changing the urban energy supply
  - Local power production (cogeneration, waste to energy) and energy (solar water heating; heating or cold networks...)
  - C-lean fuel (mixing biofuel...)

## Savings on energy expenses (Montpellier Case)



# Need of adequate urban planning

## Energy consumption / urban densities



# Energy efficient Buildings (residential and commercial)



High potentials for energy savings in buildings (30 to 40 % )  
... but with constraints : inadequate organization and financial mechanism, large number of stakeholders, new types of investment)

- On new buildings, implementation of “Energy Efficient programs” , mobilizing various stakeholders (estate developers, architects, engineers, construction companies)
- On existing buildings, launching of massive rehabilitation programs to upgrade the energy performance of existing buildings, on an economical bases
- Enhancement of energy regulation on buildings
- Demand side management (DSM) schemes (Solar water heaters, high energy efficiency appliances, smart meters...)

# Local, efficient and renewable Power Supply



Facing electricity and fuel increasing demand, power shortage situation and energy rising costs

## Electricity

- Promotion of local power generation to optimise energy supply (Solar water heaters, biogas from urban wastes, cogeneration... )
- Demand side management to scale up energy efficient end-uses (EE devices, specific tariffs, change in behaviours, smart meters..)

## Fuel

- Focus on traditional domestic fuels (biomass especially), due to their importance in urban developing economies.
- Local Biofuel, for 3 to 10% oil substitution, if favourable conditions

# Urban C-lean Transport



Urban transports energy consumption increases drastically, with local air pollution and global CO2 emissions, in addition to congestion problems.

- EE focus on urban transport planification
- Priority on public transportation, encourage the modal switch from private car to public transportation
- Strong regulation of individual car increase (through parking policies for instance...)
- Specific developments of “soft modes” schemes (two-wheels and pedestrians transportation)



# A global approach through an Energy climate change action plan



## Multisectorial approach

Energy and CO2 emission diagnosis / Analysis of urban strategy

Launching of an energy and CO2 savings action plan



## Multi-Sector action plan and investment

Urban planning

Buildings

Energy

Transport

Waste

Water&Sewage

# Sustainable urban development: six keys entries

- **URBAN PLANNING**

Master plan taking sustainable development into account: Durban's urban edge

- **URBAN MORPHOLOGY**

Urban Shape

Urban network and compactness: sizes of streets, heights of buildings, etc.

- **URBAN DEVELOPMENT**

Environmental approach to urban development

Eco-friendly neighbourhoods

- **BUILDINGS**: energy efficiency
- **EQUIPMENTS**: heating, air conditioning
- **USERS' HABITS**



## Supporting cities sustainable urban development



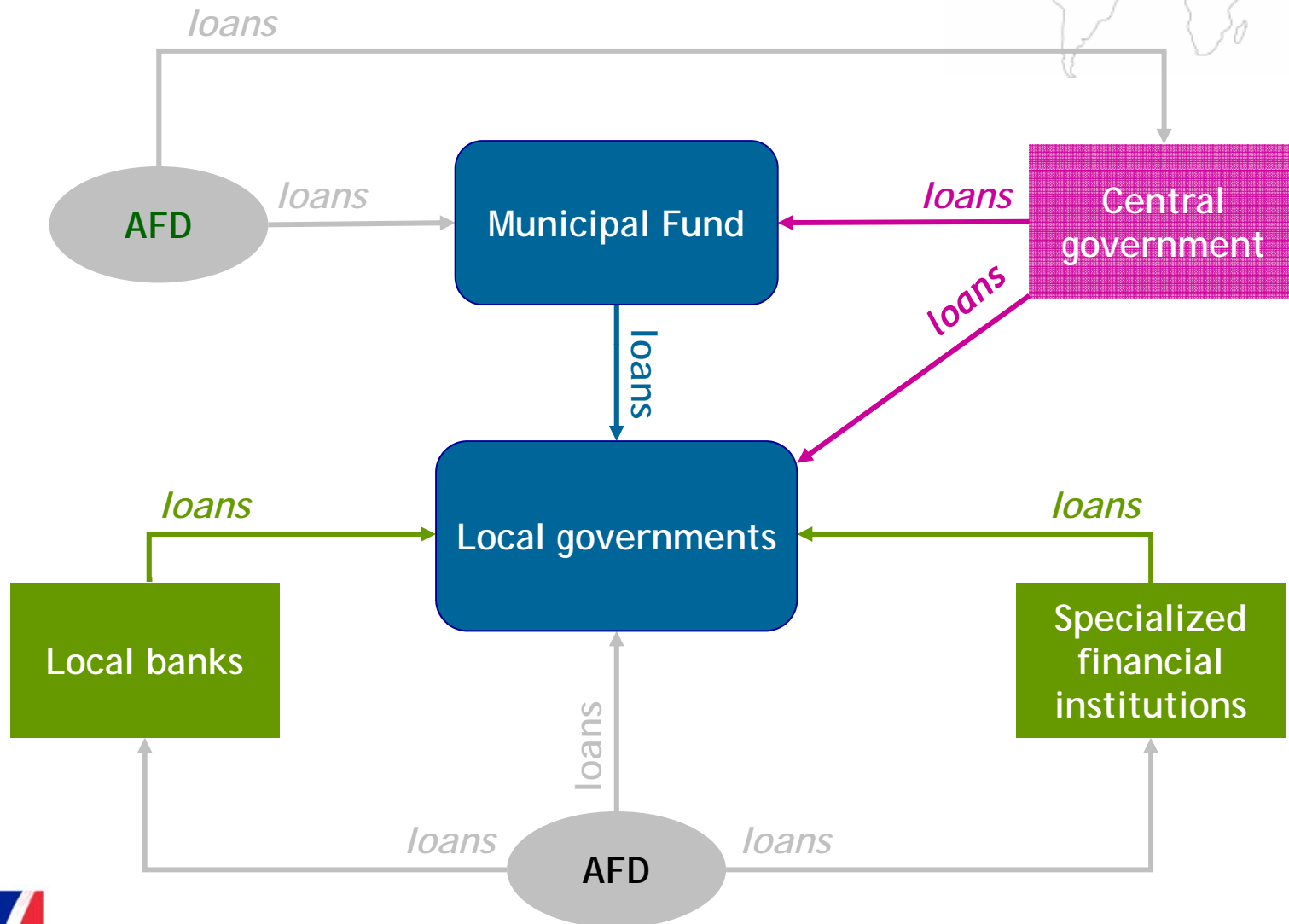
AFD support is dedicated to :

- Capacity building in urban planning and climate change strategy
- Strengthening impacts of green urban development programmes

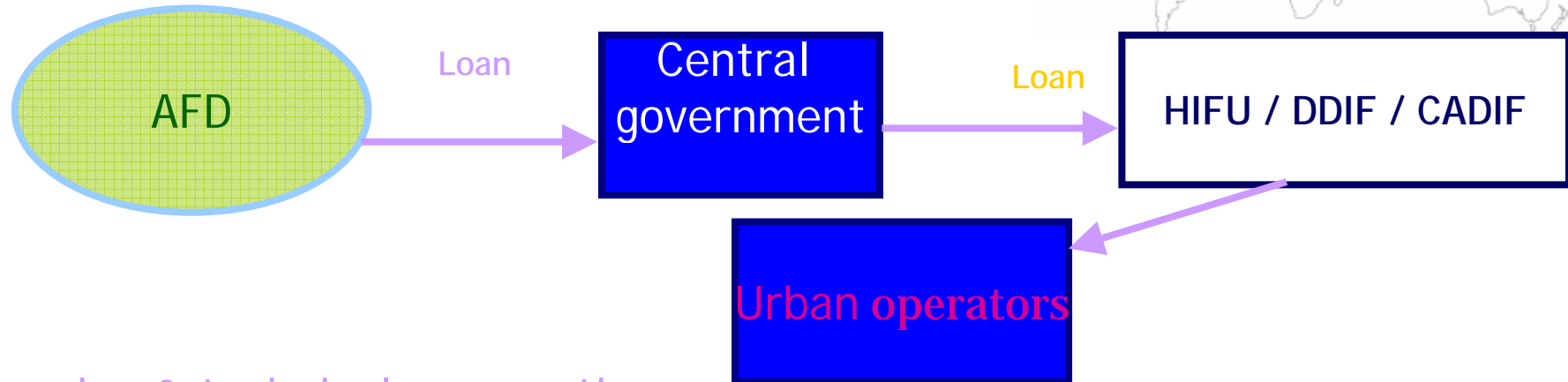
It combines :

- Financing of a green investment programme through loans
- Technical cooperation adapted to the city needs through mobilization of city to city cooperation, French technical expertise (EE, ER), exchange with French urban operators, etc.

# Funding mechanisms



Case1: Ho Chi Minh City (20 M€)  
Da Nang / Can Tho (20 M€)



Financing & technical cooperation

AFD loans to reinforce local financial tools and finance investments in the urban sector:

Financing through the cities urban investment funds: HIFU, DDIF and CADIF, city tools designed to leverage funds from private sector and DFIs

⇒ could be useful tools to attract international climate change funding

AFD provides technical cooperation to cities and investment funds to develop their financial and environmental capacities

## Case 2: Bangkok Global Warming action plan Under appraisal



### Context :

Bangkok city emissions : 42 MtCO<sub>2</sub> in 2007 (50% transport; 35% housing)

Global Warming Action Plan GWAP (2008) with 5 components:

- (i) urban transport (ii) renewable energies (iii) EE buildings
- (iv) waste management (v) green areas

### Objectives :

- AFD groups wants to support this initiative, through technical support
- Capacity building, development of operational tools to implement the strategic framework, or pilot projects
- Through a grant by the French GEF (FFEM - French Global Environment Facility)

# Case 3: eThekweni sustainable development strategy

## Context

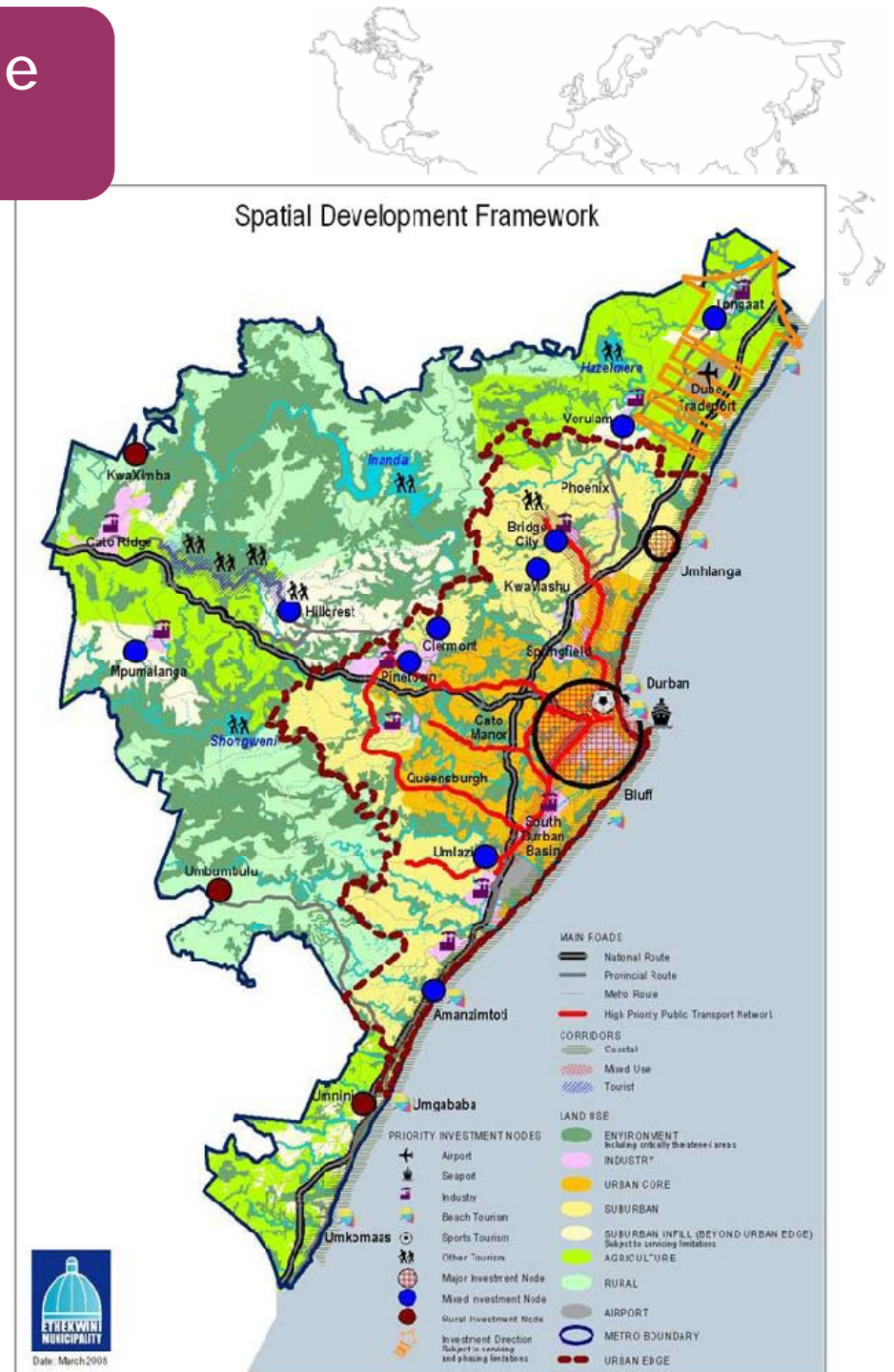
- 3rd largest city of South Africa (3.8 million inhabitants), port, industrial
- strong Sustainable Development Strategy launched 10 years ago

## Spatial Development Framework

One important principle : urban edge no urban services beyond the red line

## Main focus

- public transportation network (rail)
- Fighting against spatial segregation
- Regenerating the CBD, developing activity in the townships



## Case 3: eThekweni sustainable development strategy



The City's goal: implement a water-energy-climate program in order to limit the City's carbon footprint

Coordination: energy office / financial department

6 departments are involved: energy, environment, water, housing, finance, planning.

Intervention: loan + technical cooperation

- Direct loan to the City (100 M€ / 250 M€ investment) in local currency (Rand) to finance a sustainable investment program saving CO<sub>2</sub>
- capacity building program (energy efficiency, renewable energy, climate strategy) which will facilitate implementation of the investment program

### Impacts

- Reduction of CO<sub>2</sub> emission: +/- 250 000 teqCo<sub>2</sub> avoided
- Integration of previously disadvantaged population: water, housing
- Enforce energy efficiency policies



## Case 3: eThekweni sustainable development strategy



### Water component

Water supply based on gravity instead of on the current pumping system: reduction of energy consumption

#### Energy efficiency and renewable energy

- public buildings retrofitting: smart meters
- 10,000 solar water heaters on housing
- Minihydels
- biogas from waste and sewages, Waste to heat

#### Urban renovation and hostel rehabilitation

- Rental housing insufficiently integrated into the urban fabric
- City rehabilitation program: new buildings to de-densify, land tenure, individual meters for electricity and water, rehabilitation of old buildings
- Energy efficiency (heat pumps)

## Case 4: Energetic rehabilitation of public buildings in Wuhan, China



- Pilot project for energy rehabilitation of public buildings
- 20 M€ AFD loan
- Target: Prove the feasibility and build a methodology to implement the energy rehabilitation of buildings
- Project components:
  - 36 rehabilitation of public buildings
  - Technical assistance to the Municipality
- Stakes: Green business on existing assets with a strong impact on energy consumption and opportunities to upgrade the quality of the building (performing materials, components, systems...)

