



FCAA

2<sup>nd</sup>  
Conference

Rabat,  
december  
8,  
2011

## FCAA : 2<sup>nd</sup> CONFERENCE

### « TOWARD SUSTAINABLE PROFESSIONAL DEVELOPMENT OF AFRICAN AND ARAB CONSULTANTS »

Plenary session 2 : “*Sustainable development : challenges and  
opportunities*”

## FMCI COMMITMENT FOR SUSTAINABLE DEVELOPMENT



**Nabil BENAZZOUZ**

**General Secretary of FMCI and Coordinator of ESD Commission**

**FMCI :**

**More than 200 Engineering and consulting firms,**

**8 Regional Associations ,**

**4 Sectoral Associations,**

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## FMCI :

More than **75 %** working in **building, Urban Roads and Utilities,**

Field	Nombre	%
<b>BUILDING</b>	<b>150</b>	<b>78 %</b>
<b>URU</b>	<b>142</b>	<b>74 %</b>
URBAN HYDROLIC	64	33 %
TRANSPORT - ROADS - HIGHWAYS	45	23 %
BRIDGES, TUNNELS, ...	52	27 %
DAMS	23	12 %
HARBOR / MARITIM AND RIVER STUDIES	26	13 %
AGRICULTURAL STUDIES	20	10 %
INDUSTRY & ENERGY	40	21 %
NICT	14	7 %
GEOTECHNIC	32	17 %
<b>GENERAL STUDIES</b>	<b>101</b>	<b>52 %</b>
TRAINING HR	38	20 %
<b>QUALITY MANAGEMENT</b>	<b>21</b>	<b>11 %</b>

More than the half are working on **general studies, consulting and integrated quality management,**

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**IMPACT  
STUDIES**

**WASTE  
MANAGEMENT**

**GREEN  
ENGINEERING**

**ENVIRONMEN  
TAL  
ECONOMICS**

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**INTEGRATED  
STUDIES AND  
SUPPORT**



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## IMPACT STUDIES

- Residential development and tourism;
- Transport: road, highway, railway, tramway, ...
- Industry: food, textile, leather, cement, steel, mining ...
- Water projects;
- Hydro-agricultural;
- Infrastructure and water supply sewerage and solid;

...

WASTE  
MANAGEMENT

ENVIRONMEN  
TAL  
ECONOMICS

INTEGRATED  
STUDIES AND  
SUPPORT

## WASTE MANAGEMENT

■ Study of waste including liquid radioactive waste :

- Master plan for sanitation strong city;
- Study creation of landfill;
- Diagnosis and rehabilitation of existing landfills;

■ Study of recovery of waste.

IMPACT  
STUDIES

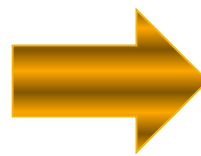
ENVIRONMEN  
TAL  
ECONOMICS

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## Waste Management:

### Some examples :

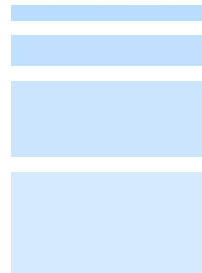


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## IMPACT STUDIES

- Integrated studies on environmental protection processes;

- \***Bouregreg Valley 2002 in Rabat,**
- \***”Green Mine” 600 ha 100 000 inhabitants,**

## WASTE MANAGEMENT

- implementation of environmental projects: landfills, treatment plants, ...

## ENVIRONMEN TAL ECONOMICS

- Upgrading practices with national and international standards: ISO14001

- Development and monitoring of Green Site Plan GSP and EPP.

## INTEGRATED STUDIES AND SUPPORT



## Integrated Studies and Support:

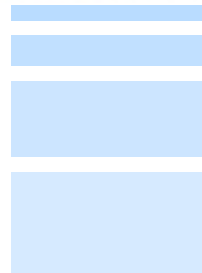
**Some examples :**



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10

## IMPACT STUDIES

- Audit of energy facilities in government buildings, tourism, hospitality,  
**Low-energy building, park Jorf Lasfar**

## WASTE MANAGEMENT

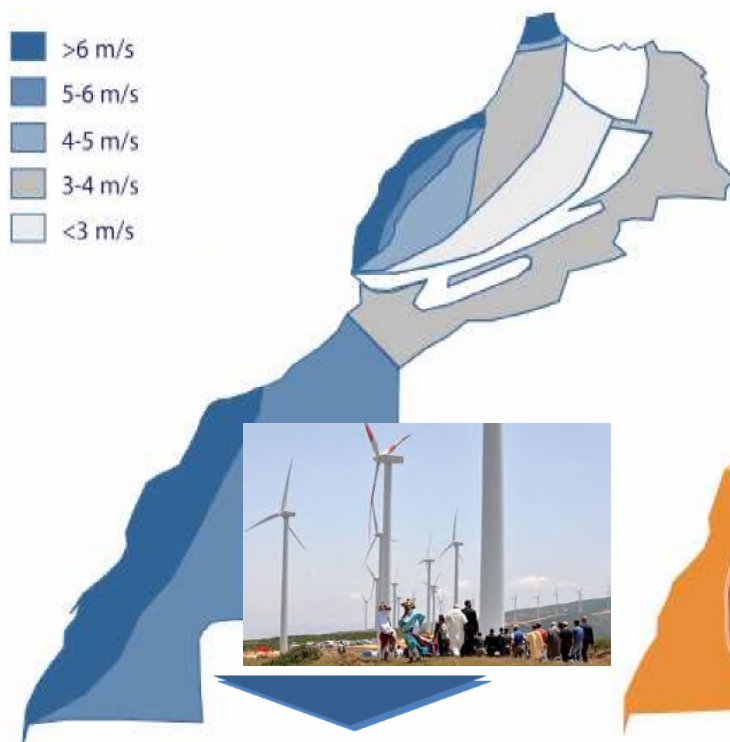
- Technical expertise to use renewable energy: solar, wind, ...  
**Large photovoltaic plant (15MW)  
Foum El Hisn Tata Region**

## ENVIRONMEN TAL ECONOMY

## INTEGRATED STUDIES AND SUPPORT

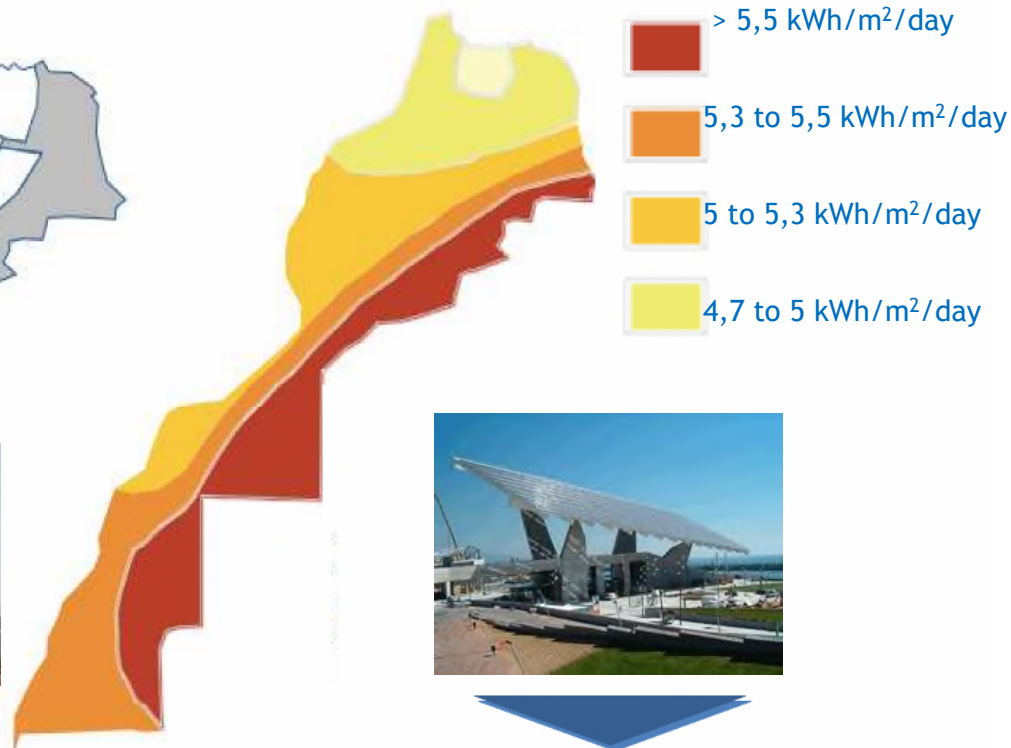
# AN IMPORTANT POTENTIAL OF RENEWABLE ENERGIES

## Wind Potential



• 25,000 MW including 6000 MW already identified wind speed at 40 m height :  
9,5 to 10 m/s Essaouira, Tanger et Tétouan

## Solar Potential



Considerable Potential of more than 3000 h/year, an irradiation of 5kWh/m<sup>2</sup>/day potential especially important in underserved areas in electricity generation capacity

# Lakhyayta

New Town at 20 km at the south of Casablanca



- 1200 ha
- 40 000 housing for 200.000 inhabitants
- A project of nearly 35 billion DH

**Profile defined in 2010/2011 :**

➤ **Master plan covering energy efficiency :**

- By optimizing building envelope (insulation, shading, building orientation, automatic lighting for commercial, ...);
- Transport by reducing the need for car use, through the use of the bicycle, using public transport ....
- Lighting by using energy efficient equipment, the use of light controllers, by optimizing the design ....

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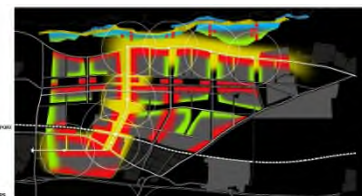
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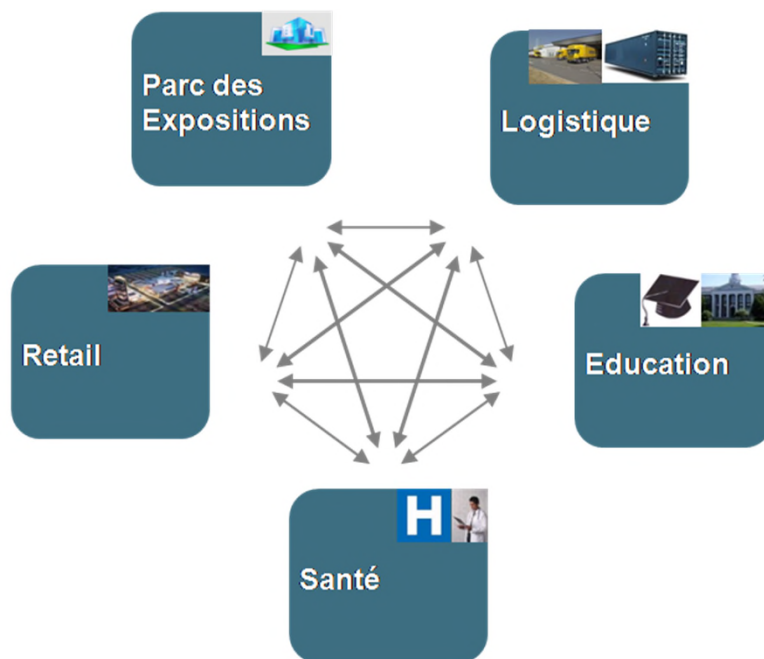


# ZENATA

A new Town between Mohammedia and Casablanca



- Hub in the existing and future networks of Casablanca.
- One pole device **polyfunctional high-value**, creative flow.
- Social/Economic Rebalancing
- Functional integration within the metropolitan area of Casablanca.



*extensive consultation which  
has been associated with all  
providers of urban  
management and local  
technical services*

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# Approach to develop

- Concerted and progressive iterative process
- Approach clearly displayed profile of strengths and the socio - economic and environmental : energy conservation, water conservation, waste recovery, comfort, volume, ...
- Commitment to the approach from the technical pre-feasibility phase, socio economic and financial development of a new city.

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## Prerequisites ...

- Quantification of the environmental load, Environmental Data;
- Promotion and development of specialized laboratories;
- Taking into account the socio cultural
- Participatory approach with all stakeholders and in all phases of the project.

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## Engineering Challenges :

- How to support projects more and more integrated and complex;
- How to Adapt to local needs: proximity, local materials and processes, heritage preservation, ..
- How to Develop skills, specialize and innovate into real competitive advantages.
- How to be part of a comprehensive approach to sustainable development.



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# FMCI COMMITMENT for a responsible engineering on ESD

March 9, 2010:

## ENGAGEMENT DE LA FMCI POUR UNE INGENIERIE RESPONSABLE

■ Considérant l'engagement des Pouvoirs Publics à placer les impératifs de développement durable au cœur de la politique de développement du Royaume,  
■ Considérant le rôle transversal et pluridisciplinaire des métiers de l'ingénierie dans la conduite de tout projet de développement,  
■ Considérant la volonté des professionnels de l'ingénierie nationale de s'inscrire dans ce processus de développement durable,  
La FMCI (Fédération Marocaine du Conseil et de l'Ingénierie), regroupant 200 sociétés d'ingénierie marocaines et porte parole de la profession auprès des Pouvoirs Publics, prend les engagements suivants :

1. Promouvoir les principes de la charte auprès de ses adhérents pour une prise en compte appropriée dans l'exercice de la profession,
2. Inciter ses membres à intégrer les principes du développement durable aussi bien dans la phase de conception que dans les phases de réalisation et d'exploitation de tout projet de développement, en privilégiant les solutions qui garantissent :
  - la préservation des ressources naturelles : biodiversité, ressources en eau, énergie,...
  - la sauvegarde et la valorisation du patrimoine culturel : monuments historiques, sites archéologiques,...
3. Assurer un encadrement à même d'imprégner une culture de développement durable à tous les intervenants de l'ingénierie,
4. Répertoire les compétences de l'ingénierie nationale opérant dans le domaine de l'environnement et du développement durable,
5. Contribuer au renforcement des capacités de l'ingénierie marocaine en matière d'environnement et de développement durable :
  - en organisant des sessions de formation continue au profit de ses adhérents,
  - en contribuant à la formation des ingénieurs dans les écoles et instituts marocains et à la mise en place de filières spécialisées en développement durable.

6. Sensibiliser et accompagner les maîtres d'ouvrage dans la mise en harmonie des termes de références des études d'ingénierie de leurs projets avec les principes de la charte,
7. Inciter les maîtres d'ouvrages à privilégier l'approche basée sur le coût global du projet comprenant aussi bien les coûts d'investissement que les coûts d'exploitation sur toute la durée de vie du projet ainsi que les coûts de démantèlement,
8. Recommander aux maîtres d'ouvrage de conduire les études d'impact dès les phases amont de conception de tout projet et intégrer les clauses environnementales dans les clauses régissant les marchés de travaux,
9. Contribuer à l'élaboration de référentiels marocains de certification environnementale : bâtiments, quartiers, villes,...
10. Participer à l'élaboration du projet de procédure d'évaluation environnementale stratégique (EES),
11. Promouvoir l'utilisation des matériaux locaux et les procédés de fabrication et de construction, à faible charge environnementale,
12. Contribuer aux programmes de recherche et d'innovation en matière de développement durable,
13. Mettre en place un prix annuel primant le meilleur projet d'ingénierie environnementale,
14. Assurer un suivi de l'application de cet engagement et en faire une évaluation à l'occasion de chaque journée annuelle de l'ingénierie.

### SIGNATAIRES

<b>Moncef ZIANI</b> Président de la FMCI	<b>Mohamed Yousfi CHARIF</b> Président de L'ARCI Rabat	<b>Yassir BERRADA</b> Président de l'AMCI Centre
<b>Mohamed HERDAM</b> Président de l'ARCI Tensift	<b>Aziz YAACOUBI</b> Président de l'ARCI- Taïralet	<b>Abdelali AZHAGUE</b> Président de l'AMCI Sud

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# FMCI COMMITMENT for a responsible engineering on ESD

March 9, 2010:



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**To accomplish this and evaluate the implementation:**



- Establishment of a commission among the officers.
- Initiation of an action plan divided into five homogeneous groups.
- Validation of the action plan to members.
- Implementation and monitoring.
- Evaluation

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## Groups of Actions

■ **G 1** : Internal Awareness-raising :

[items 1. 2. 3].

■ **G 2** : Capacity Building :

[items 4.5]

■ **G 3** : Actions toward owners and principals :

[items 6.7.8]

■ **G 4** : Promotions of environmental engineering and sustainable development :

[items 11. 12. 13.]

■ **G 5** : Contribution in developing repositories and standards :

[items 9.10]

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**G 1**

**G 2**

**G 3**

**G 4**

**G 5**

## **G 1** Internal Awareness-raising :

- Updating the code of ethics of the FMCI.
- Developing a good practice guide.
- Organization of conferences and discussions continuous updating of the Action Plan.

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**G 1**

**G 2**

**G 3**

**G 4**

**G 5**

## **G 1** Internal Awareness-raising :



Topic:

**«Sustainable  
Development issues in  
the practice of  
Engineering»**

**june 2011**



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G1

G 2

G 3

G 4

G 5

## G 2 Capacity Building :

- Identify the skills and update them.
- Identify needs additional training in ESD.
- Organizing training sessions accordingly.
- Assessing the impact of training provided.

### Partners :

**ADEERE, PNUD, GIZ, PAAP, ...**

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G1

G 2

G 3

G 4

G 5

**G 2** Capacity Building : :

Agreement

**FMCI / ADEERE**

Juin 14, 2011



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2011



G 1

G 2

G 3

G 4

G 5

## G 3 Actions toward owners and principals :

- Communication and awareness around the topic

- Appointment of a Joint Working Group for the Harmonization of TOR.

## Partners :

**S3E, ADEERE, DAT , DTH, DGCL, TGR....**

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G 1

G 2

G 3

G 4

G 5

## **G 4** Promotions of environmental engineering and sustainable development :

- Development of a "Vade Mecum – ESD" or comprehensive management tool attached to a development, structure or equipment throughout its life;
- Promotion of local materials and processes with low energy charge;
- Development of framework agreements with schools and universities on the topics of S & D and innovation in SD;
- Organization of an annual award for sustainable development.

### **Partners :**

**Schools, Universities, Laboratories, ADEERE, S3E, MET, MHUAE, FMC**

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## G 4 Promotions of environmental engineering and sustainable development :



Field	Theme
Governance	Steering
	involvement of stakeholders
	Transparency
Social / Societal	Health/Security
	Social Cohesion
	Living
	Cultural Diversity
Environment	Biodiversity
	Climate Change
	Ressources Management
	Release Control
Economy	Economic Justification
	Economic Development
	Total Cost

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G 1

G 2

G 3

G 4

G 5

## G 5 Contribution in developing repositories and standards :

- Development of a repository Moroccan environmental certification and labeling appropriate (HQE, LEED, BREEAM, ...);

- Participation in the development of standards and technical guidance on sustainable development(RPS généralized, RTB,.. )

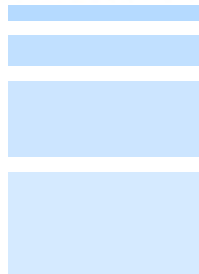
## Partners :

**COMAC, IMANOR, Universités, S3E, ADEERE, MET, FMC,....**

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Thank you For your attention

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