



Achievement of the Moroccan Nuclear Research Centre

14 Universities :
10000 professors and researchers
350.000 students
17500 students : Master & Doctorat
- 3000 students in Sciences
600 Doctorat



**Maamora Nuclear Center
25 km in the north of Rabat**

**Abdeslam Hoummada
University of Casablanca**

&

**Taïb MARFAK
Head of Communication
CNESTEN**



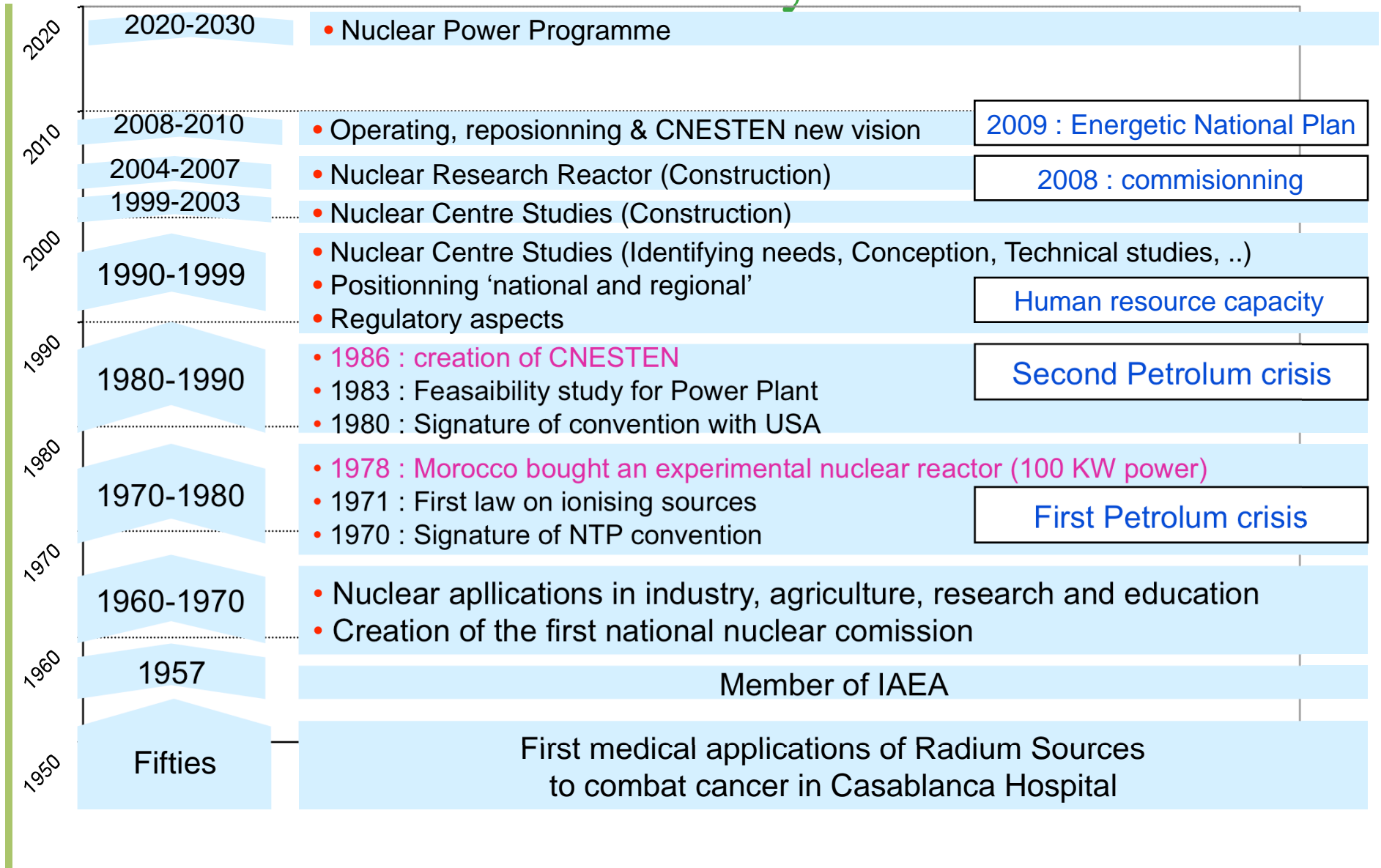
General Informations

- Population : 32 millions habitants (Growth rate 2,06 %)
- Surface : 710 850 km²
- GDP : 2 650 US \$/habitant (Growth rate 2,06 %)
- Agriculture : 17 % of GNP
- Industry : 23 % of GNP
- Services : 35 %
- Energy & Mines : 7 %
- Energy Consumption : 0,5 ETP/habitant
- Electrical Consumption : 24 000 GWh (in 2008)



History

Le nucléaire au service du développement





CENM : realization phases

■ CENM Project :

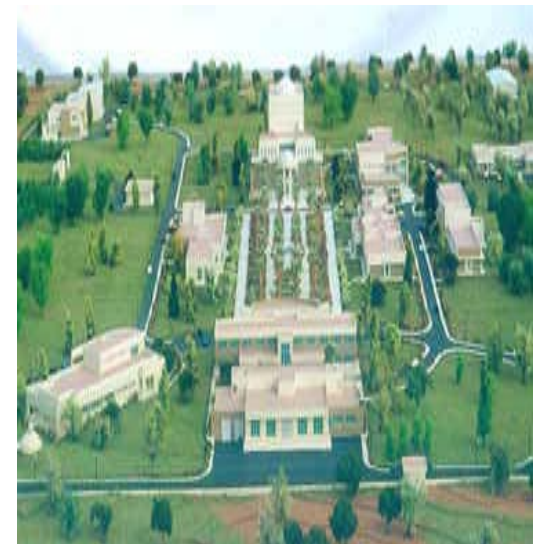
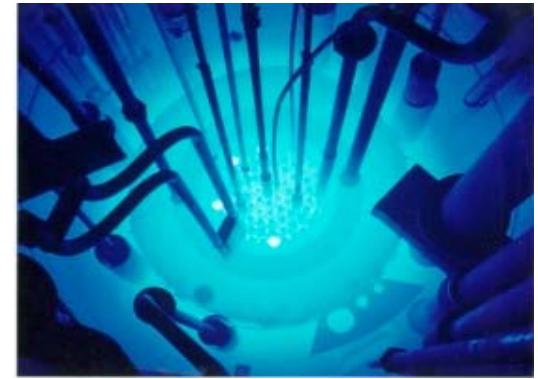
- Reactor part (realized with General Atomics/USA)
- Non reactor part (realized with AREVA TA/ France)

1997-1999 : Technical studies

1999-2002 : Construction of Non reactor part

2004-2006 : Construction of the reactor part

since 2008 : commissioning aspects





CNESTEN Missions and Services

- Nuclear applications (Health, water, industry, environment, ...)
- Training and consulting
- Research and Research & Development
- Expertise services
- **Radioanalyses**
- **Isotope production process development**
- **Radiation and reactor theory calculations**
- **Non-destructive testing**
- **Process control systems**
- **Radioactive waste management**
- **Nuclear safeguards**



Reactor

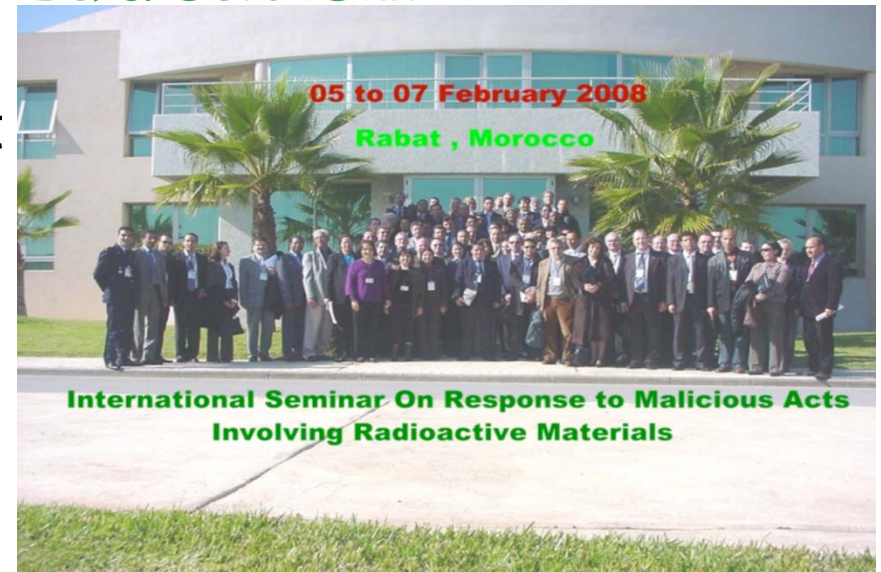
- Radio-isotope Production
- Neutron Activation Analyses
- Neutron radiography
- Material Sciences
- Training





Training & Education

- Radioactive waste management
- Radiation protection
- Non Destructive Testing
- Nuclear analysis
- IAEA regional centre for training : 30 scientists from africa





Human Resources

■ Doctors and Engineers	100
■ Technicians	90
■ Administrative & Support	60
TOTAL	250

RUPHE : Réseau Universitaire de Physique des Hautes Energies
- 4 Universités et le CNESTEN
- 20 Teachers
- 20 Students



International cooperation

- Academie HASSAN II des Sciences et Techniques (Fellowships)
- IN2P3 GDR becoming soon LIA (RUPHE – IN2P3 - Sweden)
- CERN
- ATLAS experiment (2000 senior physicists and 1000 Ph.D Students)
- ICTP – Training Schools and Tutorials
- SESAME
- International Master In High Energy Physics and Computing

Thank you for your attention