



# The International Framework for Nuclear Energy Cooperation

## Key findings from IFNEC London and Abu Dhabi Workshops

*IFNEC Steering Group Meeting  
and Finance Panel  
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# Overview

- **IFNEC London Finance Workshop**
- **Key findings from IFNEC London Finance Workshop**
- **IFNEC Finance, Regulatory, Energy Planning Authority Abu Dhabi Workshop**
- **Key Findings from IFNEC Finance, Regulatory, Energy Planning Authority Abu Dhabi Workshop**
- **Topics for the Panel Discussion**



# IFNEC London Finance Workshop 2012

- Hosted by the Department of Energy and Climate Change (DECC), at the Lancaster House in London, England, on 9-10 May, 2012.
- Attended by 130 Delegates from IFNEC countries





# IFNEC London Finance Workshop 2012

**Objective: Focus on key challenges countries face in financing nuclear power projects**

*High capital cost*

*Construction risk*

*Longer construction duration*

*High IDC*

*Deregulated electricity market*

*Longer payback period*

*LT electricity pricing arrangements*

*Carbon pricing*

*Others.....*

*Decommissioning*

**Impact on the financial viability of NPP**





# IFNEC London Finance Workshop 2012

## Structure of the workshop

### Hypothetical Scenario for the proposed NPP



### Interactive Moderated Scenario Sessions

*Expert Panel Discussed Financing issues related to an:*

- **Scenario 1: Expanding NPP program**
- **Scenario 2: Emerging NPP program**



### Breakout Group

- Role of Government Funding for Infrastructure versus Financing of Nuclear Project
- Technology Choices and Risk
- Role of Regulation (nuclear liability, safety, market, environmental, non-proliferation) in Supporting the Civil Nuclear Industry
- Partnerships to Support Nuclear Development
- Energy Market Considerations
- Importance of a Fuel Back-End Plan



# IFNEC London Finance Workshop 2012

## Key Findings from Workshop

### Importance of an Effective, Independent Regulatory Body

An effective, independent regulatory body that is open and transparent is extremely important to the financial community when determining whether or not to lend, the rate at which the lending would be provided, the readiness of investors to invest and risk premiums.

The regulator increases assurance that the project can be confidently developed in compliance with all safety-based requirements and with effective independent oversight that is directly responsible to the public.

### Essential Role of Government Commitment and Support

The depth of commitment and host country support is the starting point for project evaluation by the financial community.

Commitment of the host country will be evident in the rationale as to why a nuclear project is being proposed rather than other available energy options.

Without visible and consistent backing of the host government, it is unlikely that the interest and confidence needed in the project from the investor and financial community will develop.

Long-term government support backing its commitment is essential for any project to go forward as planned.

### Need for a Sound Business/Project Plan

There is a need for a clear overall business plan that underpins and helps bound the project.

The ability to finance a NPP will depend to a large extent on the quality of the project plan that has been developed.

The scope and content of the plan will demonstrate the extent to which critical issues have been identified and are being managed.

Broad stakeholder involvement early in the planning process is crucial to project success.



# Finance, Regulatory, Energy Planning Authority Workshop, Abu Dhabi 2013

- Hosted by Regulation and Supervision Bureau, Abu Dhabi, UAE at Etihad Towers on 22 October 2013
- Attended by 90 Delegates from 25 countries





# Finance, Regulatory, Energy Planning Authority Workshop, Abu Dhabi 2013

## Objectives of Scenario Discussion

### Focus 1

How important is the independence of the regulator to attract financing and investment?

Nuclear regulator



TRANSPARENCY

effective  
measure

Electricity market  
regulator

Competence

# INDEPENDENT

Maturity of the  
regulator



### Focus 2

How important are long term electricity contractual agreements to the financing of a nuclear power project?



CFDs

Other LT electricity  
price arrangements





# Finance, Regulatory, Energy Planning Authority Workshop, Abu Dhabi 2013 Structure of the Workshop

**Hypothetical  
Scenario for the  
proposed NPP**



**Interactive  
Moderated  
Scenario Session**

*Expert Panel  
Discussed “Financing  
Issues Associated  
with the Development  
of an Embarking  
Nuclear Power  
Program”*

**Breakout Group**

- Energy Security
- International conventions and agreements
- Regulatory independence
- Long term electricity contractual agreements
- Export Credit Agencies and Banks issues



# Finance, Regulatory, Energy Planning Authority Workshop, Abu Dhabi 2013 Key Findings



## Interactive Moderated Scenario Discussion: Focus 1

- **Competence, independence and the overall capability of the safety regulator is an important source of risk that financial institutions and rating agencies evaluate**
- **Lenders evaluate the capability of a newly formed nuclear safety regulator by (a) The IAEA Integrated Nuclear Infrastructure Review (b) Interactions with other established safety regulators and peer groups can also provide important information**

## Interactive Moderated Scenario Discussion: Focus 2

- **Revenue stability is important and long term commitments can provide such stability in liberalized electricity markets**
- **Due to the nature of long term commitments, lenders can be expected to require some form of Sovereign guarantee**
- **Phased financing (refinancing) can further assist; the need for a Sovereign guarantee of some form is more pertinent to the construction phase**



# Finance, Regulatory, Energy Planning Authority Workshop, Abu Dhabi 2013 Key Findings

## Breakout Groups key findings:

- **Each country should have an energy policy and energy portfolio that makes best use of national resources – diversification is important**
- **Participation in international conventions is the preferred approach to support financing**
- **Regulated/guaranteed price for electricity alone is essential but not sufficient to finance an NPP**
- **An informed approach to risk allocation and a recognition of the policy choice inherent in new nuclear enables the long term financing of nuclear power projects**
- **The tangible long-term commitment of the host (and vendor) government is critical**
- **Policy change risk (in all its forms) should be assumed by the host government**
- **Government to Government agreements are also essential**



# **IFNEC Executive Committee Meeting October 24, 2013**

## **Abu Dhabi, UAE**

### **Suggestions for Way Forward**

**The following topics were identified that would benefit from further discussion.**

- **1. Ownership and Contractual Arrangements: Newcomer countries have a number of project ownership and contractual arrangements to consider, and each alternative has its own unique characteristics that pertain to risk allocation and financing**
- **2. Phased Financing: A creative but practical approach to financing of a nuclear power project was suggested that involves refinancing at the end of certain phases of a project at a time when risk factors change significantly -this idea needs to be further explored.**

**It is suggested that IFNEC consider seeking opportunities to develop a better understanding of these two topics.**



# Topics for the Finance Panel Discussion

Identification and discussion of various nuclear power project finance models

➤ **Ownership and Contractual Arrangements - risk allocation and financing arrangements**



➤ **Phased Financing:  
Refinancing at the end of certain phases of a project at a time when risk factors change significantly**



- **Government to Government** 
- **Sovereign support A** 
- **Sovereign support B** 
- **Vendor Financed** 
- **Investor Finance** 

