



INPRO Dialogue Forum on Global Nuclear Energy Sustainability:  
**Long-term Prospects for Nuclear Energy in the  
Post-Fukushima Era**

27-31 August 2012  
Seoul, Republic of Korea

**POWER DEVELOPMENT STRATEGY IN  
MEXICO**

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# 1. National vision and strategy for Nuclear Power in the 21<sup>st</sup> century in **MEXICO**



## Nuclear power programme in Mexico

- Laguna Verde Units 1, 2
- On the coast of the Gulf of Mexico
- GE BWR5, 1,365 MWe total
- In commercial operation since July 1990
- Recently updated to 810 MWe each (1,620 MW total)
- No firm plans for the construction of a new nuclear power plant

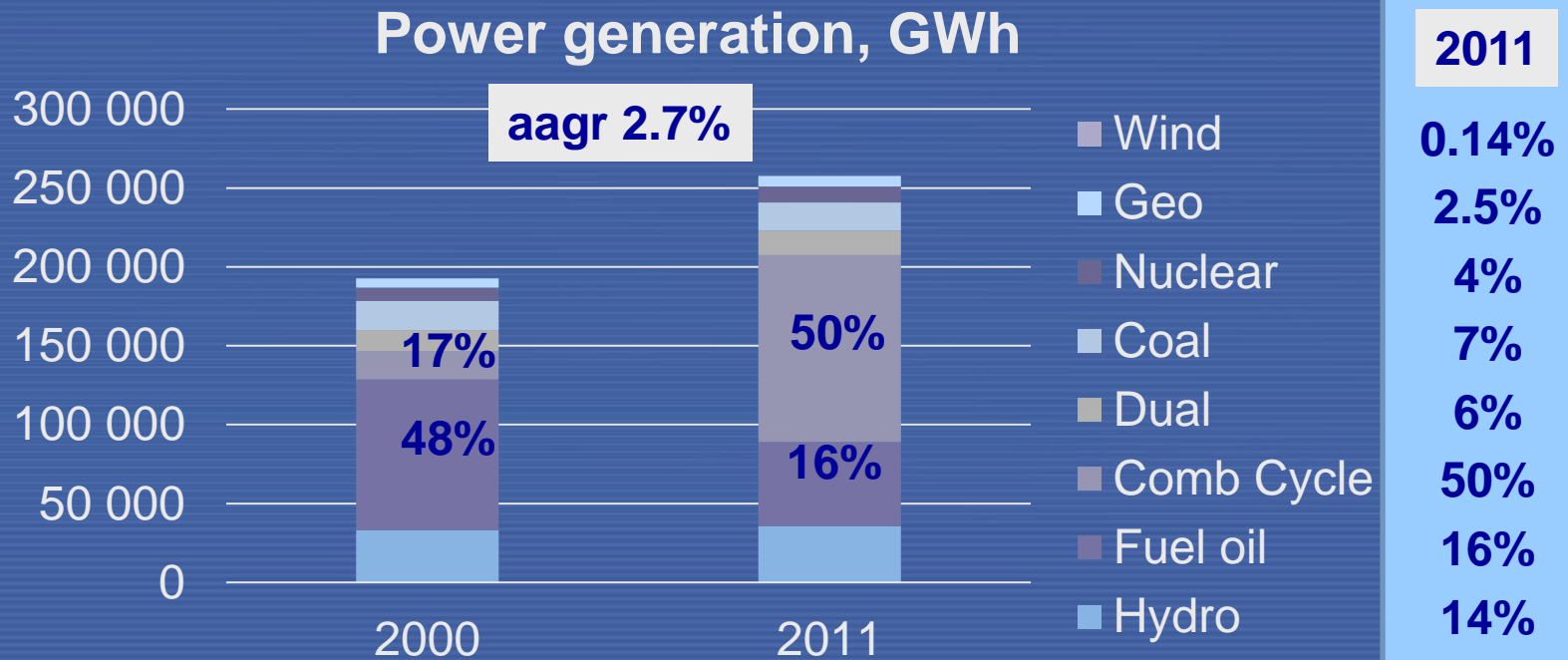


# 1. National vision and strategy for Nuclear Power in the 21<sup>st</sup> century in **MEXICO**



## Power system development 2000 – 2011

Present installed capacity: 61,770 MW



aagr: Average annual growth rate

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## Long term policy for nuclear energy in Mexico

ESTRATEGIA NACIONAL DE ENERGÍA  
2012-2026



FEBRERO DE 2012

### National Energy Strategy 2012-2026

- Electricity demand growth rate: 3.6%/yr
- Maximum of 65% power generation from fossil fuels by 2024  
(Non-fossil fuels: renewables and nuclear)
- Increased use of nuclear power

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Three scenarios to achieve 35% generation with non-fossil energy sources:

	<b>Renewable scenario (MW)</b>	<b>Nuclear scenario (MW)</b>	<b>Hybrid scenario (MW)</b>
<b>Nuclear</b>		<b>10,700</b>	<b>2,800</b>
<b>Wind</b>	<b>28,411</b>		<b>20,900</b>
<b>Gas turbine backup</b>	<b>7,857</b>		<b>5,792</b>
<b>Combined Cycle</b>	<b>- 10,700</b>	<b>-10,700</b>	<b>-10,700</b>
<b>Total MW</b>	<b>119,072</b>	<b>93,502</b>	<b>112,296</b>
<b>Levelized cost above baseline (per year)</b>	<b>US\$ 4,117 Mill</b>	<b>US\$ 2,992 Mill</b>	<b>US\$ 3,803 Mill</b>

## 2. Main lessons learned after Fukushima in MEXICO



- Evaluation of plant by Commission for Nuclear Safety and Safeguards and plant owner (stress test)
- Perform modifications on plant as required by evaluation, international recommendations
- Need to work on public perception of nuclear and radiological safety if more nuclear plants are to be constructed.
- Consensus inside decision-making government entities that Japanese accident did not result in catastrophic damage to environment and had no noticeable impact on human health (attesting to the safety of nuclear power)
- Except for few cases, nuclear development plans worldwide continue unabated

### 3. **MEXICO's** expectations for global Nuclear Power development in the 21<sup>st</sup> century



## National anticipation for the future

- Need to diversify energy sources while prioritizing non-fossil fuels
- Reduce environmental impact of energy sector
- Modernization and efficient operation of energy infrastructure
- Continuing investment constraints
- New areas for energy development: distributed energy, power to remote isolated areas, desalination, hydrogen production

### 3. **MEXICO's** expectations for global Nuclear Power development in the 21<sup>st</sup> century

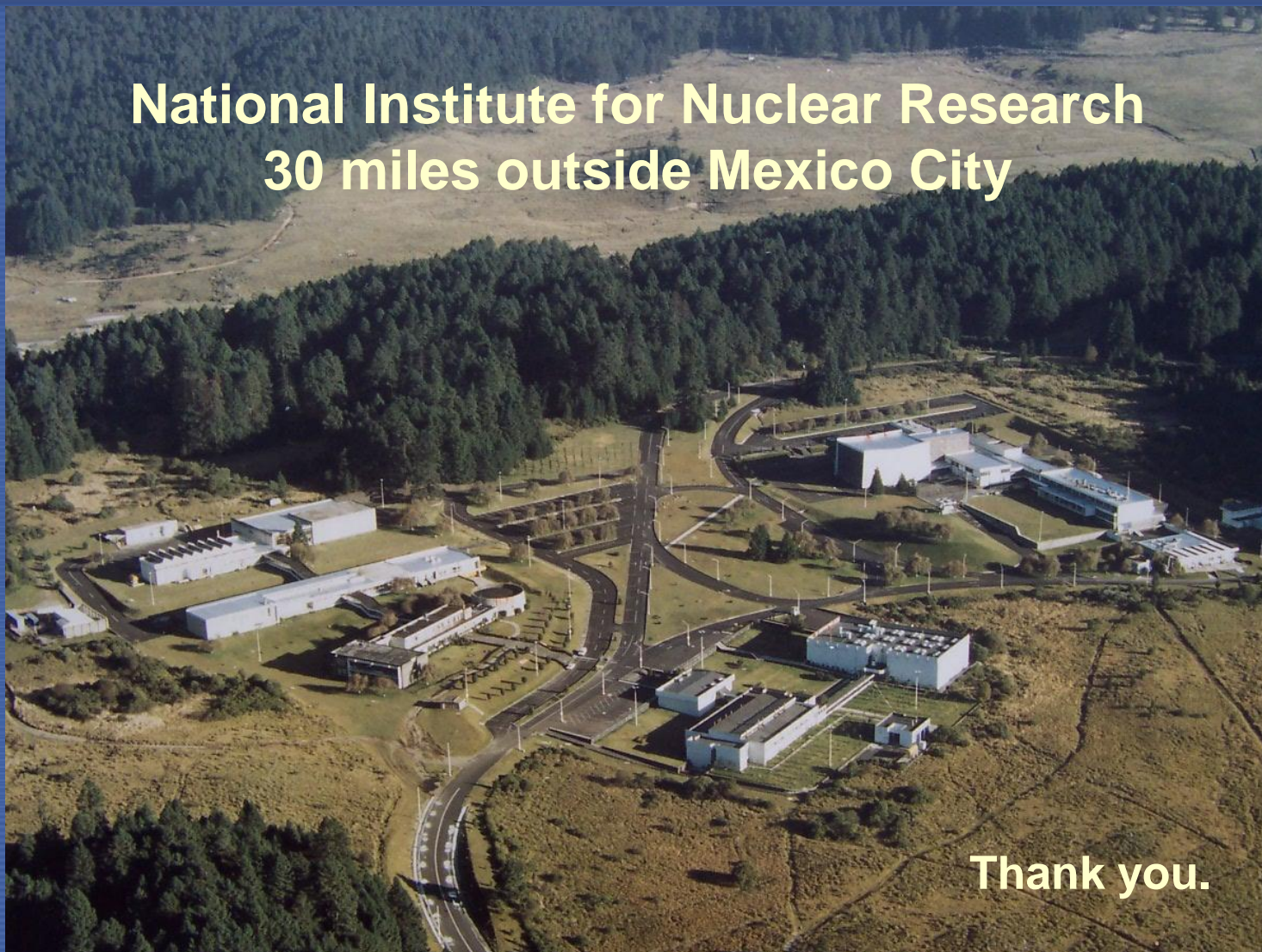


## Major policy implications and challenges

- Diversification challenges: limitations on potential of some renewable/clean energy sources
  - 20,000MW of competitive wind power
  - Unavailability of natural gas resources due to investment constraints
- Environmental impact challenges: reduction of energy sector emissions, use of new generation clean technologies, improve mgt. of toxic wastes, prevention of damage to ecosystems
- Energy efficiency challenges: closure of technological gaps, cost of infrastructure modernization
- Investment challenges: legal framework restrictions on private investment



# National Institute for Nuclear Research 30 miles outside Mexico City



**Thank you.**