
WELCOME
TO
ENERGY SECURITY
BY
SMALL HYDRO

“Energy Security Has A Global Dimension.”
Even with the best domestic effort our dependence on imported energy is expected to increase. We need assured access to imported energy supplies and also access to new energy related technologies. This means we need sensible policies that can promote economic partnership with countries that have energy resources and technologies. We also need a proactive foreign policy, protecting our access to such resources and to foreign technology.

Prime Minister Statement

Energy Security is defined in terms of reasonable assurance of access to energy and relevant technologies at all times with an ability to cope with sudden shocks.

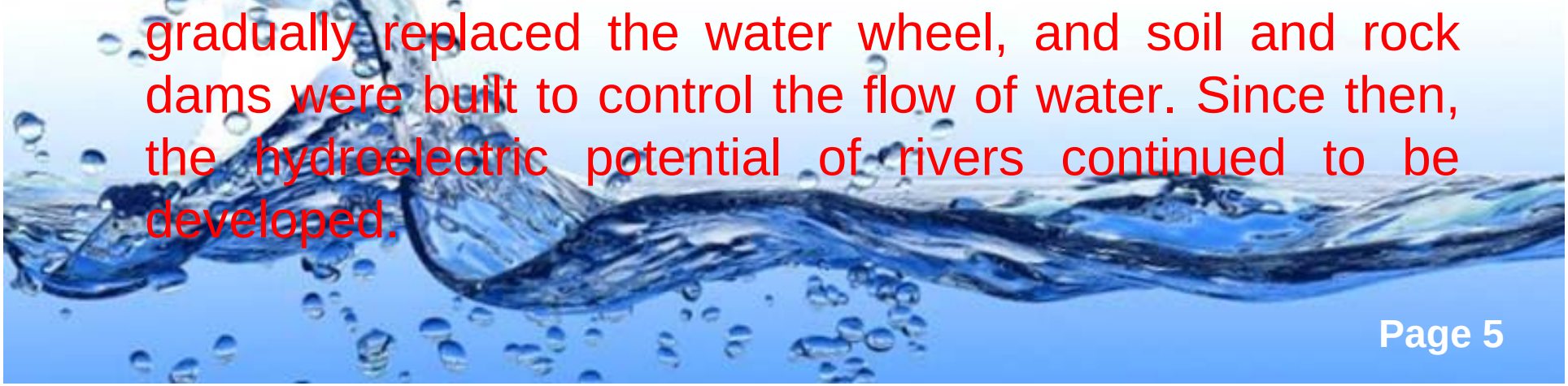
Planning Commission of India

Energy Security implies securing uninterrupted energy supplies at affordable prices and in an equitable manner for economic growth and household consumption.

Citizen of India

Small Hydro Development

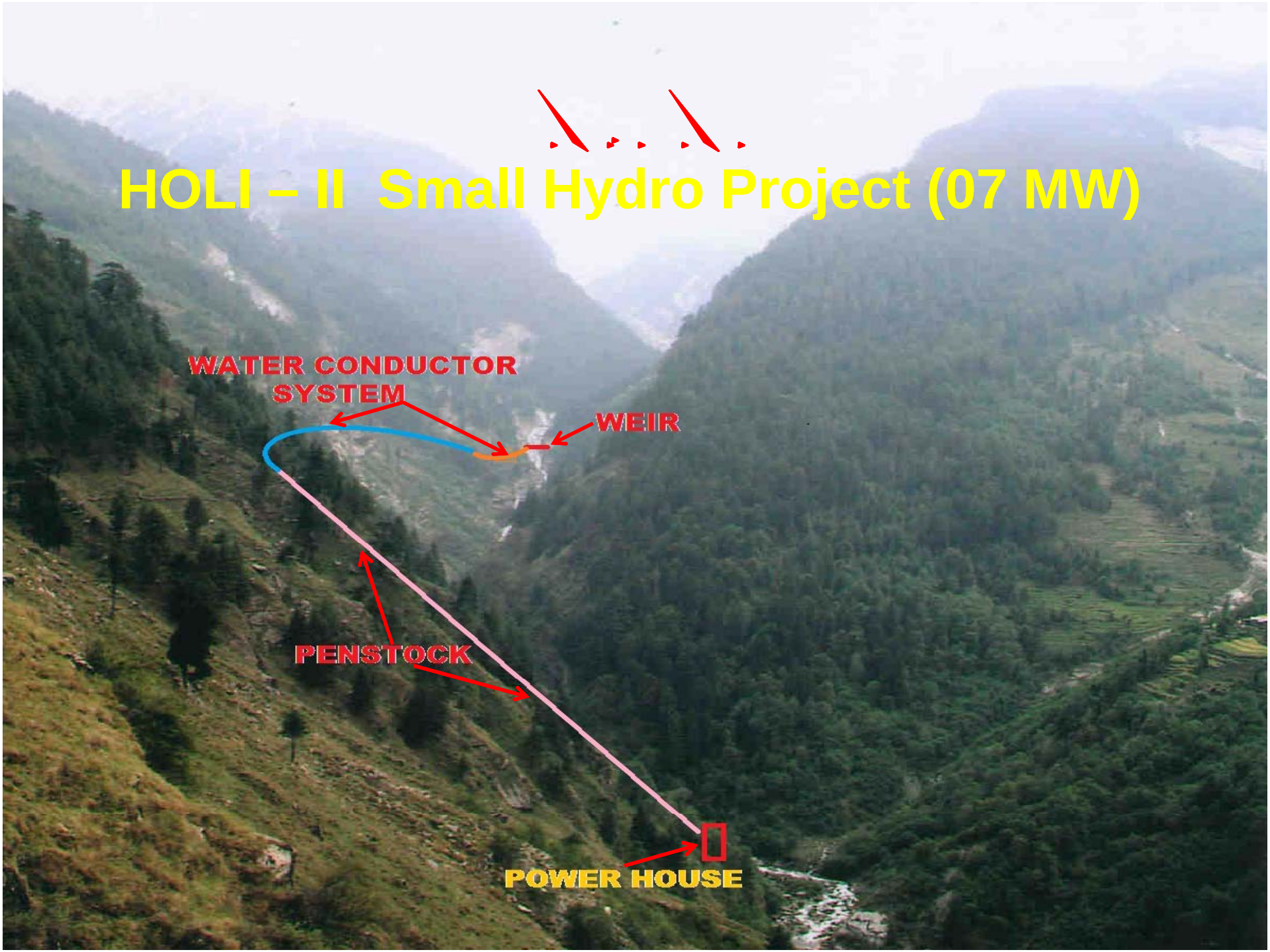
- Hydropower, or hydroelectricity, is a source of energy produced by the fall of water turning the blades of a turbine. The turbine is connected to a generator that converts the energy into electricity.
- People have been benefiting from the power of water for more than two thousand years. Water wheels were used to grind wheat into flour as early as 100 B.C. During the 19th century, the water wheel was used to produce electricity. At the end of that century, the water turbine gradually replaced the water wheel, and soil and rock dams were built to control the flow of water. Since then, the hydroelectric potential of rivers continued to be developed.



Small Hydro Development

- Hydropower is recognized as a renewable source of energy, which is economic, non-polluting and environmentally benign. The history of hydropower generation in India is more than 100 years old. The first hydropower station in India was a small hydro power station of 130 KW commissioned in 1897 at Sidrapong near Darjeeling in West Bengal.

HOLI – II Small Hydro Project (07 MW)



Hydropower Fosters National Energy Security

Water from rivers is a domestic resource that is not subject to fluctuations in fuel prices; therefore, hydropower fosters energy independence and security.

Clean, Affordable Power Today and Tomorrow

With an average life span of 50 to 100 years, hydropower projects are long-term investments that can easily be upgraded to take advantage of the latest technologies. Hydropower is an electricity source with long viability and very low operation and maintenance costs that one generation bestows onto several subsequent ones.

Secured Sustainable Development

Hydropower projects that are developed and operated in an economically viable, environmentally sound and socially responsible manner represent sustainable development at its best; that is to say, “Development that meets the needs of the people today without compromising the ability of future generations to meet their own needs.”

12th Plan Projections

Installed Capacities in MW

Source	Installed capacity by end of 11th Plan 31.3.2012	Capacity addition Target for 12th Plan (2012-17)	Target installed capacity at the end of 12th Plan	% of Potential likely to be harnessed at the end of 12th Plan
Wind power	17,352	15,000	32,500	*64%*
Small Hydro	3,395	2,100	5,500	*37%*
Biomass Power	1,150	500	1,700	*11%*
Bagasse Cogeneration	1,985	1,400	3,300	*64%*
Waste to Power	90	500	600	*22%*
Solar Power	941	10,000	10,200	10%
TOTAL	24,914	29,500	53,800	28%

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Small Hydro Power

Potential	:	15000 MW
Achievement	:	3395 MW
11th Plan Target/ Achievement:		1400 MW / 1419 MW
Deployment target 12th Plan :		2100 MW.

Strategy:

- Private sector participation
- Performance based incentivisation for State sector / NE
- Small plants to get higher support.

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Sustainable Future

- The Integrated Energy Policy of the government has many suggestions in this regard ranging from measures to improve energy efficiency, reforming the energy pricing system to increased focus on renewable energy sources.
- Reduces the widening demand-supply gap.
- Planning & Development of Small Hydro Mission.

Energy to All at Affordable Prices

- It has been recognized that small hydropower projects can play a critical role in improving the overall energy scenario of the country and in particular for remote and inaccessible areas.
- These small units can provide the energy to the villages in remote places at a lower infrastructural cost and at the same time it is environment friendly as compared to conventional energy resources.

Steps to Energy Security

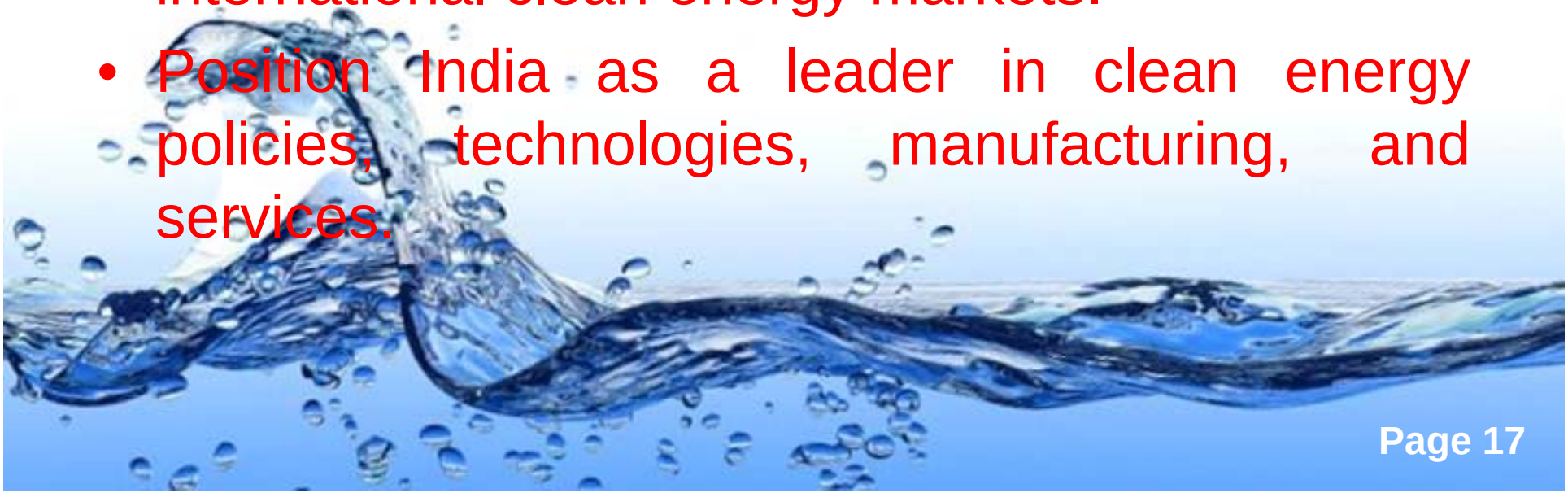
- Move from being largely a fossil-fuel-driven energy economy, to one that is powered by energy from clean and renewable energy forms.
- Rapidly move to a high efficiency energy path, with relatively low gestation period but high returns, by designing the appropriate regulatory and incentive structures.

Steps to Energy Security

- Invest liberally in developing Small Hydro in rural areas, supplemented with other locally available energy forms as appropriate (wind, solar, and bio gas).
- Rapidly, but optimally, deplete own coal resources so as to buy time for effective switchover to an alternate energy economy and avoid the risk of future stranded assets, while limiting the dependence on coal imports to a bare minimum.

Steps to Energy Security

- Develop a long-term integrated mobility and freight movement strategy that is aligned with the overall objective of driving India's energy economy through clean energy forms.
- Create a pool of technically qualified human resources to serve the domestic and international clean energy markets.
- Position India as a leader in clean energy policies, technologies, manufacturing, and services.



Why Small Hydro

- Domestic Fuel – White Coal of India
- National Technology Matured
- Inclusive Growth in Region
- Improves Decentralized Distribution
- Proven Renewable Energy Resource
- Improves International Relations


Thank you!
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