



Presentation for  
**Conference on Water Optimization in  
Thermal Power Plants:**

Topic requested to share experience was  
**Forecast for National Water Mission and  
Water Tariff**

I will be speaking on  
**Water Pricing and National Water  
Mission**

**WHY?**

# Reasons:

- National Water Policy 2012 uses the term “Water Pricing” and not “Water Tariff”.
- “Forecast” for National Water Mission at this stage may not yield much results but sharing what is envisaged may open many doors to achieve the goals of National Water Mission.

# Water Pricing and National Water Mission

On release of FICCI-HSBC report on “Water Use and Efficiency in Thermal Power Plants” 2012

***“The government needs to nudge industry towards best practices in water use efficiency through a combination of regulation and rational pricing of water, voluntary sharing of best practices as suggested by the FICCI-HSBC report may not be enough to achieve this.”***

Planning Commission deputy chairman Montek Singh Ahluwalia

***“..combination of regulation and rational pricing of water...”***

Reflected in XII Plan...

Mihir Shah, Member Planning Commission

“Water: Towards a Paradigm Shift in the Twelfth Plan”

1.“... The first step in this direction during the Twelfth Plan period will be to make comprehensive water audits a recurring feature of industrial activity... to publicly validate the **water audit** of industries...”

2. “.. to make it mandatory for companies to include every year in their annual report, details of their **water footprint** for the year. This would include (i) the volume of fresh water (source-wise) used by them in their various production activities (activity-wise), (ii) the volume of water used by them that was reused or recycled (again activity-wise), and (iii) a commitment with a time-line that the company would reduce its water footprint by a definite amount (to be specified) within a definite period of time (to be specified)..”

3. “.to levy charges for water use and incentivise water conservation Currently, the Water (Prevention and Control of Pollution) Cess Act 1977 is the only instrument to impose cess on discharge of effluent water from industrial units. This charge is based on the quantum of discharge from the industry and is used to augment the resources of the central and state pollution boards. The charges imposed through the water cess are not enough of a disincentive for industries to reduce their water footprint. It is important to examine this Act and other provisions and options to increase the charges imposed on water use and effluents substantially. This is particularly important where industries use groundwater and do not pay municipalities, water utilities or even irrigation departments for water use. The importance of **water pricing** as an instrument for change is critical...”

# Summing up

- Water Audit
- Water Footprint



M/o Water Resources  
considering developing  
standard for water audit and  
water foot print for India

- Water Pricing

National Water Policy  
2012



# Water Pricing: highlights

1. Pricing of water should ensure its efficient use and **reward conservation**.
2. **Equitable access** to water for all.
3. **Fair pricing**, for drinking and other uses such as sanitation, agricultural and industrial, should be arrived at through independent **statutory Water Regulatory Authority**, set up by each State, after wide ranging consultation with all stakeholders.

# Water Pricing ..cont..

4. The water charges should preferably / as a rule be determined on **volumetric basis**. Such charges should be reviewed periodically.
5. **Recycle and reuse of water**, after treatment to specified standards, should also be **incentivized**
6. The principle of **differential pricing** may be retained for the pre-emptive uses of water for drinking and sanitation; and high priority allocation for ensuring food security and supporting livelihood for the poor

# Water Pricing ..cont..

7. The overdrawal of groundwater should be minimized by regulating the use of electricity for its extraction. **Separate electric feeders** for pumping ground water for agricultural use should be considered.
8. Water Users Associations (WUAs) should be given **statutory powers** to collect and retain a portion of water charges, manage the volumetric quantum of water allotted to them and maintain the distribution system in their jurisdiction.

# National Water Mission

**Prime Minister's Council on Climate Change** Constituted on 6th June 2008, Co-ordinates national action for assessment, adaptation and mitigation of climate change.

## **National Action Plan on Climate Change(NAPCC)**

It is a policy document prepared by the Prime Minister's Council on Climate Change; It provides direction to mitigate and adapt to climate change; GOI launched NAPCC on 30.06.2008;

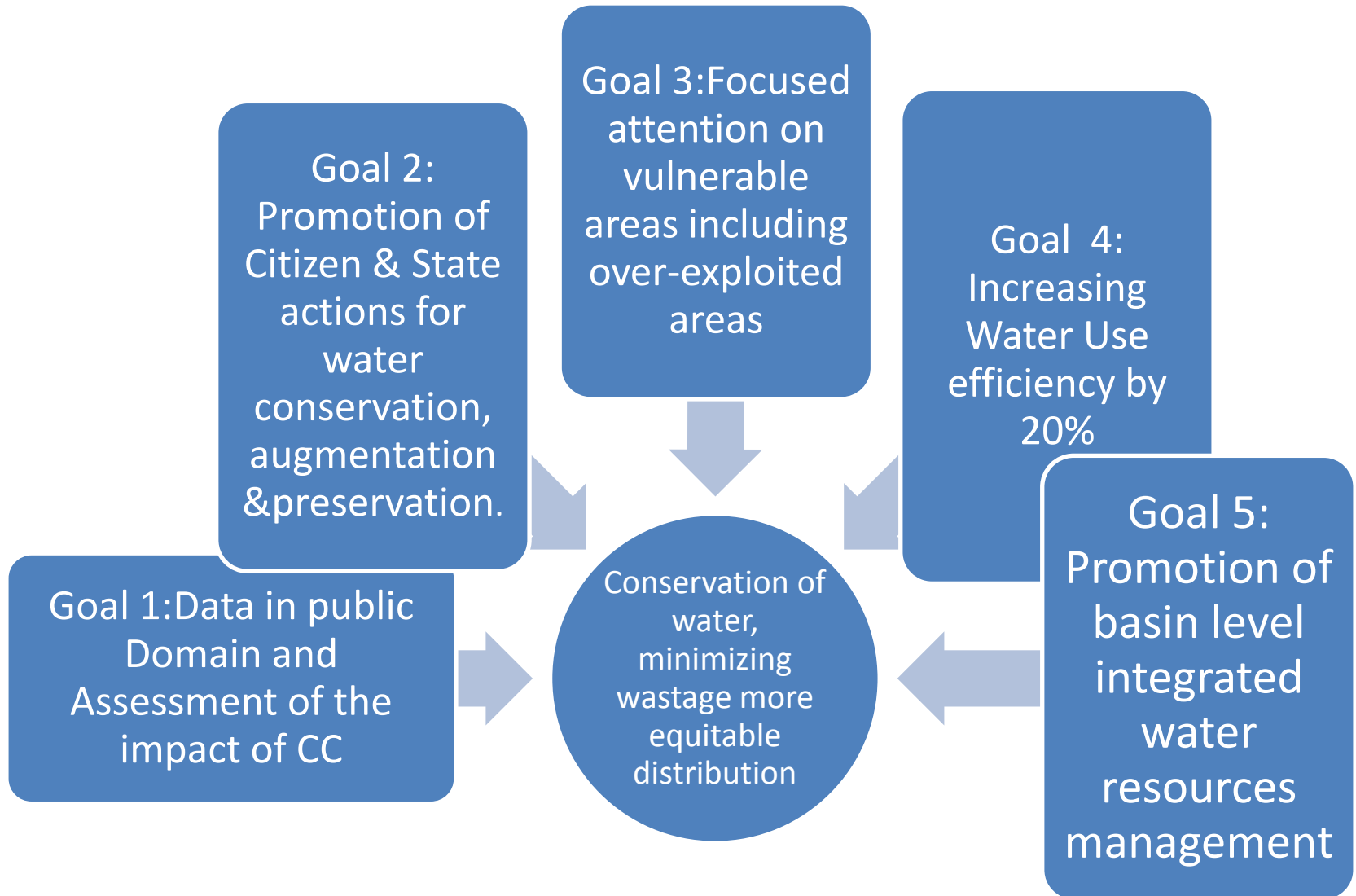
**Eight National Missions including National Water Mission have been launched to address climate change adaptation and mitigation**

# NAPCC – Eight National Missions

Mission	Objective	Responsible Entity
<i>National Solar Mission</i>	<ul style="list-style-type: none"> <li>20,000 MW of solar power by 2020</li> </ul>	Ministry of New & Renewable Energy
<i>National Mission for Enhanced Energy Efficiency</i>	<ul style="list-style-type: none"> <li>10,000 MW of EE savings by 2020</li> </ul>	Ministry of Power
<i>National Mission for Sustainable Habitat</i>	<ul style="list-style-type: none"> <li>EE in residential and commercial buildings, public transport, Solid waste management</li> </ul>	Ministry of Urban Development
<i>National Water Mission</i>	<ul style="list-style-type: none"> <li>Water conservation, river basin management</li> </ul>	Ministry of Water Resources
<i>National Mission for Sustaining the Himalayan Ecosystem</i>	<ul style="list-style-type: none"> <li>Conservation and adaptation practices, glacial monitoring</li> </ul>	Ministry of Science & Technology
<i>National Mission for a Green India</i>	<ul style="list-style-type: none"> <li>6 mn hectares of afforestation over degraded forest lands by the end of 12<sup>th</sup> Plan</li> </ul>	Ministry of Environment & Forests
<i>National Mission for Sustainable Agriculture</i>	<ul style="list-style-type: none"> <li>Drought proofing, risk management, agricultural research</li> </ul>	Ministry of Agriculture
<i>National Mission on Strategic Knowledge for Climate Change</i>	<ul style="list-style-type: none"> <li>Vulnerability assessment, Research &amp; observation, data management</li> </ul>	Ministry of Science & Technology

Missions focused on 'Mitigation'
  Missions focused on 'Adaptation'

# NWM: Objectives and Goals



***Mission Document approved by the Cabinet on  
6 April, '11 identified five goals:***

- I. Comprehensive water data base in public domain and assessment of the impact of climate change on water resource,**
- II. Promotion of citizen and state actions for water conservation, augmentation and preservation,**
- III. Focused attention to vulnerable areas including over-exploited areas,**
- IV. Increasing water use efficiency by 20%, and**
- V. Promotion of basin level integrated water resources management.**

## Strategies evolved to achieve Goals

**Goal 1:** Comprehensive water data base in public domain and assessment of impact of climate change on water resource

### **Strategies:**

1. Review and establishment of network for collection of additional necessary data;
2. Development of **Water Resources Information System;**
3. Research and studies on all aspects related to impact of climate change on water resources;



## **Action initiated**

**(a) Water Resources Information System** developed by Central Water Commission with the help of ISRO

**(b) Downscaling of Climate Change Models** and assessment of the impact of climate change on water resources in each of 20 major river basins

19 research proposals have been received from IITs and Research Institutes

National Institute of Hydrology, Roorkee is the nodal agency for implementation of the work

## Goal 2: Promotion of citizen and state actions for water conservation, augmentation and preservation

### Strategies:

1. Empowerment and involvement of local bodies, Water User Associations in management of water resources;
2. Promote participatory Irrigation Management (**PIM**);
3. Sensitization of elected representatives of over-exploited areas and to converge various schemes;
4. Provide incentives for water neutral and water positive technologies in industry;

## Action initiated

- Proposes to set up a consortium of lead NGOs at the National level.
- Initiated consultations with Tata Institute of Social Sciences (TISS), Mumbai for knowledge support to the National Water Mission for awareness and capacity building.
- Proposed activities include:  
Selection of lead NGOs, Accreditation of field agencies/NGOs  
Development of region and target group wise modules/training materials/audio-visuals
- **Incentivization of industries, farmers, local bodies, Water Users Associations, etc., to be undertaken through the National Bureau of Water Use Efficiency(NBWUE) being set up**

**Goal 3: Focused attention to vulnerable areas including over-exploited areas**

**Strategies:**

- Promotion of **traditional system of water conservation;**
- Intensive programme for ground water recharge in over-exploited, critical and semi-critical areas;
- Systematic **approach for coping with floods.**

# Action initiated

## Action Plan for coping with floods

- Envisages systematic approach for coping with floods to strengthen resilience of the communities against floods.
- Integrated Flood Risk Management provides a holistic way of addressing flood risk with the participation of all stakeholders
- **An MoU signed with Asian Development Bank** for Technical Assistance to undertake research to identify and test integrated flood mitigation and flood plain management strategies.
- One flood prone area to be taken up as a pilot project to evolve an action plan comprising both structural and non-structural measures
- **Aquifer mapping- Pilot project** - National project

## **Goal 4: Increasing water use efficiency by 20%**

### **Strategies:**

1. Promote research for increasing water use efficiency and to maintain its quality in agriculture, industry and domestic sector;
2. Promotion of water efficient techniques and technologies;
3. Undertake Pilot projects for improvement in water use efficiency in collaboration with States;
4. Promote Water Regulatory Authorities for ensuring equitable water distribution and water pricing;

# Action initiated

## Setting up of National Bureau of Water Use Efficiency(NBWUE) under NWM

- To increase water use efficiency by 20%, MoWR proposes to constitute a National Bureau of Water Use Efficiency (NBWUE) as an Authority for the purpose of promotion, regulation and control of efficient use of water in irrigation, municipal and/or industrial uses.
- NBWUE to be notified under Section 3(3) of Environment Protection Act, 1986.
- NBWUE will have the overall responsibility of improving water use efficiency across various sectors namely irrigation, drinking water supply, power generation and industry.

# Action initiated

## Baseline study and taking up benchmarking and/or demonstrative projects for Water Use Efficiency

1. Baseline study for assessment of present water use efficiency
2. Central Water Commission has identified **138 Major and 73 Medium Irrigation Projects** for baseline study of water use efficiency in about two years' time.
3. **The State Governments** are being encouraged to take up these baseline studies
4. **A training programme** has also been evolved by the National Water Academy
5. **A Committee on Industrial Water Use Efficiency is already functioning.** Two studies by CII and FICCI on industrial WUE are under consideration.



# **Goal 5: Promotion of basin level integrated water resources management**

## **Strategies:**

1. Review of National Water Policy;
2. Review of State Water Policies;
3. Guidelines for uses of water i.e irrigation, drinking, industrial etc in the context of basin-wise situations;
4. Inter-basin integration for augmenting water supply by converting surplus flood water into utilizable water;

# Action initiated

## Preparation of State Specific Action Plans for water sector

Fifteen prospective Consultants have been short-listed and draft RFP document prepared.

- i) Regional as well as State level workshops covering all the States, UTs to be organized
- ii) Identify key concerns in water resources sector
- iii) Formulate interventions required to address those concerns in consultation with Centre /State/UTs

# Action initiated

## Review of National/State Water Policies

1. The National Water Policy (NWP-2012) was adopted on 28 Dec, 2012 by the National Water Resources Council comprising of all Chief Ministers with the Hon'ble Prime Minister as its Chairman.
2. MoWR has prepared a draft bill for setting up River basin Authorities for Integrated Water Resources Management in river basins.
3. NWP-2012 released by Hon'ble President of India on 04.04.2013 during inauguration of India Water Week-2013

## **Four Climate Change Cells created**

1. Central Water Commission
2. Central Ground Water Board
3. National Institute of Hydrology
4. Brahmaputra Board

# NWM and Industry

1. **Inter- Sectoral advisory Group IV** for Water Use efficiency , chaired by Secretary (WR) has representation from Industry (FICCI,CII)
2. **A committee on Water Use Efficiency for Industry, Chaired by Spl.Secretary (WR)/Mission Director** has Industry representation
3. Studies and pilot projects with FICCI and CII under consideration: **Thermal power plants one of the suggested sectors**
4. **CEO Conference and Seminar for CSR activities for Water** underway
5. Industry representation in the committee for **standardizing water audit and evolving concept of water footprints for India.**

Thank you

	Water Pricing	Water Tariff
1.	<p>Prices paid for water itself are different from water tariffs. They exist in a few countries and are called water abstraction charges or fees. In most countries there is no charge for abstracting water directly from rivers, lakes and aquifers. However, some countries do levy volumetric charges or fees for water abstraction rights. These charges are typically levied on industries, utilities and farmers for example in France, Germany, Mexico. In case of Jordan this fee is levied only on groundwater. Some countries allow water rights to be traded, so that the price for water itself is formed in the market. Such water trading exist in parts of Australia, Chile and the Southwestern United States.</p>	<p>Water and wastewater tariffs are not charged for water itself, but to recover the costs of water treatment, water storage, transporting it to customers, collecting and treating wastewater, as well as billing and collection.</p>

# Water Footprint Seminar:

12<sup>th</sup> April 2013



- ISO 14046 (guidelines for Water footprint) India has reservations
- The Water Footprint concept given by hoestra ..followed by Water Footprint Network seems to be not very Scientific nor suitable for policy adoption, this concept has been examined by Neitherland Govt, European Commission and South Africa and not found suitable by them to be adopted as policy.
- India needs its own standard for water footprint