

Energy Action Plan Pillar 3: Energy Water Linkages

Update

Energy Sector Coordinating Committee (ESCC)

CAREC

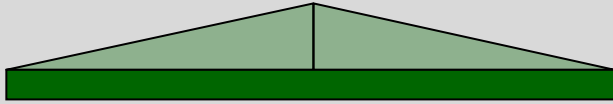
Manila Philippines

May 21-22, 2012

Daryl Fields

World Bank

Energy Action Plan: Pillar 3



Energy-Water Linkages

Action Plan Objective:

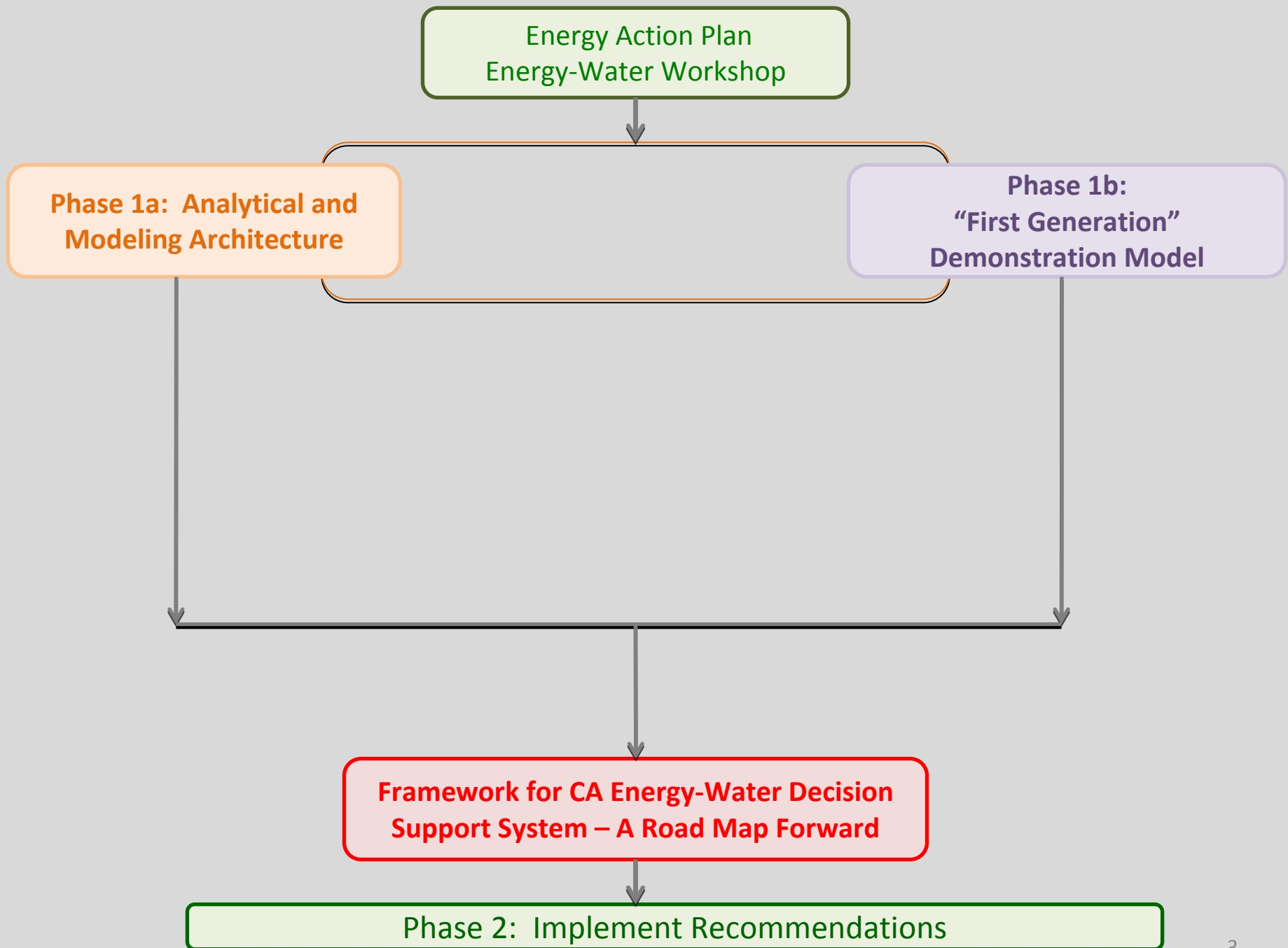
To strengthen cooperation by integrating energy and water analysis.

Why:

- **Hydropower contributes to the reliability, stability and affordability of an energy system**
- **Transboundary water management** is critical to maximize the value of hydropower to the region's energy sector while ensuring supply for other water-dependent activities

How:

Investment	Identify consensus projects to improve the rational and effective use of energy and water
Capacity Building & Knowledge Sharing	Enhance integrated energy-water models, analytical tools, and shared databases
Policy measures	Strengthen Central Asian institutions to lead the dialogue and analysis on rational use of energy-water resources



**Energy Action Plan
Energy-Water Workshop**

**Phase 1a: Analytical and
Modeling Architecture**

**Phase 1b:
“First Generation”
Demonstration Model**

Regional scoping & reconnaissance

National consultations with energy
water experts

Model inventory and detailed
review

**Framework for CA Energy-Water Decision
Support System – A Road Map Forward**

Phase 2: Implement Recommendations

Phase 1a: What We Heard

National energy water counterparts:

- Today's economics require a different approach
- National engagement and ownership is vital – models must capture national priorities
- Better understanding of energy water dynamics is needed for both basins
- Engage Afghanistan in the process.
- Build on what currently exists

Regional institutions:

- Agreed-upon tools for regional analysis are not available
- Bring national experts together in a regional team

International community:

- Take advantage of modeling innovations, emerging public data and modeling platforms
- Take advantage of tools to assist on specific cross-border issues and opportunities
- Uncertainty will play an even larger role in managing water and energy.

Common messages:

- There are common analytical needs across countries
- Build technical and institutional capacity simultaneously, in existing and new tools
- Fears that new efforts will not be used – ensure model results are well communicated to the decision-maker
- Transparency, and quality and access to information are significant concerns
- Need to bring different sectors together even within a country -- multi-sectoral approach critical to understand trade-offs and opportunities



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Partner Activities:
SDC (CAREWIB),
UNECE (bilateral
with AFG&TAJ),
USAID (Economic
Model of Water)
GIZ (sub-basin
cooperation)

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Partner Activities

What we are learning:

- Existing data resources are weak and lack accessibility
- Local basin efforts are delivering useful products and innovative mechanisms for coordination
- There is increased interest in a broader Basin view
- New efforts in modeling are introducing new concepts and encouraging professional exchange
- Individual countries are taking independent initiatives.

Questions being explored:

- What platforms exist for more open information sharing?
- How can local efforts be scaled up?
- How can national capacities be strengthened to support an even playing field for dialogue
- What (if any) existing tools are acceptable and can be refined/built on? What features are most important?

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Collection of international data on
Central Asia

Earth Systems model calibrated
against local data

Partial presentation to ESCC
October 2011 (Bangkok)

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ARALDIF

DYNAMIC INFORMATION FRAMEWORK

<http://test4.ocean.washington.edu/>

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PHASE 1B: FIRST GENERATION MODEL

A Demonstration Model in Support of a Decision Support Activity

Energy Sector Coordinating Committee (ESCC)

CAREC

Bangkok, Thailand

October 27, 2011

Dr. Jeffrey Richey

River Systems Research Group, University of Washington

Seattle, Washington, USA

The Central Asia Energy Water
Development Program (CAEWDP)

is building regional energy and water security
through enhanced regional cooperation. Modeling,
from publically available data and model platforms,
that visualize and simulate water and energy linkages
in Amu Darya and Syr Darya river systems.

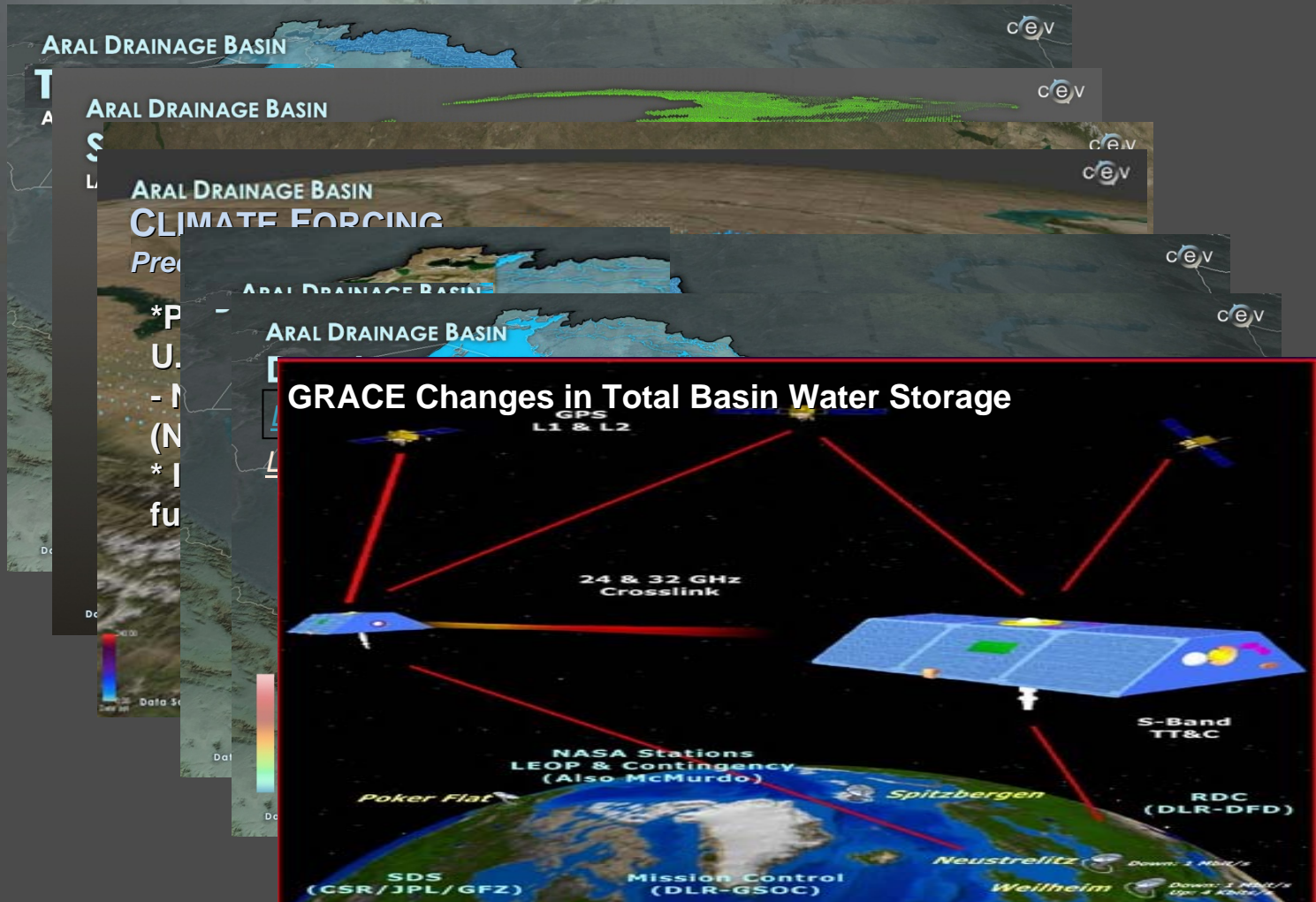
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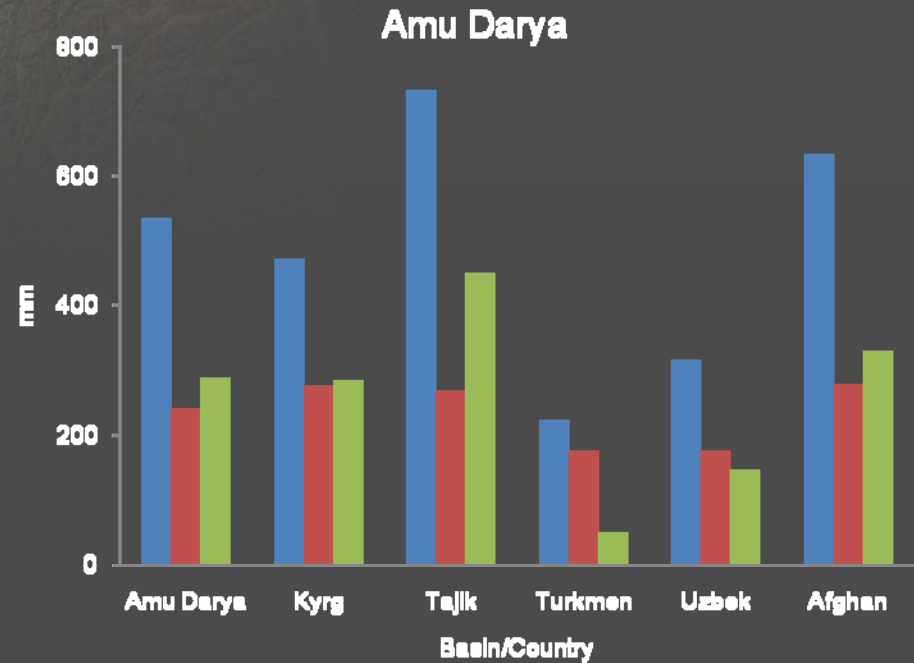
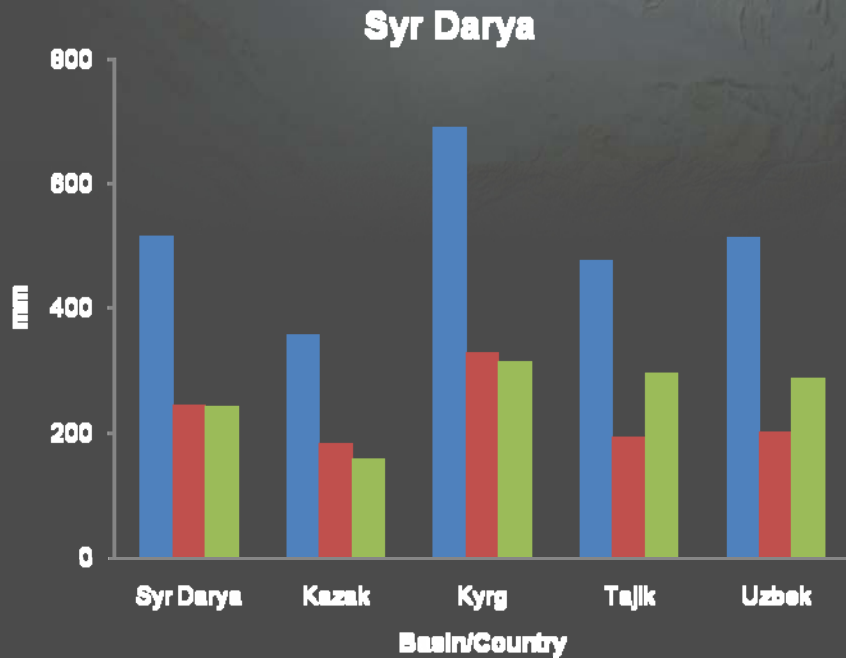
Integrating Data for the Aral Sea Basin

*The data to develop the model is **fully transparent**, and is derived initially from globally available data sets*



*The full **mass-balance of water** is accounted for across the entire basin, as the basis of the hydrologic cycle*

Precip ■, Runoff ■, ET ■ - mm/y



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Technical workshop – Sub-committee 3

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Technical Workshop

Sub Committee 3 Meeting

When: July 4-6, 2012

Who: Technical specialists (full time); Policy makers (part-time)

Partnerships: SDC, UNECE and cooperation with USAID, IFAS, GIZ, FFEM

Objective: To articulate actions to strengthen water management across the Aral Sea Basin based on common interests – as they pertain to the data, modeling and capacity building

Output: Draft roadmap/work program on priority activities to build strength for water management in Central Asia, at national and regional levels.

Session topics:

- Overview of current resources and tools in Central Asia
- Central Asia data resources and emerging sources -- the role of publically available data; strengthening data exchange among CA counties; technological advancement in data platforms
- Review of existing models within Central Asia
- Key model features for national analysis and regional consistency (e.g., modeling platforms; output variables, geographic resolution)
- Opportunities for sub-basin initiatives
- Food for Thought from International experience: Ganges; Afghanistan; Nile Basin
- Priority capacity-building events across borders

Thank you