ORANGE WATER AND SEWER AUTHORITY

A public, non-profit agency providing water, sewer and reclaimed water services to the Carrboro-Chapel Hill community.

MEMORANDUM

TO: **Natural Resources and Technical Systems Committee**

Terri Buckner (Chair)	Will Raymond
Stephen Dear	Amy Witsil
Michael Hughes	John Young
Heather Payne	Alan Rimer (*ex officio*)

THROUGH: Ed Kerwin

FROM: Ruth Rouse

DATE: May 30, 2014

SUBJECT: June 4, 2014 NRTS Committee Meeting

The NRTS Committee will meet on Wednesday, June 4, 2014 from 5:30 to 7:00 PM in the OWASA Boardroom. Pat Davis, Sustainability Manager, will present a draft charter (attached) for the Energy Management Plan. This document will guide staff and the Board as OWASA develops its Energy Management Plan, Strategic Initiative 5 of the Strategic Plan.

Agenda

- Energy Management Plan Charter
  - Charter (Attachment)
  - Discussion
- Future meetings
  - Topics
  - Next meeting - August 6, 2014

We look forward to seeing you on June 4.

Ruth C. Rouse

Ruth Rouse, AICP
Planning and Development Manager

c: Robert Epting
Quinton Harper
Ed Kerwin

Attachment: Draft Charter for Energy Management Plan

Project Charter

A. General Information

Project Title:	***ENERGY MANAGEMENT PLAN***
Project Description:	This project will result in development of an Energy Management Plan (EMP) that will provide strategic direction for OWASA's energy management, energy efficiency, and renewable energy decisions, actions, and investments.
Project Purpose:	The EMP will present our goals and objectives (including targets) and ongoing strategies for managing and conserving energy and related costs; increasing energy security and reliability; using renewable energy; and reducing our greenhouse gas emissions (GHGs). **Value Added to OWASA:** The proposed EMP will be OWASA's first formal, comprehensive energy management plan. It will serve as a single point of reference for information about our energy management program goals and objectives, selected strategies, and implementation plan. **Aligns With Strategic Plan:** Preparation of the EMP is Strategic Initiative #5 of OWASA's Strategic Plan for Fiscal Years 2014-2017. This project also complements the proposed development of a Water Conservation Plan, which is a goal in Strategic Initiative #1 of the Strategic Plan. **Benefits to Be Realized:** Through preparation of the EMP, we will select the most cost-effective and practical energy management, energy efficiency, and renewable energy strategies for meeting our goals and objectives.

B. Project Objectives:

The EMP will address the following objectives, which are organized along the three pillars of sustainability: social performance, environmental performance, and financial performance. This project will require a balancing of these multiple and sometimes competing objectives.

Social Performance: Our EMP will impact the people and communities we serve.

1) Strategies will be evaluated against their impacts on the community.
2) We will inform and involve our employees in our energy management efforts.

Environmental Performance: Our EMP will help us preserve natural resources; conserve energy, water, and other natural resources; minimize waste and pollution emissions, and reduce our environmental impacts.

3) We will seek to reduce our energy use per million gallons per day of water, wastewater, and reclaimed water used in our community compared to our 2010 baseline energy use.
4) Energy management, energy efficiency, and renewable energy alternatives will be evaluated against their relative effect on energy use and GHG emissions.
5) Where practical, we will implement energy management strategies that enhance the reliability and resiliency of our water, wastewater, and reclaimed water facilities and operations.

Financial Performance: The economic well-being of our customers and our community depend on our ability to manage energy services, use and costs so that we can ensure high quality and reliable services at an acceptable financial cost to our customers.

6) Energy management, energy efficiency, and renewable energy alternatives will be evaluated against their relative life-cycle financial costs (capital and operating and maintenance costs).
7) The selected set of strategies will represent a reasonable balance of financial considerations with our social and environmental performance objectives.
8) To ensure that the selected strategies are cost-effective for our community, the selected mix of measures should have a combined payback period of **_*TBD*_** years or less.
9) We will seek funding support for our program, such as federal and state grants, energy utility incentives and rebates, and revenues from renewable energy credits, carbon trading, etc.

C. Assumptions

1) Technical analyses to inform the development of the initial EMP will be based primarily on desktop analyses using readily available data.
2) Energy savings and associated cost savings will be developed only for measures for which direct savings can be estimated.
3) Unless there is a very high level of certainty that we will receive supplemental funding support from other parties, all payback calculations will assume that all project costs are funded solely by OWASA.
4) No major structural changes are assumed for our energy rates, and energy rate increases will be assumed to be in-line with general inflation.
5) GHG emission estimates will not include indirect emissions such as those associated with employee travel in personal vehicles, or with the manufacture and transport of goods purchased by OWASA.
6) As discussed with the NRTS Committee on September 11, 2013, the following renewable energy strategies will not be further evaluated in the Plan because they are technically and/or economically infeasible for OWASA at this time:
    a) Wind power
    b) Hydropower retrofits at our reservoirs
    c) In-pipeline turbines for hydropower generation
    d) Solar drying for wastewater solids
    e) Build a solar photovoltaic system using customer funds
    f) Geothermal systems for heating and cooling

D. Project Scope and Key Tasks

The scope of the project includes consideration of strategies that OWASA can pursue to manage and the use of energy, and use renewable energy instead of non-renewable energy sources. The EMP will have a 20-year planning horizon; however, the primary focus will be on the first 5 years.

The key proposed tasks to complete the EMP are:

1) Assess current energy use and costs (profile energy use across our facilities and functions; establish a baseline of use, energy intensity, costs, etc. which can be used to measure change)
2) Develop a baseline evaluation of GHG emissions associated with our use of energy at our facilities
3) Document our energy management, energy efficiency, and renewable energy strategies and results to date
4) Determine goals and objectives for our energy management program, including applicable reduction targets and timetables
5) Evaluate alternative energy management and energy efficiency strategies
6) Evaluate feasibility of alternative renewable energy strategies, including public/private partnership opportunities
7) Select the preferred strategies that will (either independently or in combination) meet the established goals and objectives
8) Create an action plan that sets forth the proposed actions, timetable, resource requirements, and expected outcomes
9) Describe plan for monitoring and reporting level of progress in achieving performance objectives
10) Finalize the EMP

E. Project Milestones

NOTE: Milestone completion dates are not shown below, as the timetable for this project will be determined once the OWASA Board of Directors and staff have considered the EMP project in relation to other Strategic Plan initiatives and priorities.

Milestones	Deliverables	Date
Natural Resources and Technical Systems (NRTS) Committee review of Project Charter	Draft Charter for EMP Project	June 2014
Board review and approval of Project Charter	Final Charter for EMP Project	July 2014
Baseline assessment of energy use; documentation of strategies to date; and information about potential goals and objectives	Technical Memorandum #1	TBD
NRTS Committee/Board review of Technical Memorandum #1	Proposed goals and objectives for EMP	TBD
NRTS Committee/Board review of staff evaluation of alternative management strategies	Selection of preferred strategies for meeting established goals and objectives	TBD
NRTS Committee review of Draft EMP	Draft EMP	TBD
Board review of Draft EMP		TBD

Preparation of public review Draft EMP	Public Review Draft EMP	TBD
Public review and comment on Draft EMP	Compilation of public comments	TBD
Revisions to Draft EMP (if needed)	Revised Draft EMP	TBD
NRTS Committee review/recommendation	Committee report/recommendation	TBD
Board approval of final EMP	Final EMP	TBD
Board approval of EMP project funding and implementation	Funding decisions made in time to be incorporated into budget/CIP decisions	TBD

F. Impact Statement

Potential Impact	Systems / Units Impacted
May affect timing of certain asset rehabilitation and replacement decisions	Several
May impact capital improvements and capital equipment plans and expenditures, and our financial plan	Engineering and Planning Finance (financial plan)
Staff work related to applications for funding assistance (grants, rebates, etc.)	Office of Executive Director and possibly other Departments

G. Stakeholder Engagement/Communication

It is OWASA's goal to provide stakeholders with timely information about projects, programs, and policies that are important to them and offer them meaningful opportunities to give their feedback so that we can continue to improve.

We will inform our customers when the draft EMP is available for review, and provide them an opportunity to comment on the plan. Comments received will be considered as we finalize the plan. Where specific energy management projects have the potential to directly affect customers and/or stakeholders, we will inform them of those projects and provide additional opportunities for review and comment.

H. Strategy to Complete

Staff will prepare the EMP document, and incorporate the findings and recommendations from technical evaluations completed by our consultants.

Staff will work closely with applicable Board committees and the Board of Directors to ensure the Board has the information needed to set policy level goals and objectives, determine the best strategies for meeting those goals and objectives, and make decisions regarding the funding and implementation of the plan.

Proactive and effective project management and communications will be required of each project team member to ensure success.

Project Charter

I. Project Partners

Potential Partner	Expected Role
Duke Energy	Provide historical energy use and cost data for our facilities; potential funding support from energy efficiency incentives program; assistance with education and outreach
PSNC/Scana Energy	Provide historical energy use and cost data for our facilities; potential funding support through energy efficiency incentives program; assistance with education and outreach
NC Energy Office	Technical assistance; potential funding support
Waste Reduction Partners	Possible no-cost audits of lighting/HVAC at certain facilities

J. Roles and Responsibilities

Role	Name	Responsibility
Sponsor	Board of Directors	Approves project objectives; goals and objectives for energy management plan; scope of stakeholder engagement, resources necessary to complete project on time and on budget. Makes final decision on energy management strategies to be implemented.
Technical Preview	NRTS Committee	Provides general guidance and feedback regarding draft work products, technical findings, policy issues and recommendations, etc.
Project Manager and Task Leader	Patrick Davis, Sustainability Manager	Project Management Role: Leads staff in the planning, development, and completion of the project. Provides direction to Task Leaders as needed. Serves as staff liaison with NRTS Committee and Board of Directors. Works with project team to identify and quickly resolve issues. Task Leader Role: Profile system, energy use and costs; document efforts and progress to date; evaluate alternative strategies; prepare draft and final plan document; manage consulting services for the project; coordinate staff and consultant meetings and communications.
Task Leader	Mary Darr, Director of Engineering and Planning	Provides project management support and guidance for the Project Manager and other Task Leaders as needed.

Task Leader	Adam Haggerty, Asset Manager	Work with staff to incorporate EMP findings and recommendations into our comprehensive asset management plan; capital improvements program; and annual O&M budget.
Subject Matter Expert	Stephen Winters, Director of Finance and Customer Service	Finance and budget, including considerations on long-term financial plan.
Subject Matter Expert	Todd Taylor, General Manager of Operations	System operating considerations; energy requirements; and general assessment of energy savings opportunities and feasibility.
Subject Matter Expert	Ken Loflin, Water Supply and Treatment Manager	Water system operating considerations; energy requirements; and general assessment of energy savings opportunities and feasibility.
Subject Matter Expert	John Kiviniemi, Wastewater Treatment and Biosolids Recycling Manager	Wastewater system operating considerations; energy requirements; and general assessment of energy savings opportunities and feasibility.
Subject Matter Expert	James Dodson, Maintenance Coordinator	Technical information and assistance regarding equipment performance and condition; help coordinate consultant's site visits for facility evaluations.
Subject Matter Expert	Greg Feller, Public Affairs Administrator	Help develop community engagement plan and informational materials for public and employees.

K. Resources

Resource	Estimated Costs
In-house staff support services	Staff time
Information and assistance from other utilities regarding their experience and lessons learned with energy management plans and strategies.	$0
Advanced technical assessments, such as assessment of energy performance of our largest pumps and motors, will be completed by a qualified consultant	$75,000 (estimated based on planning-level guidance we received from two consulting firms)
If possible, no-cost and low-cost technical assistance services offered through our energy utilities, the Waste Reduction Partners program, etc.	TBD
NRTS Committee and Board of Directors	$0

L. Project Risks

Risk	Mitigation Strategy
Incomplete or inaccurate information	Quality control throughout the work.
Desire to over-study potential alternatives	Focus will especially be on near-term strategies that we can implement on our own.

Other priorities result in delayed completion of project	EMP development should be deferred only if there are major unforeseen circumstances.
Insufficient funding to implement selected strategies	Potential strategies will be fully evaluated and only selected if they are determined to be financially viable. Conservation program investments will be phased as needed to meet financial objectives.

M. Approvals

The signatures of the people below document approval of the formal Project Charter. The project manager is empowered by this charter to proceed with the project as outlined in the charter.

Name	Signature or Date of Committee/Board Approval, if Applicable	Date
Board of Directors		
NRTS Committee		
Ed Kerwin		
Patrick Davis		