

**CONTRACTING OPTIONS AND
RECOMMENDATIONS:**
JOINT STATE/FEDERAL PLANNING AND FUNDING
FOR MARINE ENERGY PROJECTS
Interim Report

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SUMMARY

This paper is a *preliminary* identification and discussion of various contracting options for joint state and federal funding and planning of marine hydrokinetic (MHK) demonstration projects and other support activities under the Marine Energy Technology Advancement Partnership (METAP) for the purpose of creating the optimal contracting vehicle for collaboratively-funded state/federal projects. This interim report was developed by the METAP Team, with NASEO and Clean Markets as principle investigators and CESA providing significant input.

The U.S. Department of Energy's (DOE) Office of Wind and Hydropower Technologies is considering issuance of a Funding Opportunity for marine energy projects and/or test facilities in the Fiscal Year 2011/2012 timeframe, subject to Congressional appropriations. DOE is interested in seeking state partners and others to contribute cost share for hydrokinetic projects that are awarded DOE funding. Several types of contracting models involving state and federal funding were explored including:

- Grants and Cooperative Agreements
- Memorandum of Understanding
- State Matching Funds Provided to "DOE In-State Project Awardees"
- The NREL STEP Program
- Reverse RFP
- State-Issued Cost Share RFP
- DOE- Issued Collaborative RFP

The most common methods by which DOE provides funding to outside parties are through grants and cooperative agreements.¹ It is DOE policy to use competitive solicitations followed by a Merit Review process in the award of grants and cooperative agreements to the maximum extent feasible. The DOE competitive solicitation and Merit Review policy conforms to 31 U.S.C. 6301(3) which encourages the use of competition in awarding all grants and cooperative agreements. Contracting Officers must use merit-based, competitive procedures to award grants and cooperative agreements to the maximum extent feasible. Means of contracting by noncompetitive proposals may only be used under a limited set of circumstances.

Section 600.13 of Title 10, Code of Federal Regulations (CFR), provides the regulatory basis for the Merit Review process and defines Merit Review as a "thorough, consistent and objective examination of applications based on pre-established criteria by persons who are independent of those individuals submitting the applications and who are knowledgeable in the field of endeavor for which support is requested." In addition, the Energy Policy Act of 2005 requires that awards authorized under that Act be made only after an impartial review of the scientific and technical merit of the application being recommended for award.

Of all of the models explored here, two have a greater degree of flexibility and ease of implementation, and a third is worthy of further exploration with DOE's Office of Energy Efficiency and Renewable Energy's (EERE) contracting specialists. The three options include:

¹ Grants and cooperative agreements are different from procurement contracts. In procurement contracts, the government receives goods or services to serve the government's own interest. In contrast, grants are awarded for the benefit of the recipient, while the intent of a cooperative agreement is to carry out a public purpose.

1. **State Matching Grant Funding**– A state automatically provides matching funds to awardees of a DOE Funding Opportunity Announcement (FOA) within their state, without an agreement with DOE.
2. **State-Issued Cost Share RFP** – A state reviews applications to a separate state solicitation from in-state projects that are eligible for a related DOE-issued FOA. The state determines which applicants will receive matching funds based on state-based criteria in the state RFP, with state funding provided only if the project is selected by DOE for the federal funding through the DOE-issued FOA. Successful applicants receive a Letter of Intent from the state to include with DOE application.
3. **DOE-Issued Collaborative RFP** – Under this approach, DOE would seek to agree upon technical selection criteria with partnering states and these collaborative criteria would govern a future DOE FOA. DOE then would list participating states in the FOA, along with the cost share that states will provide for projects in their states or region. Participating states would have a role in the review of the DOE FOA applications in the grant award process, either as merit review leaders or members of a selection committee that accepts or rejects the recommendations of the merit review committees.

These three options are discussed in more detail in the following pages (with supporting documents in Appendix A), while all of the options considered are described in summary fashion in Appendix B. After DOE's Office of Wind and Hydropower Technologies Program has reviewed the preliminary report, as a next step, the Project Team recommends that a meeting be scheduled with Program representatives, the Program's dedicated contracting specialists, and members of the Project Team to discuss the options described here and to guide the development of a final, detailed report that would address approaches of interest to DOE.

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RECOMMENDED OPTIONS FOR FURTHER CONSIDERATION

The Marine Energy Technology Advancement Project (METAP) team identified and considered nine (9) examples of state/federal contracting partnerships (see Appendix B for list of all options reviewed). The Team recommends that the following three concepts be explored further with EERE contracting specialists:

1. “State Matching Grant Funding,” used by the Oregon Wave Energy Trust
2. “State-Issued Cost Share RFP,” used by the California Energy Commission
3. “DOE-Issued Collaborative RFP,” which has not been employed to date to the Team’s knowledge.

The implications and pros and cons of each option can be found in Table 1.0. Supporting materials for the OWET and CEC RFPs can be found in Appendix A of this report.

State Matching Grant Funding

Under this approach, a state automatically provides matching funds to awardees of a DOE funding opportunity for MHK projects within their state, without an agreement with DOE. This straightforward approach is best illustrated by a recent grant opportunity in the State of Oregon for marine energy projects. In 2010, the Oregon Wave Energy Trust (OWET) issued an RFP in conjunction with its Research and Development Matching Grant Program. OWET is offering a matching grant to successful applicants of the DOE’s Marine and Hydrokinetic Technology Readiness Advancement Initiative (DOE-FOA-293), equal to 20 percent of the award, up to \$100,000.

There is not an agreement between the DOE and OWET (e.g., cooperative agreement, memorandum of understanding) in connection with OWET’s grant program. Rather, OWET’s efforts are independent of the DOE solicitation. Under this model, OWET fully accepted DOE’s technical criteria and project selections within the state of Oregon.

According to OWET, their R&D matching grant program only requires applicants to remit their DOE application and the items listed in that application. Under OWET’s approach, if applicants qualify for DOE funds, then they will automatically qualify for OWET’s funding with the caveat that a significant amount of the DOE-funded project must occur in Oregon (and subject to the overall funding cap established by OWET). The application and eligibility requirements can be found in Appendix A of this document.

State-Issued Cost Share RFP

Under this approach, a state issues a separate state solicitation for funding of in-state MHK projects that are eligible for a related DOE-issued FOA. The state determines which applicants will receive matching funds based on state-based criteria in the state RFP, with state funding provided only if the project is selected by DOE for the federal funding through the DOE-issued FOA. Successful applicants receive a Letter of Intent from the state to include with DOE application.

This approach was recently used by the California Energy Commission (CEC) for DOE American Recovery & Reinvestment Act (ARRA) funding opportunities. Specifically, in 2009, the CEC’s Public Interest Energy Research (PIER) program offered cost share for successful

applicants of 34 DOE Funding Opportunity Announcements (FOAs) under ARRA. This was accomplished through two PIER Public Opportunity Notices (PONs):

1. PON-09-002 (\$35 Million CEC cost share)
2. PON-08-011 (\$21 Million CEC cost share)

This CEC PON process was embedded within DOE's FOA timeline. When DOE released a series of FOAs in program areas of interest to the CEC, the CEC released a PON outlining eligibility criteria and maximum cost share for each DOE FOA. Pursuant to the CEC PON, the CEC required applicants to submit a summary of their application to CEC for review and approval under the state PON, before they submitted their applications to DOE. The CEC would then issue a Letter of Intent outlining CEC cost share for each proposal meeting the state's criteria, which could be submitted with the applicant's proposal to DOE.

CEC selected specific DOE FOAs for state cost share eligibility if the DOE funding focus was within an area of R&D interest to CEC, and if the DOE FOA provided CEC with a timeframe of at least 2-3 months before proposals were due to DOE. If the DOE FOA application deadline was less than two months from the issuance of the CEC PON, CEC determined that it was too short of a timeframe for the CEC review process to take place. Therefore, DOE FOAs with less than a two-month timeframe remaining for application submission from the time of the CEC PON announcement were not included as eligible for a state cost share in the PON. CEC eligibility requirements and matching fund amounts can be found in Appendix A.

DOE-Issued Collaborative RFP

Under this approach, DOE would seek to agree upon technical selection criteria through discussions with partnering states and these collaborative criteria would govern a future DOE FOA. DOE then would list participating states in the FOA, along with the cost share that the state will provide for projects in their states or region. States would have a role in the review of the DOE FOA applications in the grant award process, either through the Merit Review Process, the selection process or another appropriate vehicle.

This is a concept suggested by an experienced DOE contracting official outside of EERE. Under this approach, DOE would agree upon technical criteria with partnering states before writing the FOA, as well as the matching funds each state was willing to contribute to projects within their state or region's waters. In its FOA, DOE would then inform applicants about the states that are partnering with DOE, and the amounts each state would contribute for a successful DOE project in each state's geographical area. States would have the authority to require all successful applicants that receive awards in the DOE FOA process for projects in their states' or regions' waters to also meet state-specific Terms and Conditions for matching state funds. This concept will need to be discussed with EERE contracting specialists, to understand its merits and potential issues.

Table 1. RECOMMENDED METHODS: PROS AND CONS

METHOD	PROS	CONS	IMPLICATIONS
State Matching Grant Funding	States do not have to separately issue their own RFP or technical criteria; avoids time and resources necessary if states develop their own criteria and conduct state review process; avoids potential conflicts over joint criteria development with DOE and other states.	States must accept DOE FOA criteria; DOE does not have the benefit of state input; without an agreement with DOE, states can opt out of participation after DOE FOA is issued.	This method is easy to administer but loses the value of DOE/states' dialogue and cooperation regarding technical criteria; If state budgets are constrained, states can easily decide not to participate.
State-Issued Cost Share RFP	States do not have to develop their own technical criteria; avoids potential conflicts over joint criteria development with DOE and other states.	State must quickly react to and follow DOE's FOA announcements; state still must issue and process its own RFP; state has less time to evaluate the merits of each proposal; DOE does not have benefit of state input or cooperation on joint selection criteria.	State review is subject to DOE's FOA schedule, State must announce matching funds and receive and evaluate proposals within the DOE FOA timeframe. However, DOE FOA announcement could be coordinated with states to address these timing issues and provide ample time for state review pre-DOE FOA deadlines.
DOE-Issued Collaborative RFP	States do not have to separately issue their own RFPs; criteria development has benefit of input from states & DOE; review of projects benefits from coordinated review and joint expertise of DOE and states; DOE and state MHK demonstration objectives are better aligned; applicants can respond to one solicitation document had have more certainty on state and federal cost share.	State collaboration discussions with DOE must adhere to relevant, objective parameters so that applicants within those states are not seen to be given an unfair advantage; the approach limits participation to those states that commit funds in advance of the FOA issuance with potential for complaints from some states and/or private organizations not participating, but this can be overcome by inviting all coastal states to consider participating in cost share arrangement.	It does not appear that this concept has been tried before, but offers a logical, collaborative way forward, and would most effectively meet the objectives of METAP.

APPENDIX A

SUPPORTING MATERIALS FOR RECOMMENDED STATE/FEDERAL CONTRACTING MODELS



OWET R&D MATCHING GRANT PROGRAM

The following describes the Oregon Wave Energy Trust’s (OWET) wave energy research and development matching grant program, which provides matching funds for successful applicants to the U.S. Department of Energy’s (DOE) Marine and Hydrokinetic Technology Readiness Advancement Initiative (DE-FOA-0000293), who perform a significant portion of their proposed DOE project in Oregon. Successful applicants to OWET’s R&D matching grant program will receive a commitment letter for matching funds from OWET for 20 percent of their DOE award, up to \$100,000. A total of up to \$400,000 will be awarded from OWET. The solicitation will be available beginning May 21, 2010, and closes June 7, 2010.

Proposals will be evaluated in the order they are received. Applicants must meet the eligibility criteria and program requirements. Once the applicant has met the requirements, OWET will issue a letter of commitment that can be included within the applicant’s proposal to the DOE, as required by the funding opportunity announcement (FOA). Please include this completed and signed document with a completed application. Applicants are encouraged to contact OWET directly at info@oregonwave.org.

Applicant Eligibility and Program Requirements:

- Applicant must perform a significant amount of their DOE project in Oregon.
- OWET retains discretion to interpret whether a significant amount of the applicant’s work is performed in Oregon.
- Applicant shall submit to OWET the 2-page Project Summary (or a draft thereof) as required by the DOE FOA.
- Applicant shall submit to OWET non-confidential portions its Project Narrative as required by the DOE, and such Narrative, at a minimum, shall describe the location in Oregon where a significant amount of its DOE project work will be performed, and shall contain a commitment that the work will be performed in Oregon. All information received on behalf of the applicant will remain confidential.
- Applicant will have received an award from DOE for the Marine and Hydrokinetic Technology Readiness Advancement Initiative, 2010.
- Matching funds will be distributed upon proof of receipt of DOE grant funds.
- Applicant will be subject to contract terms including reporting requirements and audit procedures developed by OWET.
- Use of local contractors and businesses is preferred.
- All financial awards are subject to Board approval.

I hereby declare that this project meets all the applicant eligibility requirements and criteria, and I agree to the terms of the application process and matching requirements as outlined above.

Authorized Signature: _____

Name of Signatory: _____

Position: _____ **Name of Company:** _____

Date: _____

GRANT SOLICITATION AND APPLICATION PACKAGE

**American Recovery and Reinvestment Act of
2009 Cost Share**



PON-08-011

PIER

**Energy Research, Development and
Demonstration Program**

June 18, 2009

GRANT SOLICITATION AND APPLICATION

Subject Area: American Recovery and Reinvestment Act Cost Share

1. Release Date: June 18, 2009

2. Purpose:

This is a competitive solicitation, limited to applicants who are submitting applications to the federal government in response to energy research and development-related American Recovery and Reinvestment Act of 2009 (ARRA) funding opportunity announcement(s) (FOAs). The California Energy Commission (Energy Commission) through the Public Interest Energy Research (PIER) Program is offering eligible applicants funding to be used as cost share for their application to the federal government. The Energy Commission plans to allocate up to \$21 million of PIER electricity funds for cost share for current and future research-related ARRA funding opportunities.

To be eligible for funding, applicants must fulfill all of these requirements:

- Seek and obtain an award through one of the ARRA funding opportunity announcements identified in this solicitation.
- Address the pre-application requirements and final application evaluation criteria contained in this solicitation AND obtain a minimum passing score.
- Submit applications that are consistent with the goals of the PIER program (Public Resources Code Section 25620 et seq.) and of the relevant federal funding opportunity announcement.

3. Background:

The Energy Commission administers the PIER Program, which supports and funds energy research, development, and demonstration (RD&D) projects that will help improve the quality of life in California by bringing environmentally safe, affordable, and reliable energy services and products to the marketplace. The PIER Program annually awards up to \$62.5 million to conduct the most promising public interest energy research by partnering with RD&D organizations including individuals, businesses, utilities, and public or private research institutions. The PIER Program funds pioneering RD&D in the following programmatic areas: energy efficiency and demand response, renewable resources, advanced electricity generation, transmission and distribution, advanced transportation technologies, energy-related environmental research and climate science.

President Obama signed ARRA into law on February 17, 2009. Since then, the U.S. Department of Energy has released several solicitations on a variety of energy RD&D topics. They span the entire range of topics funded by PIER. It is the Energy

Commission's policy to encourage and support California entities applying for ARRA funding.

4. ARRA Funding Opportunity Announcements:

To participate in this solicitation, applicants must submit applications to the federal government in response to one or more of the following ARRA funding opportunity announcements:

- Enhanced Geothermal Systems Component Research and Development/Analysis, DE-FOA-0000075
- Enhanced Geothermal Systems Demonstration, DE-FOA-0000092
- Geothermal Technologies Program, DE-FOA-0000109
- High Penetration Solar Deployment, DE-FOA-0000085
- Building America Energy Efficient Housing, DE-FOA-0000099
- Solid State Lighting Round IV Core, DE-FOA-0000082
- Training Program Development for Commercial Building Equipment Technicians, Building Operators, Energy Commissioning Agents/Auditors, DE-FOA-0000118
- Solid State Lighting Product Development Round VI, DE-FOA-0000055
- Energy Efficient Information and Communication Technology, DE-FOA-0000107
- Smart Grid Investment Grant Program, DE-FOA-0000058
- Smart Grid Demonstrations, DE-FOA-0000036
- Geological Sequestration Training and Research, DE-FOA-0000032
- Site Characterization of Promising Geologic Formations for CO2 Storage, DE-FOA-0000033
- Carbon Capture and Sequestration from Industrial Sources and Innovative Concepts for Beneficial CO2 Use, DE-FOA-0000015
- Advanced Energy Efficient Building Technologies, DE-FOA-0000115

The Energy Commission reserves the right to add or delete ARRA funding opportunity announcements from this Solicitation.

Table 2. CED FUNDING MECHANISMS BY FOA

PON-08-011

PIER

Table 2: Funding Maximums by FOA

ARRA Funding Opportunity Announcement	Maximum Energy Commission Cost Share for a Single project
Enhanced Geothermal Systems Component Research and Development/Analysis, DE-FOA-0000075	\$380,000
Enhanced Geothermal Systems Demonstration, DE-FOA-0000092	\$250,000
Geothermal Technologies Program, DE-FOA-0000109	\$410,000
High Penetration Solar Deployment, DE-FOA-0000085	\$500,000
Building America EE Housing, DE-FOA-0000099	\$200,000
Solid State Lighting Round IV Core, DE-FOA-0000082	\$200,000
Training Program Development for Commercial Building Equipment Technicians, Building Operators, Energy Commissioning Agents/Auditors, DE-FOA-0000118	\$120,000
SSL Product Development Round VI, DE-FOA-0000055	\$200,000
Energy Efficient Information and Communication Technology, DE-FOA-0000107	\$250,000
Smart Grid Investment Grant Program DE-FOA-0000058	Maximum \$1,000,000 or up to 10% whichever is less
Smart Grid Demonstrations DE-FOA-0000036	Maximum \$1,000,000 or up to 10% whichever is less
Geologic Sequestration Training and Research DE-FOA-0000032	Maximum \$30,000 or up to 20% whichever is less
Site Characterization of Promising Geologic Formations for CO2 Storage DE-FOA-0000033	Maximum \$500,000 or up to 20% whichever is less
Carbon Capture and Sequestration from Industrial Sources and Innovative Concepts for Beneficial CO2 Use DE-FOA-0000015	Maximum \$300,000 or up to 20% whichever is less
Advanced Energy Efficient Building Technologies, DE-FOA-0000115	\$400,000

APPENDIX B

ALL STATE/FEDERAL PARTNERSHIP MODELS EXPLORED FOR METAP

GRANTS AND COOPERATIVE AGREEMENTS

The mechanism most suitable for an effective funding partnership between states and DOE to meet the objectives of METAP is a cooperative agreement, rather than a grant. The main distinction between a grant and a cooperative agreement (CA) is that an agency uses a grant when substantial involvement is *not expected* between the executive agency and the state, local government, or other recipient when carrying out the activity contemplated in the grant. Accordingly, a CA is the instrument of choice when substantial involvement is expected between the executive agency and the recipient during the performance of the funded activity.

Substantial involvement does not include the exercise of normal federal stewardship activities. These responsibilities, which are part of grants administration, include:

- (1) Approving recipient plans prior to award.
- (2) Providing technical assistance prior to the start of the activity, which the recipient understands prior to the award, if requested by the recipient.
- (3) Providing technical assistance to correct deficiencies in project or financial performance when reports or monitoring indicate some sort of problem.
- (4) Performing site visits.
- (5) Reviewing financial, performance and audit reports.
- (6) Performing technical reviews to determine whether to continue funding the next budget period.
- (7) Reviewing performance to ensure that the objectives, terms and conditions of the award are accomplished.
- (8) Providing general administrative requirements, such as prior approvals required by the financial assistance regulations and/or OMB Circulars.
- (9) Reviewing performance after completion.

Federal involvement would exist and could warrant a CA if such involvement includes activities such as:

- (1) Review and approval of one stage before work can begin on a subsequent stage. Such review and approval is in addition to the exercise of the normal federal stewardship responsibility to determine whether to continue funding the next budget period, which does not constitute substantial involvement.
- (2) Collaboration or joint participation in the project, such as sharing facilities and personnel or a jointly authored report or education curriculum product.
- (3) Additional monitoring to permit specified kinds of direction or redirection of the work because of interrelationships with other projects.
- (4) Substantial direct operational involvement or participation is anticipated to ensure compliance with statutory requirements such as environmental protection. Such participation must be over and above the normal exercise of federal stewardship responsibilities.
- (5) The power to immediately halt an activity if detailed performance specifications (e.g., construction specifications) are not met. In this case, the “Substantial Involvement Statement” must include provisions that go beyond the normal suspension remedies available to the Federal Government for nonperformance.

Below are a few examples of Federal-State partnerships using forms of CAs, which should offer guidance to the appropriate contracting vehicle for METAP.

STAC: STATE TECHNOLOGIES ADVANCEMENT COLLABORATIVE

STAC was an intergovernmental agreement (IA) entered into in 2002 between DOE, NASEO and ASSERTI for the purpose of committing the parties to establish and implement a five year collaborative pilot program to jointly fund RDD&D to support common state and federal energy efficiency and renewable energy activities. The IA established a STAC Executive Committee that administered the STAC Program consistent with NASEO's responsibilities set out in the Cooperative Agreement ("CA"). To be a party to the IA, DOE representatives required that its contracting partner have governmental or quasi-governmental status. NASEO fulfilled this criterion given that NASEO's full-voting members are comprised of state energy offices. In particular, NASEO can only act consistent with the voting of its members.

The DOE and NASEO signed a CA in which to implement the IA. The CA served as the instrument for transferring funds from DOE to implement the IA. More specifically, the CA served as the vehicle to obligate a federal 50 percent cost-share funding and to allow NASEO to administer and operate the pilot program. NASEO, as the recipient under the CA, was responsible for the disbursement of the federal funds; NASEO received the DOE funding on behalf of the Executive Committee and committed such funds as directed by the Committee. Both NASEO and ASERTTI were obligated to assure DOE that the remaining 50 percent of the cost share came from non-federal sources.

In order to achieve the streamlined process as envisioned by STAC, a model contract with standardized terms and conditions was used between NASEO and the RDD&D Participant (that is, the party selected/awarded to carry out the RDD&D). This agreement was implemented subject to and accordance with the CA.

The Executive Committee included:

- Two ASERTTI representatives
- Two NASEO representatives
- Two DOE representatives
- One independent member

The role of the Committee was to determine the amount of funding that would go to each category, and then to turn the process over to the Program Director and staff.

The Program Director (selected by the Executive Committee), supported by the DOE, NASEO, and ASSERTI developed, solicited and evaluated competitive merit-based solicitations. The Program Director was responsible for assigning Independent Evaluation Committees, which are subgroups of a Federal/State Joint Planning Committee, to conduct a merit review of submitted proposals. After completion of a merit review, the Independent Evaluation Committee recommended the portfolio of awards to the Executive Committee. In turn, the Executive Committee had authority to veto the award of the portfolio of projects, if inconsistent with STAC's goals and objectives. The Committee could not veto individual projects. Members of the

Executive Committee had to disqualify themselves on any decision where a conflict of interest or an incompatible activity may exist.

Although this model was successful and well thought out, both DOE and NASEO officials agreed that it was not the best model for METAP to use. The contractual mechanism that established STAC is best suited to state-federal collaboration among governmental entities. This project potentially involves non-governmental entities as project leads and as such is not the best fit for STAC. This resulted in NASEO and DOE recommending a different approach for the METAP project.

STRIPPER WELL CONSORTIUM

The Stripper Well Consortium (SWC) is an industry-driven consortium whose purpose is the development, demonstration and deployment of new technologies needed to improve the production performance of natural gas and petroleum stripper wells. SWC is made up of natural gas and petroleum producers, service companies, industry consultants, universities and industrial trade organizations. SWC was established through a Cooperative Agreement between the DOE and Pennsylvania State University. This agreement provides approximately \$3 million of base funding over a three-year period. The agreement provides Penn State with the overarching management responsibilities for the consortium; Penn State is responsible for dispensing the DOE funding to project participants. In addition, the Strategic Center for Natural Gas, the National Petroleum Technology Office and the New York State Energy Research and Development Authority provide base funding and guidance to the consortium.

RFPs are issued by the SWC, with the assistance of the DOE. Although the DOE has input in the RFP language and the selection process, RFPs are not issued and/or announced by the DOE. Interestingly, RFPs issued by the SWC are not open per se as applicants must be members of the SWC.

The SWC approach is not recommended for METAP because the focus of the MHK technology partnership is state/federal collaboration, rather than the creation of an industry consortium to direct public funding. The MHK industry is still in its infancy and it would be counterproductive to limit funding to members of a new consortium when the objective is innovation, commercialization, and easy entry to the MHK sector.

REGIONAL CARBON SEQUESTRATION PARTNERSHIP

This network of regional partnerships comprised of federal, state and private parties is funded through a cooperative agreement. Its purpose is to join efforts to determine the most suitable technologies, regulations and infrastructure for future carbon capture and storage activities in different parts of the U.S. Funding for each partnership is expected to be \$2 to \$4 million per partnership per year, depending on factors such as duration, scope and number of technology validation projects proposed within a region; the partners cover the remainder of the costs.

The competitive solicitations issued by the DOE are unrestricted and open to all. Throughout the three phases of RSCP (Characterization, Validation, and Development), the amount of cost-share

has varied, but it seems that partners have contributed from 30 to 40 percent of the total project costs.

The following link gives a good picture of the cost-sharing break down in one of the three phases: http://www.fe.doe.gov/news/techlines/2005/tl_sequestration_grants.html

Determining the viability of this approach to meet the METAP objectives would require more research by the METAP team.

MEMORANDUM OF UNDERSTANDING

The California Energy Commission (CEC) entered into a memorandum of understanding (MOU) with the DOE for cooperation on electric energy storage (EES) demonstration projects in California. According to the MOU:

The purpose of this MOU is to encourage, support, and facilitate planning, implementation and information transfers of electric energy storage-related demonstration activities between the Parties. Each party will contribute to this effort through the appropriate means including, but not limited to, program coordination, information sharing, the sharing of other relevant expertise, and the program management of project implementation elements as defined in this MOU.

The CEC is responsible for releasing the RFPs and all other tasks associated with the release of the RFP. Further, RFP responses are received by the CEC and it is assigned to manage the responsibilities associated with the screening, selection, and award of the contracts resulting from the RFP proposal submissions. The duties of the DOE consist of assisting in the development and review of RFPs as well as performing technical project management duties for all EES contracts.

It is important to note that the MOU is not intended to obligate the parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value. Therefore, this model would not work for METAP since the METAP objective is to actually commit state and federal funding to deploy hydrokinetic test facilities or prototypes, rather than to merely ensure cooperation and information sharing between states and DOE on support for demonstration project activities.

State Matching Grant Funding

Under this approach, a state automatically provides matching funds to awardees of a DOE funding opportunity for MHK projects within their state, without an agreement with DOE. This straightforward approach is best illustrated by a recent grant opportunity in the State of Oregon for marine energy projects. The Oregon Wave Energy Trust (OWET) recently issued an RFP in conjunction with its Research and Development Matching Grant Program. OWET is offering a matching grant equal to 20 percent, up to \$100,000, of the DOE's Marine and Hydrokinetic Technology Readiness Advancement Initiative.

From the information that is available on OWET's website, there does not appear to be any agreement between the DOE and OWET (e.g., cooperative agreement, memorandum of understanding, etc.) in connection to OWET's grant program. That is, OWET's efforts seem to be independent of the DOE solicitation.

According to OWET, OWET's R&D matching grant program only requires that applicants remit the application and the items listed in that application, which come from their application to the DOE. OWET's approach is that if applicants qualify for the DOE funding, then they will qualify for OWET's funding, with the caveat that a significant amount of the DOE project must occur in Oregon. This model is one of the three models recommended to discuss with the EERE program and contracting staff.

NREL's STEP Program

This is not a formal program, but was a process used in the past 10 years, for renewable energy projects jointly funded by DOE and states. Essentially, states and DOE collaborated on the parameters and specifics of the RFP, and an RFP was issued by NREL, requiring a cost share by states.

One disadvantage of this process for NREL and DOE is that DOE and NREL did not have the ability, under the STEP program as implemented, to "veto" the projects that were selected by a state, or to take action if a project was not adhering to its milestones and project schedule. However, a STEP-type process could be designed to overcome these limitations.

STATE-ISSUED COST SHARE RFP

Under this approach, a state issues a separate state solicitation for funding of in-state MHK projects that are eligible for a related DOE-issued FOA. The state determines which applicants will receive matching funds based on state-based criteria in the state RFP, with state funding provided only if the project is selected by DOE for the federal funding through the DOE-issued FOA. Successful applicants receive a Letter of Intent from the state to include with DOE application. This approach was recently used by the California Energy Commission (CEC), in the context of DOE ARRA FOAs.

In 2009 the CEC's Public Interest Energy Research (PIER) program offered cost share to successful applicants to 34 DOE FOAs. This was accomplished through two PIER Public Opportunity Notices (PONs):

3. PON-09-002 (\$35 Million CEC cost share)
4. PON-08-011 (\$21 Million CEC cost share)

When DOE released a series of FOAs in program areas of interest to the CEC, the CEC would release a PON outlining eligibility criteria and maximum cost share for each DOE FOA. Before DOE applicants submitted their DOE application, they would submit a summary of their application to CEC for review and approval. The CEC would then issue a Letter of Intent concerning CEC cost share for each proposal that met its own criteria, which was then enclosed with the applicant's proposal to DOE.

This cost share process was utilized for all DOE FOAS within CEC's area of R&D interest submitted 2-3 months before proposals were due to DOE. If DOE timing was less than 2 months, it was too short for the CEC review process to be included.

This method was one of three that were recommended for further evaluation by DOE program staff and EERE contracting staff.