

STEAB March 2016 Meeting
 March 9-10 2016
 Renaissance Arlington
 Washington, DC

MARCH MEETING ATTENDEES

Designated Federal Officer (DFO):

- Michael Li, DFO, EERE, DOE.

STEAB MEETING ATTENDANCE		
BOARD MEMBERS	Present	Absent
Jeff Ackermann , Director, Colorado Energy Office	X	
Tom Carey , Director, Energy and Rehabilitation Programs, New York State Division of Housing and Community Renewal	X	
Molly Cripps , Director, Office of Energy Programs Tennessee Department of Environment & Conservation	X	
Diane Duva , Office Director, Office of Energy Demand Bureau of Energy and Technology Policy Connecticut	X	
Marion Gold , Commissioner of Energy, Rhode Island Office of Energy Resources	X	
Robert Jackson , Director, Michigan Energy Office , Michigan Economic Development Corporation	X	
Elliott Jacobson , Vice President for Energy Services, Action Energy	X	
Maurice Kaya , Hawaii Renewable Energy Development Venture	X	
Ashlie Lancaster , Director, South Carolina Energy Office	X	
Louise Martinez , Director, New Mexico State Energy Office	X	
Katrina Metzler , Section Supervisor, Weatherization Office of Community Assistance, Ohio Development Services Agency		X
Andrew McAllister , Commissioner, California Energy Commission		X
Frank Murray , Consultant and Strategic Advisor, Former President and CEO, New York State Energy Research and Development Authority	X	
William “Dub” Taylor , Director, Texas State Energy Conservation Office	X	
Malcolm Woolf , Sr. Vice President, Policy and Government Affairs, Advanced Energy Economy		X

Contractor Support:

- **Genny Baptiste**, Coordinator, SRA International Inc.

Welcome and Introductory Remarks

- STEAB Chair, Frank Murray (FM), opened the meeting thanking all members for their participation. Mike Li (ML) and FM then reviewed the agenda for the day. ML stated that the new members and re-appointed members of STEAB have been signed off and approved by the Secretary. They proceeded with Task Force updates.

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Task Force Updates

- Malcolm Woolf (MW) started by giving an update on the QER Tasks Force. QER task force and the Grid modification task force joined in an effort to create a letter to Karen Wayland of EPSA at DOE to outline STEAB's ideas on state electricity trends and key themes of common interest for inclusion in the QER scope. He explained that he felt the letter to Karen Wayland was a great segue to spark conversation during the meeting. Karen is on the agenda to hold a discussion and the Board hopes to address many of the points that were highlighted in the letter.
- There were no other Task Force updates so FM proceeded with the start of the meeting.

Office of Technology Transitions: Don MacDonald

- The first guest speaker was Don MacDonald, from DOE, Office of Technology Transitions (OTT) he gave his background in DOE, from working with the Office of Electricity, then moving to work with The Idaho Labs and now back at DOE working for OTT. He presented and gave an update on the current works and plans of OTT.
- Mr. Macdonald explained that In February 2015, the office was created to expand the commercial impact of DOE's portfolio of RDD&D activities over the short, medium, and long term. Through these efforts, OTT works to increase the return-on-investment from federally-funded scientific and energy research. OTT coordinates the Department's multiple paths of research, development, demonstration and deployment activities toward technology transfer and commercial development. Some of the office activities include: Technology Commercialization Fund; Agreements for Commercializing Technology Pilot; Streamlined Agreement Activities; Technology Transition Policy Statement; Data Protection/Sharing Policy; Increased Support for Private Sector Engagement (Partnering); Elevated Importance of Technology Transfer.
- OTT is working on a Technology Commercialization Fund (TCF), and a few of those goals for the fund are to fulfill Congressional intent and DOE responsibility under EAct 2005; Increase the number of lab technologies transitioned into commercial development and impact; and Enhance DOE's proactive approach to national laboratory technology transitions. Some of the key gaps to address are DOE National Laboratory technology maturation resource gap; Forward-looking and competitive DOE approach to CRADAs; Focused National Laboratory outreach and industry engagement to commercialize high-potential energy technologies. The TCF is a nearly \$20 million annual fund to mature promising energy technologies at DOE's national laboratories. OTT issued the first TCF solicitation on Feb. 4, 2016, and the awardees will be announced in the summer of 2016. The fund has two areas of emphasis: Topic 1: Increase the number of energy technologies developed at DOE's national labs that are mature enough to engage private partners. Topic 2: Enhance the Department's technology transitions system with a proactive lab-industry partnership.
- Mr. Macdonald then went on to discuss the Clean Energy Investment Center (CEIC). The primary functions of the CEIC include: Single Point of Access for Information: It will make information about DOE programs accessible and more understandable to the public, including mission-driven investors. Partnering Service: It provides connections to points of contact and subject matter experts within relevant DOE programs and other federal agencies. Technical Assistance/Analysis: It will share research and analysis produced by DOE and its national labs on relevant developments in clean energy technology. Information on Early Stage Projects and Companies: It will aggregate and make

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available existing, public information on entities currently engaged in partnerships with DOE (ARPA-E, SBIR, STTR, etc.)

- Mr. Macdonald concluded his presentation and discussion explaining that CEIC's Outbound Service connects commercial partners and investors to valuable data. DOE has data on next generation energy projects. For example, DOE has information on the work happening with teams at the University of California San Diego and DNV GL to validate the performance of ARPA-E-funded grid-storage technologies. The teams provide test facilities and validation to various technologies through a partnership program called CHARGES. He then closed by thank STEAB for inviting him to speak and gave contact information on how he can be reached for further information and engagement with STEAB.

Discussion on QER with Karen Wayland (EPSA)

- Ms. Wayland started the discussion giving a quick update on the recommendations from QER 1. They are coming up on the one year mark of the QER, released on April 21th 2015. The QER Task Force released the first installment of the QER entitled, "Energy Transmission, Storage, and Distribution Infrastructure", which examined the Nation's infrastructure for transmission, storage, and distribution, including liquid and natural gas pipelines, the grid, and shared transport such as rail, waterways, and ports. Given the critical enabling role of electricity articulated in the first installment, the Administration has determined that the second installment of the QER would develop a set of findings and policy recommendations to help guide the modernization of the nation's electric grid and ensure its continued reliability, safety, security, affordability, and environmental performance through 2040.
- Ms. Wayland explained that the QER served as a blueprint particularly for the house side they laid out 4 sections early on in the draft and a lot of that information came from the QER. There were 63 recommendations, 35 of them are executive actions that DOE can do with statutory revisions, while others will require additional appropriations. There were only 5 that required new statutes. The house and the senate did pick up some of the ideas. The energy bills are potentially moving; there were a lot of recommendations in the transportation bill that largely mirrored the recommendations in the QER. They also received \$2 million to modernize petroleum reserve. A lot of the recommendations from the first QER will merge into the second installment.
- Ms. Wayland then went on to talk about the process of the second installment of the QER. She stated that over the course of the year, DOE will convene a series of public meetings centered on the topic of the second installment of the QER, an integrated study of the U.S. electricity system from generation through end use.
- Ms. Wayland announced that the QER 2 installments will be electricity based on the White House and the Secretary. In the first QER there was a focus on scenario analysis, for the second installment it will be more focused on end use. They are in the process now of developing the scope, they have 13 lines of inquiry that people are looking at, which is way more than what they can tackle in the year or 2, they are currently narrowing down list to focus on key issues that the electricity industry and states are dealing with. Ms. Wayland states that STEAB's advice and counsel the first time around was very helpful, and this time around with an emphasis on states she thinks it would be much greater.
- Ms. Wayland talked about how the Administration is seeking public input on key questions relating to possible federal actions that would address the challenges and take full advantage of the

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opportunities of this changing system to meet the Nation's objectives of reliable, affordable and clean electricity. She explained that the formal stakeholder engagement process for the second installment will include a public meeting in Washington DC, followed by a series of meetings in locations around the country to solicit input and foster public dialogue about the QER. She announced some of the dates and locations being Washington, DC Public Meeting--February 4, 2016, Boston, Massachusetts--April 15, 2016, Salt Lake City, Utah--April 25, 2016, Des Moines, Iowa--May 6, 2016, Los Angeles, California--May 10, 2016. Other dates and time will be released.

- The discussion then moved to the State's Trend letter from STEAB's Malcom Woolf and Andrew McAllister to Karen Wayland. This letter addressed 5 key recommendations for STEAB's input in the QER. Those points were: Making sense of the distributed electricity grid, Real-world data on the impact of smart grid technologies, Intelligent rate design, Modernizing energy efficiency, and Exploration of alternative utility revenue models. There was dialogue with STEAB and Karen Wayland to address each of those key points.
- Ms. Wayland then went on to discuss how STEAB can engage with EPSA and how STEAB can be useful in making sure we (EPSA) are capturing things as it relates to the recommendations. For example, course corrections, and making sure they are addressing the critical issues. Ms. Wayland hopes that she can consult with STEAB pretty frequently on the work.
- Ms. Wayland asked STEAB to please think about what type of analytical things EPSA should investigate at the state level and what questions should the QER be asking states that speak to the issues on the ground that states and communities are dealing with now.
- FM thanked Ms. Wayland and her colleagues for their time and he looks forward to more engagement with the second QER.

Grid Modernization/Integration with Kevin Lynn

- Kevin Lynn (KL) started his discussion talking about why they are doing what they are in grid modernization and explaining that the 21st century economy needs a 21st century grid. The older grid could not meet all of the 21st century. KL discussed the vision for grid modernization; the future grid will solve the challenges of seamlessly integrating conventional and renewable sources, storage, and central and distributed generation. It will provide a critical platform for U.S. prosperity, competitiveness, and innovation in a global clean energy economy.
- KL then went on to discuss the Grid Modernization Initiative (GMI). The Initiative is an aggressive five-year grid modernization strategy for the Department of Energy that includes, alignment of the existing base activities among the Offices, an integrated Multi-Year Program Plan (MYPP), new activities to fill major gaps in existing base, development of a laboratory consortium with core scientific abilities and regional outreach.
- KL further discussed the Initiative stating the vision of DOE's Grid Modernization Initiative (GMI) is a future grid that will solve the challenges of seamlessly integrating conventional and renewable sources, storage, and central and distributed generation; the future grid as a critical platform for U.S. prosperity, competitiveness, and innovation in a global clean energy economy; a future grid that will deliver resilient, reliable, flexible, secure, sustainable, and affordable electricity to consumers where they want it, when they want it, how they want it.
- KL then discussed the connectivity with other DOE activities. Integrated Lab Call – Grid Modernization Lab Consortia (GMLC), Industry and Academic Solicitations – HQ Program Offices; joint funding opportunities between EE and OE (Office of Energy), How can we do Cooperative Research Agreements

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better within the national laboratories together with states and industries – HQ Program Offices, and Technical Assistance – HQ Program Offices and National Labs. KL then went into the Lab Call and explained it is open to the labs themselves they will focus on analysis for establishment and framework, core activities, pioneering regional partnerships and foundational technical areas. DOE grid modernization lab call for FY16 will consist of 2 categories, Category 1, foundational platform activities, Category 2, Program Office Specific Activities.

- KL discussed core activities, The Foundational Research projects provide the fundamental knowledge, metrics, and tools needed to support all the Cross-Cut R&D and regional partnerships. They provide the framework to enable an integrated DOE grid modernization strategy, including: Metrics and Baseline: fundamental metrics to guide and evaluate national progress in grid modernization; Grid Architecture: future grid and industry design elements to guide consideration of new industry paradigms; Interoperability: standards and protocols for interoperability and testing of all grid devices from high voltage to customer premises; Device Characterization: an integrated testing network that spans the National Labs as well as industry and academia; Valuation: a consensus framework for valuing emergent grid technologies and services; and Sensing Strategy: a strategy for observing and monitoring the future grid system in a way that meets expectations for predictive control, real-time operations and security.
- Elliott Jacobson brought up the point of affordability for long term projects, his focus is on low income communities and he would like for KL and EE to stay in communication with the planning projects to keep him and the Board updated on cost and affordability.
- KL then went on to discuss State and Regional Engagement projects; Grid Frequency Support from Distributed Inverter-Based Resources in Hawaii. This project's solution is to develop, simulate, validate, and deploy practical solutions in Hawaii that enable distributed energy resources (DERs) to help mitigate bulk system frequency contingency events on the fastest time scale (milliseconds to seconds). Validate the ability of real hardware inverters to support grid frequency in an environment that emulates the dynamics of a HECO power system. The Vermont Regional Partnership Enabling the Use of DER, assist Vermont utilities in meeting the state's ambitious goal of obtaining 90% of its energy from renewable sources by 2050 through (1) DER integration, (2) DER control, 3) validation of wind and solar forecasting, and (4) techno-economic analysis of energy storage. Grid Analysis and Design for Energy and Infrastructure Resiliency for New Orleans, to Conduct technical evaluations to assess energy and critical infrastructure vulnerabilities, and to identify cost effective options to improve the resiliency of both the electrical grid infrastructure and the community.
- KL then explained the cross cutting demonstrations of FY15 and FY16. Demonstrations will be based on active regional engagement starting in FY 2015 and FY 2016 to ensure the demonstration projects will be based on regional needs. Demonstration projects will co-optimize across multiple grid attributes including affordability, security, resilience, reliability, and integration of clean technologies. By their nature, the co-funded, demonstration projects will cut across all six technical areas (budgets are included in each technical area). DOE expects competitive awards in three types of demonstrations: a transmission and distribution system operating reliably on a lean reserve margin; resilient distribution feeders with high percentages of low-carbon distributed energy resources; an advanced modern grid planning and analytics platform

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- FM posed the question to KL would DOE be putting in money to these demo projects. KL said yes it is proposed that DOE is funding some of these demo projects.
- Diane Duva posed the question to KL, where do utilities fit into the planning process. KL stated that he wanted to get the utilities involved to possibly test out the demos and provide tools or guidelines to understand what the implications are before and investment is made.
- KL ended his presentation talking about next steps for Grid Modernization. They are currently doing the Lab Call Negotiations. Next they are planning 6 regional workshops and the DC Grid Summit at the end of June 2016 (location and exact date TBD).

Tech-to-Market: Johanna Wolfson

- ML introduced Johanna Wolfson and she gave some of her background as a physical chemist at MIT, he then asked the STEAB members to go around and make their introductions before Ms. Wolfson began her presentation.
- She started her presentation explaining the focus and programs of Tech-to-Market. She stated that EERE's Technology-to-Market (T2M) focuses on reducing barriers and inefficiencies in the innovation ecosystem in service of getting promising clean energy technologies to market. T2M programs: Launch entrepreneurs and new businesses out of universities and National Labs; Support early-stage businesses with funding and incubator services; De-risk technologies for the private sector by providing small businesses with technical and market support.
- Ms. Wolfson went on to discuss the Lab impact; The Lab Impact Initiative's mission is to significantly increase the industrial impact of DOE national labs on the U.S. clean energy sector. Some of the objectives are to Increase and enhance lab-private sector relationships; Increase and streamline access to national lab capabilities, and demonstrate the value of lab-developed science and technology.
- She then moved on to talk about the Lab-Corps program; based on NSF's successful I-Corps model, The Lab-Corps program is a training curriculum aimed at empowering national laboratory researchers to successfully transfer innovative technologies into the marketplace. The objectives are to increase the number of lab-developed technologies transferred into commercial development, train lab researchers to better understand the commercialization process and strengthen entrepreneurial culture and support for commercialization at the national labs.
- Ms. Wolfson talked about the Cleantech University Prize. Cleantech University Prize (Cleantech UP) is an annual business plan competition that equips students with the skills needed to move clean energy technologies from the discovery phase to the market and distributes prizes to the best startups at eight individual contests, culminating in a national-level championship. The objectives are to catalyze clean energy start-up formation on college campuses, support novel training and educational opportunities to equip the next generation of energy entrepreneurs and innovators across the country and create a sustained and diverse ecosystem and network to support student entrepreneurs. The funding for this program is \$2.5 million.
- The next program Ms. Wolfson talked about was National Incubator Initiative for Clean Energy (NIICE). The National Incubator Initiative for Clean Energy (NIICE) funds a national organization to serve as a

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source of information and coordinating body for clean energy incubators, and supports three regional incubator organizations developing innovative new models to help clean energy startups across the U.S. The funding for this program is \$3.2 Million. The objectives for this program are to enhance the performance of clean energy business incubators, strengthen support for early-stage companies, and catalyze investment in early-stage clean energy businesses.

- Ms. Wolfson then moved to the next program which is the Small Business Innovation Research (SBIR). The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs provide grants to small businesses for innovative research and development. SBIR is funded by a mandatory set-aside at the 11 federal agencies with significant R&D programs, including DOE-EERE. The funding for this program is \$30 million. The main focuses and objectives are: Research, develop and deliver market-driven solutions for energy-saving homes, buildings, and manufacturing; sustainable transportation; and renewable electricity generation and increase the amount of clean energy technology on the market.
- She next talked about Small Business Vouchers (SBV). Small Business Vouchers (SBV) accelerate the development of cutting-edge technology by allowing small, clean energy businesses to access national laboratory equipment and expertise at the www.sbv.org one-stop shop. The funding is about \$20 million (100 vouchers). SBV focuses on increasing small business access to lab capabilities; Broaden mutual awareness of labs and small businesses needs and technologies; Encourage labs to develop outreach strategies; Make lab business practices more compatible with private sector timelines.
- Ms. Wolfson says she will be looking to STEAB for help with the SBV to see the best channels to reach entrepreneurs in their states. She wants to make sure they are getting to word out to the right people.
- New Prize Program for Manufacturing & Scalability was the next program Ms. Wolfson talked about. This program focused on incentivizing cleantech entrepreneurs to think long-term about product commercialization, manufacturability, and scalability. Early-stage entrepreneurs are provided the resources for engagement with industry and manufacturers to help bring disruptive technologies to market. The funding is about \$5 million. The objectives are to leverage state/regional manufacturing networks for entrepreneurs, prepare startups for strategic partnerships with industry and manufacturers, and focus the innovation ecosystem on closing the entrepreneur scale-up knowledge gap and position startups for capital-efficient scale-up.
- The final program Ms. Wolfson talked about was the Solar Decathlon. The Solar Decathlon is a collegiate competition occurring every two years that challenges university teams to design and build solar-powered houses that are cost and energy-efficient. The funding is \$2 million and the objectives are to demonstrate cost-efficient solar-powered homes, develop and provide educational and technical training opportunities for students and the workforce, support workforce development programs that are specific to applied energy and carry out DOE's mission to advance energy technologies for the future.
- Ms. Wolfson ended her presentation thanking STEAB for the opportunity and gave her contact information for further communication.

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Discussion with EERE's Deputy Assistant Secretary for Energy Efficiency

- The first agenda item for the second day of the meeting was an update on activities within EERE and round-table discussion with Deputy Assistant Secretary for Energy Efficiency, Dr. Kathleen Hogan.
- Dr. Hogan then went on to talk about Better Buildings Initiative stating that they are actively doing the Accelerators where they can bring interested parties together and try to figure out more standardized approaches or best practices to solve important problems in the energy efficiency world; she would like for STEAB to brainstorm and get a list of topics for EERE to be considering as part of these future Better Building Accelerators. She states that we can identify our problem, figure out who wants to come together to be a part of solving the problem, and try to come up with a standardized approach and best practices that can be models for others. This gives EERE an opportunity to engage with people and address these issues. As of January 11th 2016, they finished their first Accelerator that was the Energy Data Accelerator. They brought together the utilities and cities around whole building data access. There were about 21 utility/city pairs and they got to about 18 of them to commit to provide by the end of 2017 whole building data. The next focus is water and waste water treatment.
- Dr. Hogan stated that one of the Accelerators is focused on clean energy. She would like to talk about the role of WAP in low income communities, in the hopes of bringing partnerships together centered on clean energy.
- Dr. Hogan asked Frank Murray what STEAB's recommendation would be to DOE to hold a forum with the right people, the right team, to go over best practices to plan and record our progress. We won't get all the answers in one meeting and that this will be an ongoing discussion. We need to set up a meeting to plan the plan.
- Dr. Hogan moved on to announce that DOE is launching the Better Buildings Challenge SWAP, in which two industry giants, Hilton Worldwide and Whole Foods Market, take part in a new experiment in energy efficiency: swapping energy teams to learn from each other and produce even greater savings. In this new web series inspired by reality TV, the two companies swapped energy teams at two San Francisco properties – Hilton San Francisco Union Square and Whole Foods Ocean Avenue. Over a period of three days, teams identified innovative ways to save energy in a building completely different from their own -- a 1.8 million square-foot hotel and a 25,600 square-foot grocery store. They experienced first-hand how sometimes a new set of eyes on a problem can help deliver a fresh set of potential solutions. Hilton and Whole Foods are not only helping reduce each other's energy intensity, they're also helping other companies learn from their example. Dr. Hogan shared a clip of the series to the Board.
- STEAB showed great interest in the Better Building Challenge SWAP they had dialogue about ideas of future swaps.
- Tom Carey stated that he appreciates what DOE is doing with Better Buildings especially as it relates to multifamily component that has been added on.
- Robert Jackson asked Dr. Hogan if there was any focus on health care industry in the near future. As it relates to Better Buildings. Dr. Hogan stated that they started in food service with the SWAP to build that out, and there will be an opportunity for the health industry, hospitals and clinics. They are also looking in the area of universities across the country.
- FM stated to Dr. Hogan that in June, STEAB will be heading out to LBNL (Lawrence Berkeley National Lab) he would like her input on issues STEAB should discuss with the lab that would be a valuable use of time during the visit. He also expressed that he would like to have further discussion with Dr. Hogan at a later date to find out what is the value she sees in STEAB and what can the members do for DOE to have

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a more effective partnership and where do we go to start the discussion. FM pointed out that there is not much communication on the federal level to maintain that partnership.

- Dr. Hogan stated that a big conversation is the future of the energy system and the role of energy efficiency, grid integration, and putting together a broader strategy for that. The challenges are many issues need to be pulled apart so we can actually work on them before putting them back together. She wants to focus on the ongoing work, the strategies, and finding what the role for STEAB could be in FY16. She agrees to have better communication on the federal level and she is open for all future discussions.
- FM agrees, thanks Dr. Hogan and said to the Board to let's focus on how to operate more effectively in FY16.

Transportation: Rueben Sarkar

- Rueben Sarkar, from DOE, EERE joined to meeting to give a program review and to discuss their plans to accelerate research for sustainable transportation.
- Rueben stated that the goal is to accelerate the development and adoption of sustainable transportation technologies. The top priorities are strategic Whitespace for Crosscutting RD3; new, emerging Areas (Off-Roadmap Ideas, Mega-Trends); innovative Platforms to Compress RD3 Cycle; high Profile Pilots & Demonstrations.
- Mr. Sarkar gave a brief outline of the FY16 budget which was \$636 million.
- He then went on to discuss the EV Everywhere Grand Challenge which is the umbrella effort of DOE to increase the adoption and use of plug-in electric vehicles (EVs). EV Everywhere was launched as one of a series of Clean Energy Grand Challenges that set ambitious, far-reaching, national goals that will help the U.S. become more energy secure and environmentally sustainable. Announced by President Obama in March 2012, the initiative has the technical goal of the U.S. becoming the first nation in the world to produce EVs that are as affordable for the average American family by 2022 as a 2012 baseline gasoline-powered vehicle.
- Mr. Sarkar announced they are in the process of launching Billion-Ton Bioeconomy which is a multi-agency initiative to show the overall benefits to the US. They hope launch this initiative in June 2016.
- Mr. Sarkar stated that they rely heavily on large visible pilot programs that they think catalyze technologies that are already in the labs, demonstrating that is can do what they think it can do, and then driving commercialization technology as a result of that, SuperTruck I Initiative was created to improve the efficiency of Class 8 vehicles, DOE and industry partners kicked off the SuperTruck I initiative in 2009. The initiative supported four teams of manufacturers and suppliers who aim to boost a baseline truck's freight efficiency by 50 percent. Two teams have already exceeded this goal and two are on track to meet it.
- Mr. Sarkar then stated that DOE announced \$80 million in new funding for SuperTruck II research projects that will take this effort to the next level. The objective is to research, develop and demonstrate a long- or regional-haul Class 8 truck that is 100 percent more efficient compared to a manufacturer's best-in-class 2009 truck. Aside from the more ambitious goal, SuperTruck II will help make these fuel-saving technologies even more affordable for truck operators.
- He then went on to discuss the Co-Optimization of Fuels & Engines initiative which aims to simultaneously transform both transportation fuels and vehicles in order to maximize performance

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and energy efficiency, minimize environmental impact, and accelerate widespread adoption of innovative combustion strategies. This research and development (R&D) collaboration between DOE, nine national laboratories, and industry is a first-of-its-kind effort to combine biofuels and combustion R&D, building on decades of advances in both fuels and engines. The Co-Optimization of Fuels & Engines initiative takes a three-pronged, integrated approach to identifying: Engines designed to run more efficiently on affordable, scalable, and sustainable fuels; Fuels designed to work in high-efficiency, low-emissions engines; Marketplace realities that can shape the success of new fuels and vehicle technologies with industry and consumers.

- Mr. Sarkar then switched gears to discuss Energy Material Network (EMN). EMN is a national lab-led initiative that aims to dramatically decrease the time-to-market for advanced materials innovations critical to many clean energy technologies. Through targeted consortia offering accessible suites of advanced R&D capabilities, EMN is accelerating materials development to address U.S. manufacturers' most pressing materials challenges. Within EMN, there is the Materials Genome Initiative (MGI), which is a multi-agency initiative designed to create a new era of policy, resources, and infrastructure that support U.S. institutions in the effort to discover, manufacture, and deploy advanced materials twice as fast, at a fraction of the cost.
- Mr. Sarkar ended the presentation stating that he would love to come back and speak to STEAB in regards to the clean cities initiative where he can get ideas to focus on as it relates to state level needs. They are in the process of rewriting the initiative and he would like STEAB's input.

State Energy & Weatherization Programs – Update with Anna Maria Garcia

- Ms. Anna Maria Garcia led a discussion on State Energy and Weatherization Programs explaining that there has been a selection made for the new Weatherization Program Manager, they are still in the negotiation stages and when that is done she can announce who that person. She started the discussion focusing on getting the word out on all the good work in their programs. The focus was on the best practices and case studies that can be shared across the country. She briefly went over the budget for FY16 stating that they (EE) are under a continuing resolution and that they are in a pretty good situation for the coming fiscal year.
- Elliott Jacobson suggests that when the new program manager is announced that STEAB try to set-up a call or meeting.
- Ms. Garcia stated that they are in the formative stages developing a new Accelerator which lives under the Better Buildings Challenge umbrella where we would get different partners together to focus on different areas and issues. We all need to come together to find the right strategic directions to advance ourselves in those specific areas. One of the Accelerators will be focused on low income communities. We want to focus on what area we need to scale up on in energy efficiency in these low income communities. She stated they are putting together their first thoughts on this Accelerator and when that is done they will look to STEAB for comments and input on areas of focus. The next Accelerator will be focused in waste water treatment.
- Ms. Garcia stated that there needs to be a more concentrated push by DOE to overcome barriers. She has been talking to state energy offices for the past 2 years about convening state and local government expertise with utility expertise to work with us (DOE) to bring ideas together for the future direction of accelerators, and create a commitment goal. She's interested in suggestions from STEAB on the accelerator model and making progress with energy efficiency and renewable energy.

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- Ms. Garcia reminded the Board about Weatherization Day in October.
- Ms. Garcia then stated that everything is going well with the State Energy Program (SEP). The new FY16 competitive funding is out and comes to a close at the end of the month (March). Negotiations on new cooperative agreements in process. The goal is for the funds to be spent effectively and in a time frame of at least 3 years. She states that if states are not using funding in a certain time frame they are prepared to de-obligate the funds; this will apply to both programs.
- Ms. Garcia shared with the Board that the utilities and EPA have been putting on round table workshops for the waste water treatment facilities to talk about the best practices and goals for audits. It's a slow process but these roundtables will be important.
- Ms. Garcia ended the discussion stating that she looks forward to future discussions with the Board as they are always insightful.

STEAB Final Remarks

- FM started the discussion stating a few main focuses for the remainder FY16; have the Task Forces meet monthly, especially Weatherization; Listen to DOE and not feel constrained while trying to make the case of gaining a stronger relationship with the department.
- Next STEAB in-person meeting will be in June in Berkeley, CA at LBNL; Exact dates TBD.
- Possible Fall meeting back in Washington DC in September. Final decision will be based on the STEAB budget after the Berkeley meeting.

Public Comment

- FM then turned to the part of the STEAB meeting where members of the public can comment either in person, via the teleconference line, or through written and provided statements. FM asked if there were members of the public who wanted to make comments. There were none present; he moved on to adjourn the meeting.