GridWise® Architecture Council

Meeting Minutes

Sept. 16, 2026

GWAC Members

Ron Ambrosio, Independent Energy Transformation Professional

Ron Chebra, Executive Director, Chebra Consulting Group

Marc Costa, Director of Policy Planning, the Energy Coalition

Farrokh Rahimi, Executive Vice President, Open Access Technology International, Inc.

Aaron Snyder, Dir. of Grid Technology Consulting, EnerNex

GWAC Associates & Emeritus

Rahul Bahadur, GWAC Associate

Ron Cunningham, GWAC Emeritus

Mark Knight, GWAC Emeritus

Lorenzo Kristov, Emeritus

Ken Wacks, GWAC Emeritus

GWAC Friends

Alaa Mahjoub, Independent Digital Business Advisor

Hawk Asgeirsson

Larisa Dobriansky

Chris Irwin

Jeff Katz

Bruce Nordman

Jeremy Roberts, Green Button

PNNL Support

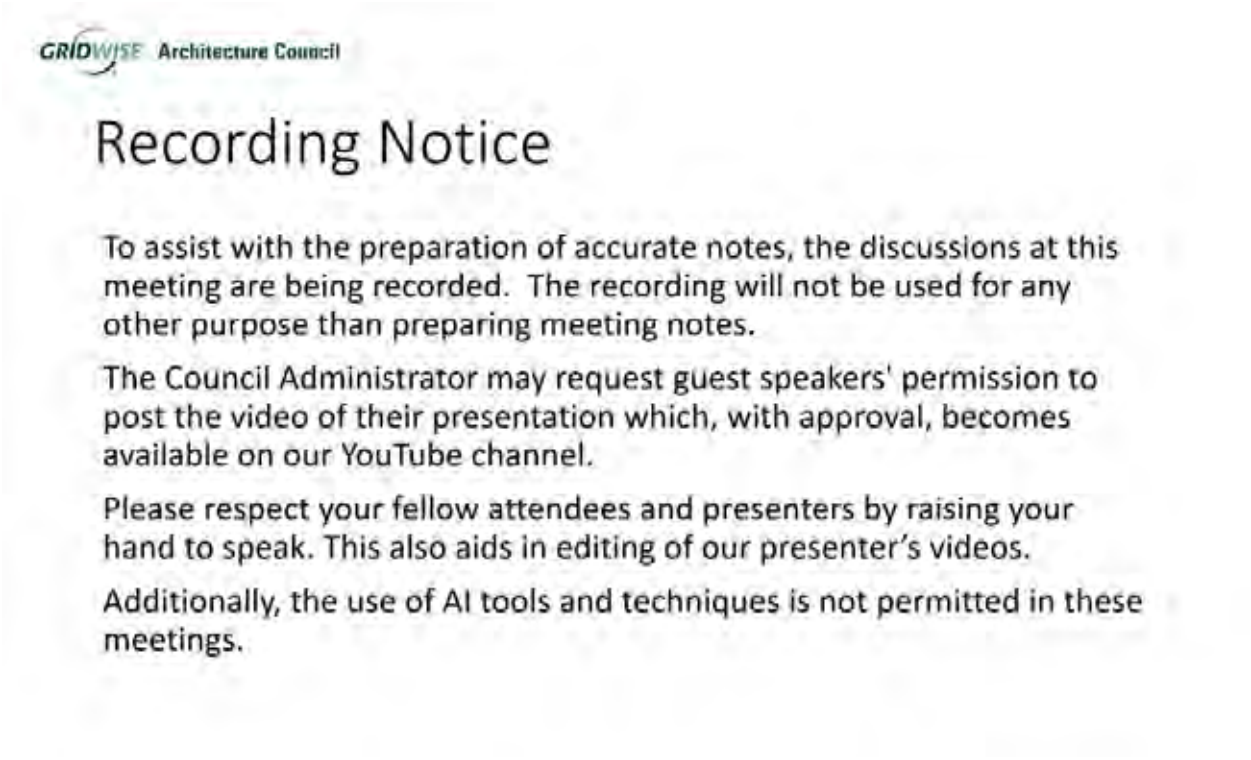
Jaime Kolln, PNNL GWAC Administrator

Susie McGuire, GWAC Coordinator

Grace Borland, GWAC Financial Coordinator

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Ron Ambrosio called the group to order at 10:08 am

Jaime Kolln noted that there is not a GWAC Quorum today. We will vote on meeting minutes at the next meeting.

Jaime asked the GWAC to let Susie McGuire know in advance if you won't be able to attend. It helps us to know if we can make quorum.

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GRIDWISE Architecture Council

Agenda

Call to Order and Roll Call

- Welcome

GWAC Administrative Business

- Minutes
- Upcoming events
- Call For Candidates
- GWAC Accomplishments
- GWAC Symposium at RE+ plans
- Action Items

Guest Speaker

- No guest speaker today

Work Product Status Reports

- Grid Architecture Concept Model for Transportation Electrification
- New Work Products Update

Future Activities

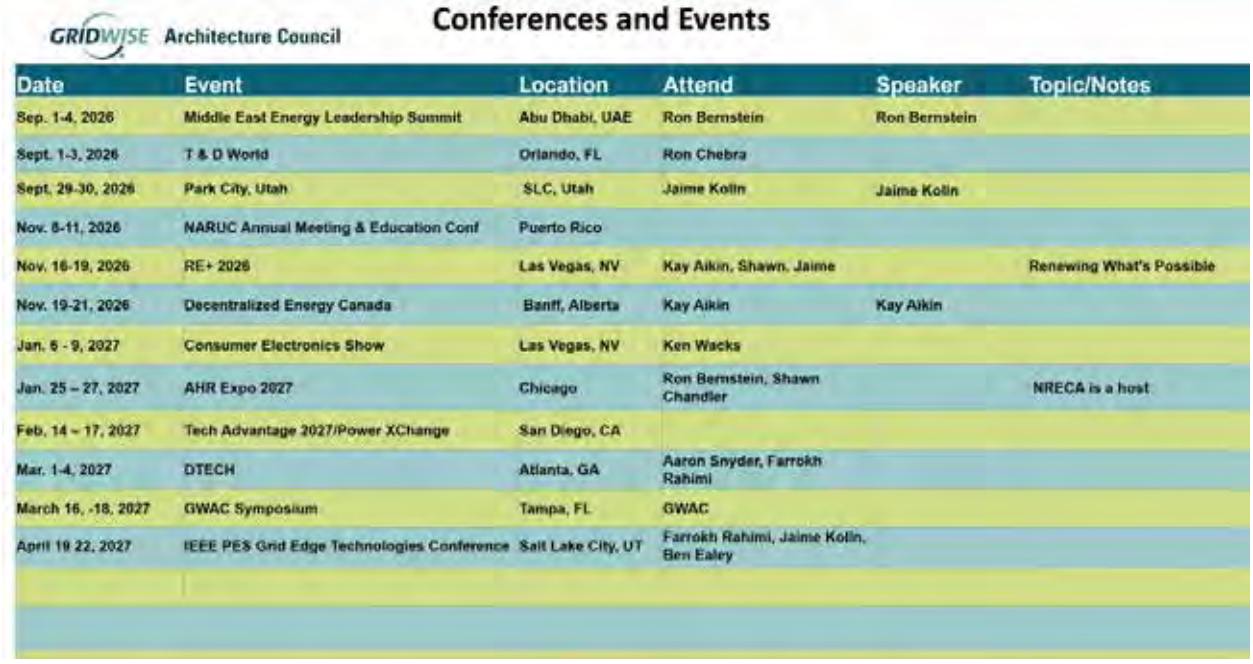
- Call for Candidates
- GWAC Outreach
- Planning 2027 GWAC Symposium

Liaison Reports

New Business

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GRIDWISE Architecture Council

Conferences and Events

Date	Event	Location	Attend	Speaker	Topic/Notes
Sep. 1-4, 2026	Middle East Energy Leadership Summit	Abu Dhabi, UAE	Ron Bernstein	Ron Bernstein	
Sept. 1-3, 2026	T & D World	Orlando, FL	Ron Chebra		
Sept. 29-30, 2026	Park City, Utah	SLC, Utah	Jaime Kolin	Jaime Kolin	
Nov. 8-11, 2026	NARUC Annual Meeting & Education Conf	Puerto Rico			
Nov. 16-19, 2026	RE+ 2026	Las Vegas, NV	Kay Aikin, Shawn, Jaime		Renewing What's Possible
Nov. 19-21, 2026	Decentralized Energy Canada	Banff, Alberta	Kay Aikin	Kay Aikin	
Jan. 6 - 9, 2027	Consumer Electronics Show	Las Vegas, NV	Ken Wacks		
Jan. 25 – 27, 2027	AHR Expo 2027	Chicago	Ron Bernstein, Shawn Chandler		NRECA is a host
Feb. 14 – 17, 2027	Tech Advantage 2027/Power XChange	San Diego, CA			
Mar. 1-4, 2027	DTECH	Atlanta, GA	Aaron Snyder, Farrokh Rahimi		
March 16, -18, 2027	GWAC Symposium	Tampa, FL	GWAC		
April 19 22, 2027	IEEE PES Grid Edge Technologies Conference	Salt Lake City, UT	Farrokh Rahimi, Jaime Kolin, Ben Ealey		

Jeff Katz asked to add the AEC 2026 Adapting the Course meeting to be held November 4 – 6, 2026 in New York, NY. He mentioned that there are several utilities that are sponsoring this meeting. He provided a link to the meeting: Advanced Energy Conference 2026 | Adapting the Course Innovation for a New Energy Era

Jeff added that that the conference host is a center at Stony Brook University, with several utility sponsors.

Dec. 10, 2026: Jeremy Roberts announced **Green Button Alliance Annual General Meeting;** 1:00pm – 3:00pm (EST) online. https://www.greenbuttonalliance.org/events/2026-green-button-annual-general-meeting

Marc Costa mentioned the UN Global Summit to be held November 29 – December 4, 2026, in the San Francisco area. Kay Aikin will be attending also. The opening night location will be the UN Plaza in San Francisco and then remaining events will be held at Stanford University. If you are interested in attending, please contact Marc Costa for an invitation.

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Jaime Kolln noted that the annual GWAC Call for Candidates will open in October. Jaime asked the GWAC to help socialize the Call for Candidates. If you know someone that you think would be interested feel free to send them the Call for Candidates QR code.

Interested applicants should review the information on the Call for Candidates page on the GWAC website. Grid industry applicants with demonstrated recognition in their own domain are encouraged to apply.

GridWise® Architecture Council

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GRIDWISE Architecture Council **GWAC Accomplishments**

2026 - Systems Thinking for Regulators

2026 - Bridging to the Future: Navigating the Transition to 21st Century Power Systems

2024 – Future Electric Power Industry and Grids – Now What Again is Our Destination?

2024 – A Practical Introduction to Common Grid Architecture Techniques

2023 – Current GWAC Speaker Video Presentations

2015-2022 – Annual Transactive Energy Systems Conference (since 2019, IEEE PES partnership event)

2022 – Blog Post #5 – Decarbonization efforts of three Northern California CCA's - Bahadur

2022 – Blog Post #4 - Decarbonization of the Electric Grid – Bernstein

2022 – Blog Post #3 - Energy Equity in Decarbonization - Negash

2022 – Blog Post #2 - Grid Infrastructure Challenges In A Decarbonized World – Aikin

2021 – Blog Post #1 - Decarbonization – The Pattern that Has Emerged - McCafferty, McCormick, Forfia

2020 – Transactive Energy FAQ

2020 – Smart Buildings as a Transactive Energy Hub

2020 Decision Maker's Interoperability Checklist v.1.6

2020 – Reliability and Resilience Considerations for TE Systems

GWAC YouTube Channel



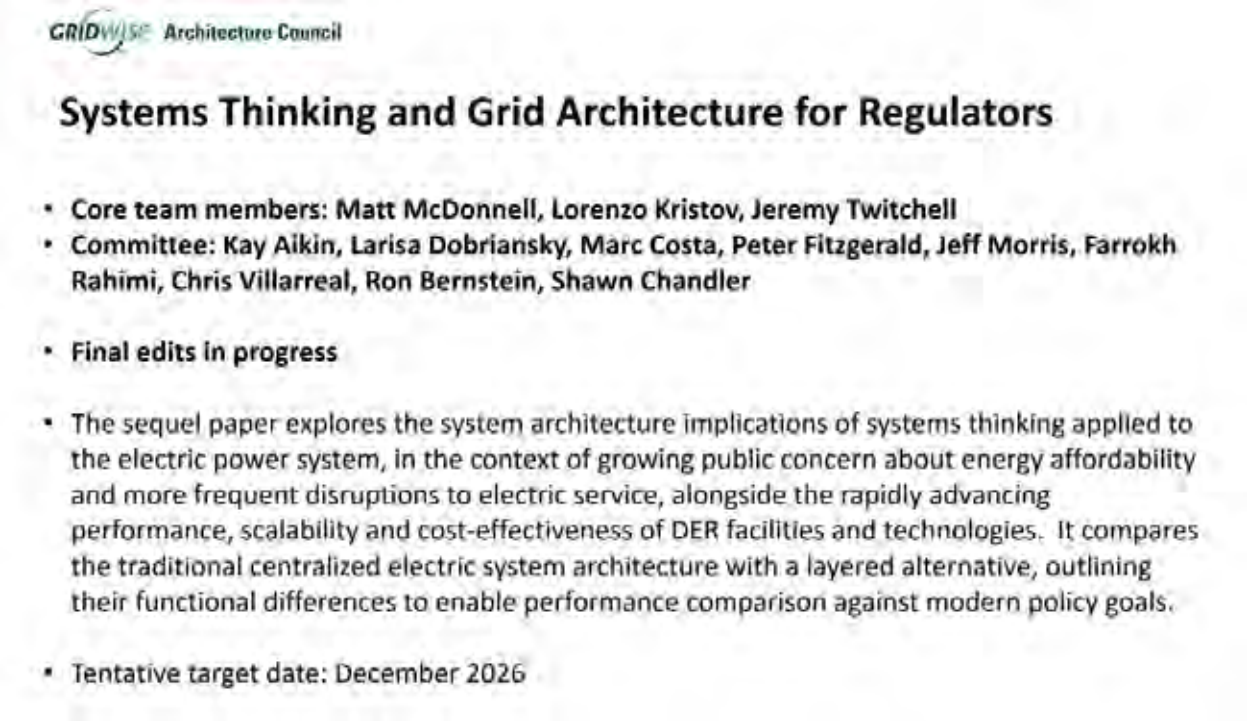
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GRIDWISE Architecture Council

Action Items

- Send speaker ideas to Jaime Kolln and Ron Bernstein and copy Susie McGuire.
- Planning a kickoff meeting to a new meeting series focused on the relationship between energy efficiency and Grid Architecture.
  - Kay Aikin, Aaron Synder and Ron Ambrosio participating. Shawn is looking for a few additional participants, please contact Shawn if interested. Plan to kick-off in Q3/FY26.
- GWAC conference presentation opportunities. Participants? Which events?
  - Farrokh, Yashar, Jaime, Alex Nassif – Grid Edge Tutorial
  - AHR GWAC Tutorial and panel – who can attend?
    - ✓ Jan. 25, 26, 27 in Chicago; 3 presentations have been submitted to AHR
    - ✓ Possible presenters who have expressed interest: Shawn Chandler, Rahul Bahadur, Aaron Snyder, Jaime Kolln
      - Are others interested?
- Next NARUC opportunity - Shawn submitted 2 topic proposals.
- October F2F Maine – Postponed to spring 2027
- In Person Workshops – Timing? Participant? Alternate location?



Lorenzo will send Jaime a brief abstract to update the Regulators paper slide.

He said that the point of departure from his perspective is that we've often talked about the distinction between the traditional 20th century grid architecture, which is essentially top down, centrally controlled, centrally planned, and everything to what layered architecture would look like, and the idea of thinking of transmission as a layer. Also, distribution as a layer and microgrids as layers and focusing on the interfaces. That has been part of the currency of GWAC. But for the broader electricity industry, I don't think there's been any real side-by-side comparison of these two architectures and what they imply for operations and planning and the usual stuff such as reliability, and so on, but also how they fit into the changing environment that we're moving into, which includes things like load growth, as well as climate impacts and climate resilience, and the affordability challenges, etc. He said that he, along with Matt and a few others suggested that this was a good idea to actually make the core of this next paper to be a side-by-side comparison of all of the operations or the functional elements. Not in gruesome detail, but at a level of detail where say there are maybe 20 rows in a matrix and then compare side by side, the

20th century architecture, how it works versus a layered architecture and how it would work, and then draw some implications from the comparison. He said that's the basic idea that they are working on.

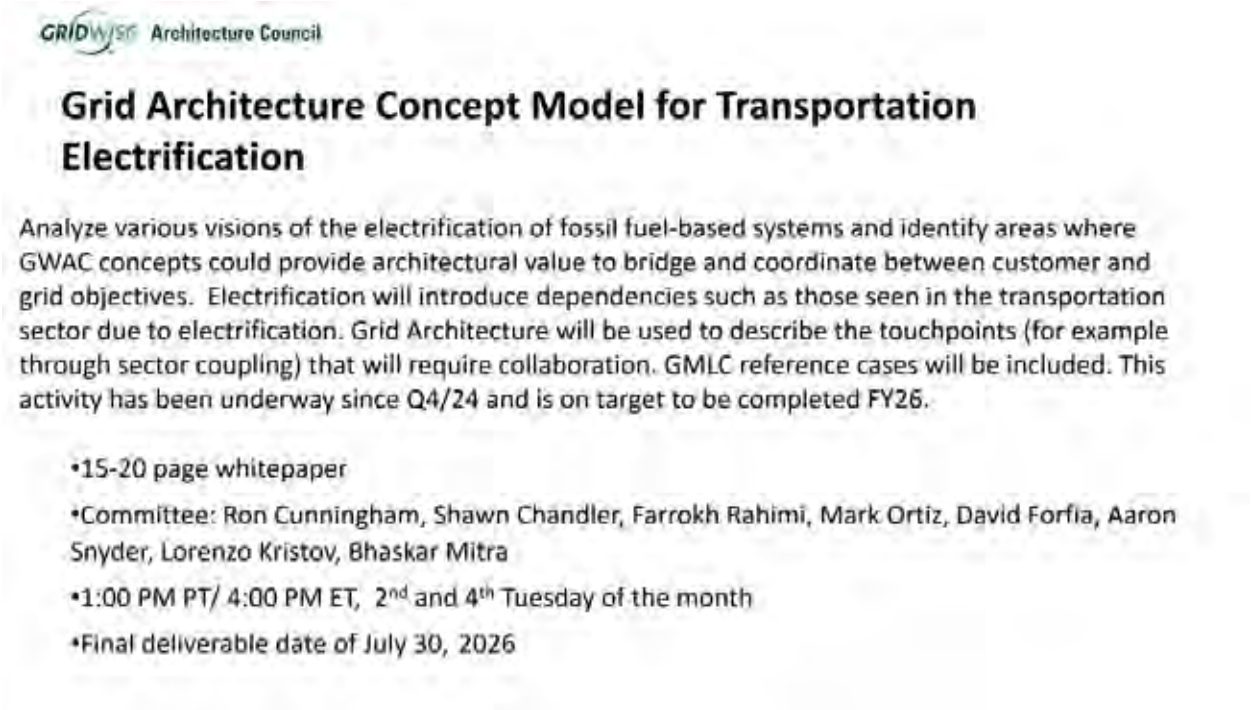
Ron Cunningham said that to get that perspective from utilities of how they actually operate, when the team is putting that paper together, make sure to get enough representation from several different utilities in the area and not to just rely on consultant insights.

Lorenzo agreed and said they were just relying on input from the work group. He would like to talk with Ron C. more offline about this. Lorenzo also asked if Jaime could help him in managing the feedback that comes in on the paper as to what is and is not helpful.

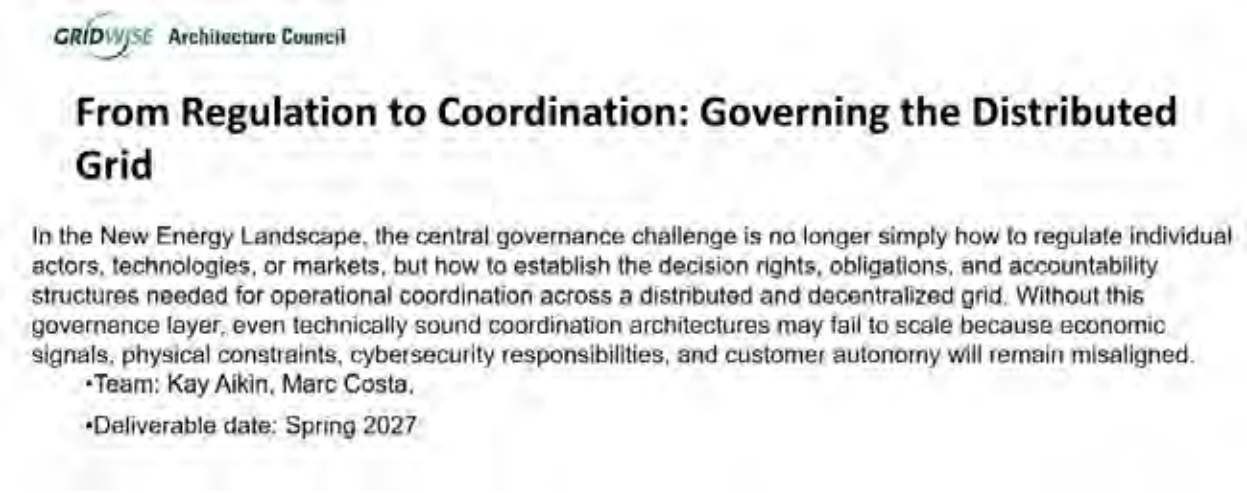
Ron Ambrosio said that all feedback should be retained. He and Lorenzo will talk more offline.

Lorenzo said that he and Matt McDonnell are the primary authors for the Regulators paper.

He noted that he has not been working with Jeremy Twitchell on it.



Ron Cunningham said the team is making the final edits.



Larisa Dobriansky asked to be included in the work group for this new white paper on regulation to coordination.

Action: Invite Larisa Dobriansky to the new Regulation to Coordination work group.

Larisa had a suggestion regarding data driven changes, not just for data access but also for future data governance. She suggested some potential stakeholders and she noted that essential foundations are being laid now. She said we need to address data and the requirements and governance of the proliferation of data and distribution technologies.

Jaime noted that the work group meetings for this new paper have not yet started. He asked if there was a date planned for the kickoff?

Marc Costa said he will send some potential meeting dates to Larisa, and they will plan for the kickoff meeting and get back to Jaime with the timeframe. Jaime said the RE+ Face to Face meeting would be a good time to start this conversation.

Marc Costa said he is interested in looking back at the first 20 years of the GridWise Architecture Council and the impetus of its creation. He commented that countries without the ability to accommodate new load growth will be behind the curve on EVs and coming up we also are hanging our hat on AI and data centers and we will need federal policy for economic growth and other strategic priorities.

Larisa Dobriansky commented that current grid architecture is "not fit for change" but she feels change is manageable and she added that change is now and forevermore the norm. She sees this as a potential theme for Marc Costa's next work product. She said that the GWAC can help to evolve an adaptive, interoperable, interactive, and integrated grid. She noted there is a lot of things going on with

the grid, more than just load growth. She commented that the regulatory authorities can't really absorb technological change. It needs to be able to respond better to rapidly changing market conditions.

Larisa is supportive of Marc Costa's comments and ideas about a new work product. She would like to drive more attention to GWAC and its activities.

Brian Patterson commented on changes to the grid including those relating to loads, and data centers will determine what is needed at the grid edge regarding the evolution of microgrids and load management. He said in the past we looked at time of day changes in load and now we look at millisecond and second to second changes in load. The characteristics of load have changed significantly. He added that the current architecture of the grid is not really capable of supporting it, particularly with the notion of physical support of frequency from central plant mechanical and frequency management.

Brian said would be happy to give a talk on this. He said he has a talk scheduled at RE+. He noted that simultaneous growth and capacity may not be matched by the current architecture and regulatory apparatus. He said the architecture of the grid is in transition now.

Action: Add Brian Patterson to the upcoming GWAC guest speakers list

Jeff Katz provided a link to a recent article by Jeff Taft:

https://jeffreytaft.substack.com/p/everything-you-always-wanted-to-know

Larisa said one of the really hot button regulatory issues is non-wire alternatives. She also mentioned the movement toward parity between the demand response, the demand management also with DG. She suggested getting speakers for these topics to explore the regulatory side and the architecture aspect to illustrate the interplay and break out of the past.

Rahul Bahadur also noted his interest in what Marc and Larisa have been discussing. He said in a nutshell it's distributed versus centralized.

Rahul said one problem to resolve is how can we place certain compute resources and do a partnership with utilities and internet cell providers to create beneficial relationships between community and the business. It seems we need to bring quite a bit of demand closer to where the request is.

Jaime noted that there is a lot of interest in Marc's suggestion today…he will send a reminder to Shawn Chandler regarding interest in his new work product. He said there is potential for an additional new work product.

But he cautioned the group saying that we don't want to stretch the Council to thin. There will be further discussions at the GWAC Administrative meeting at re+ in November.

- GWAC conference presentation opportunities. Participants? Which events?
  - Farrokh, Yashar, Jaime, Alex Nassif – Grid Edge Tutorial
  - AHR GWAC Tutorial and panel – who can attend?
    - ✓ Jan. 25, 26, 27 in Chicago; 3 presentations have been submitted to AHR
    - ✓ Possible presenters who have expressed interest: Shawn Chandler, Rahul Bahadur, Aaron Snyder, Jaime Kolln
      - Are others interested?

Jaime asked the group if anyone is considering attending the 2027 AHR Conference in Chicago, January 25 to 27, 2027. Ron Bernstein has scheduled three talks at AHR and is hoping to find one or two people who can join him as presenters. He has the talks ready.

If you are interested, please let Ron Bernstein, Jaime Kolln and Susie McGuire know.

Jaime suggested that Susie or Vanessa create a newsletter of upcoming speaking opportunities to distribute to the GWAC Friends list since there are several. (done).

GRIDWISE Architecture Council

Operational Coordination for Grid Architects

This paper will explore how the grid can operate as a unified, adaptive system across transmission, distribution, and the grid edge in response to rising dynamic loads like data centers and transportation. It will highlight how Grid Architecture concepts such as layered decomposition and coordination nodes enable flexible coordinated control that delivers greater speed, scalability, and certainty. Relevant scenarios will be used to help walk through key coordination elements.

- Team: Mark Ortiz, Yashar, Jaime
- Deliverable date: Summer 2027



Jaime recognized Aaron Synder for his contributions to an eye opening perspective on the meter and how that information gets transmitted and the effects of other issues, it's not just a green button issue, but all the pathways and interfaces.

Jaime Kolln noted that it would be good to have Aaron Synder give another presentation. This would be in line with the upcoming work product on Coordination. It would be a great kickoff for the new work product.

Jaime suggested having a meeting that addresses the new topics would help inform everyone of the intended direction. This could give the work groups some good insights.

Marc Costa said he would like to have some insight from Aaron on meters and buttons.

Larisa mentioned something significant that she sees in proceedings now is the participation of aggregators and OEMs. This brings new dimensions.

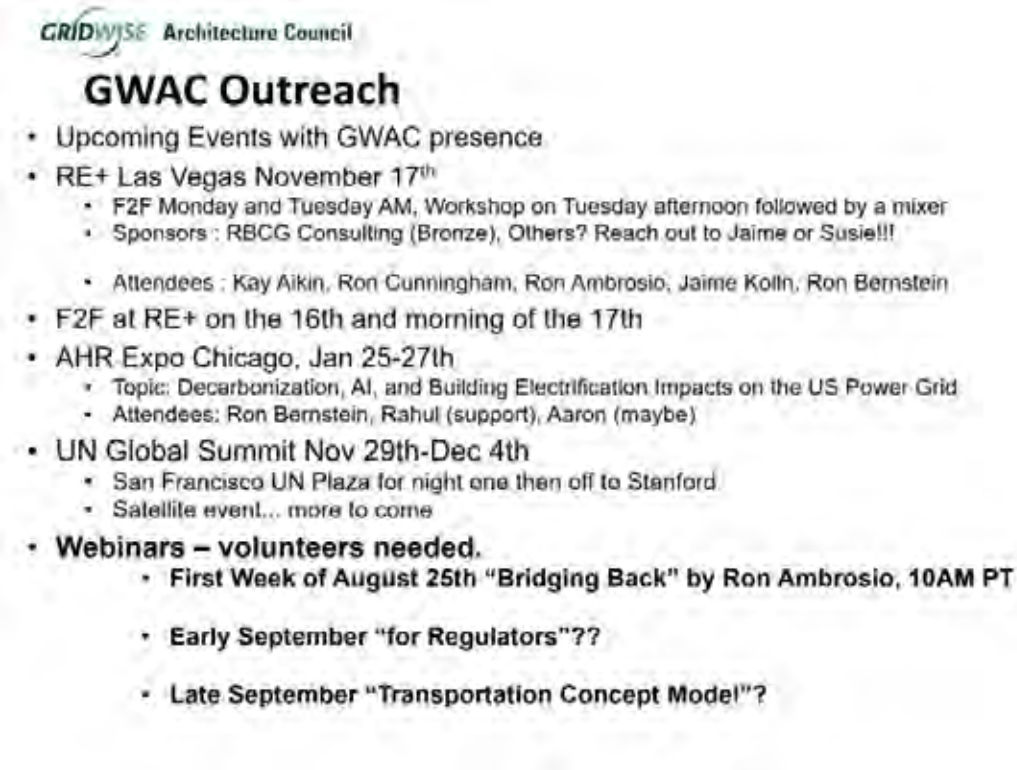
Jaime said there is also a lot of harmonization and also operational coordination. And he noted that Mark Ortiz is looking at this and trying to describe things like energy parks. Jaime said Yashar has also been looking at these issues.

Jaime said we can discuss these issues more at the GWAC Face to Face meeting in November.

Jeff Katz asked in the chat if GWAC has done any survey work at universities? For example, there is A Partnership of UConn and Eversource

The Eversource Energy Center at the University of Connecticut positions Eversource and UConn as frontrunners in researching and mitigating storm hazards, delivering improved reliability, and renewable energy integration.

Ron Ambrosio answered Jeff saying that individual members certainly do, but that as a council GWAC hasn't collaborated a lot with the academic community, he added that this doesn't mean we can't work with universities.



Jaime will follow up with Rahul Bahadur to see if there was a possibility of him joining Ron Bernstein to present at the AHR in Chicago.

Marc Costa mentioned a new Pacific or North American group as part of a larger international group that he is helping to kick off at the upcoming UN meeting in the San Francisco area. He will keep the GWAC informed.

Jaime asked Lorenzo Kristov if he has a date in mind for the online webinar on the new Regulators paper. The webinar is a standalone event and would be recorded and posted on the GWAC website. We would also socialize the webinar on LinkedIn. Lorenzo thought they could do it sometime in October.



Symposium Registration

Regarding registration Jaime said the planning committee agrees that the GWAC Symposium should be a very affordable activity. They hope to keep registration costs under $300. Central Florida regional students may be allowed to submit posters related to the event and if chosen they could present them over the lunch hour time frame.

GWAC has already sent out a save the date email.

GWAC is working with the IEEE PES Florida West Coast Section and Department of Electrical Engineering at the University of South Florida. To set up registration, GWAC will use the IEEE "V Tools" with assistance from the Florida West Coast Section of IEEE. IEEE will collect the registration funds and will pay related invoices.

The facility for the symposium will be the Marshall Student Center at the University of South Florida.

Jaime asked the group to please save the dates: March 16 – 18, 2027.

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GRIDWISE Architecture Council

GWAC Symposium 2027



16-Mar
Council meeting
BREAK
Optional pre-conference tutorial 3-4 hours additional cost

17-Mar	
GROUP SESSION Day 1 Keynote	
BREAK	
Bridging Back	Systems Thinking
Panel 1 Ron A., David F.	Panel 2 Lorenzo, Matt
Workshop 1	Workshop 2
BREAK Lunch/Sponsor	
Customer Driven Innovation	
General Session 2 Ron B., Shawn, Ron Ch	
BREAK	
General Session 2 (Fireside Chat: Uma Gnan, Andy, Yaxion, Ken Ch	
Closing remarks (Shawn)	
NETWORKING RECEPTION	

18-Mar	
GROUP SESSION Day 2 Keynote	
BREAK	
Coordination	Governance
Panel 3 Mark D., Jamie	Panel 4 Kay, Marc C.,
Workshop 3	Workshop 4
BREAK Lunch/Sponsor	
Cross-sector Dependencies	
General Session 3 Shawn, Aaron	
Closing Remarks (Ron B.) CALL TO ACTION	
END	

Symposium Overview	
Tracks	6
Sessions	11
Group Sessions	3
Keynotes	2
Sponsors	Tracks - 6 Lunch - 2 Reception - 4



Green Button - Jeremy Roberts – Jeremy noted that there are changes going on a NIST he still hopes to get a Green Button/NIST representative.

NIST is working on a new project with Lennox foundation on utility rate plan exchange; about utility rate data and understanding tariffs and rate plans. It ties well with Open ADR.

Jeremy reminded everyone about the upcoming Green Button Alliance Annual General Meeting. He said it is open to anyone at no cost. It is scheduled for December 10, 2026.
The meeting is open to anyone, and there is no cost to attend.
https://the-gba.org/2026agm

He gave a link to the Green Button Alliance task with the Linux Foundation. Utility Rate Plan Exchange (URPX) website: https://www.greenbuttonalliance.org/urpx

Jeremy also provided a link to CUPID which is an Open source toolkit for DER interoperability. Controllable Unit Protocol Interface for DER (CUPID): https://lfenergy.org/projects/cupid/

Jeremy said CUPID is coming from the EU. It uses the IEEE 2030.5 standard.

Aaron Synder posted in chat:

"Originating from the Horizon Europe InterSTORE project, CUPID enhances IEEE 2030.5 by replacing traditional synchronous REST over HTTP with NATS messaging and adds JSON support alongside the standard XML format. The result is a toolkit that handles real-time DER coordination at scale, integrates assets using legacy protocols such as Modbus and MQTT, and reduces the cost and complexity of connecting distributed energy infrastructure to modern grid management systems."

He added that "CUPID is designed to meet current EU regulatory requirements including the Data Act and the Network Code on Demand Response.

International Standards Committee (ISO) Ken Wacks – Ken said they have a proposal to extend home automation protocols with additional standards for cybersecurity and IP version 6 transmission. They are meeting November 9 – 13, in Homberg Germany. They are expecting representation from around the world ranging from Australia to Japan, South Korea, China, Europe, possibly Africa and Canada and the US.

Consumer Technology Association - Ken Wacks Ken said they are extending the NCCTA 2045 family of standards known as the Modular Communication Interface or MCI. They are extending it to appliances. It is beyond water heaters. They are looking at products with long lives. They are hoping to find a very stable standard. They are adding an additional interface besides AC and DC interfaces. We are adding USBC as an interface. So, if anyone in the appliance industry such as EV charging and would like to be involved, please let us know. The standard is already being adopted. It is already the law in Oregon and Washington for water heaters, and we have discussions for extending beyond that.

Ken has no updates on Customer Grid Edge but it's a work in progress.

Jaime said he is interested in the work that will take place in Homburg.

Jaime commented on CTA 35 saying Washington and Oregon is a yes, and California is still considering it but will likely go their own way.

Jeff Katz added in the chat that he has been in touch with Hendrik recently and can send information to Jaime if he wants an invited speaker.

He gave Jaime Henrik Hamann's LinkedIn noting that he's been at Brookhaven for almost two years. https://www.linkedin.com/in/hendrik-hamann-68175610/

Jaime said he is interested in hosting him as a potential guest speaker.

Ron Ambrosio agreed.

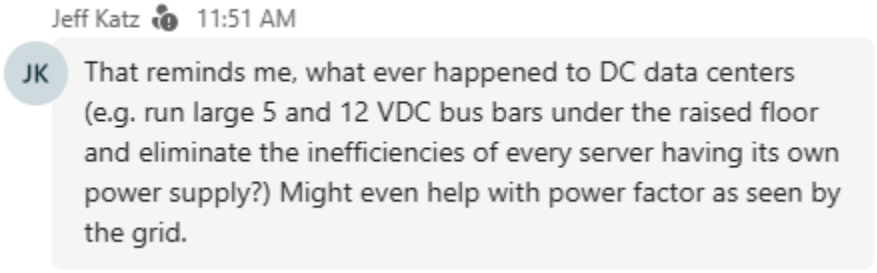
Jeff added that he is a Fellow of the American Physics Society.

Jaime asked if there was any new business.

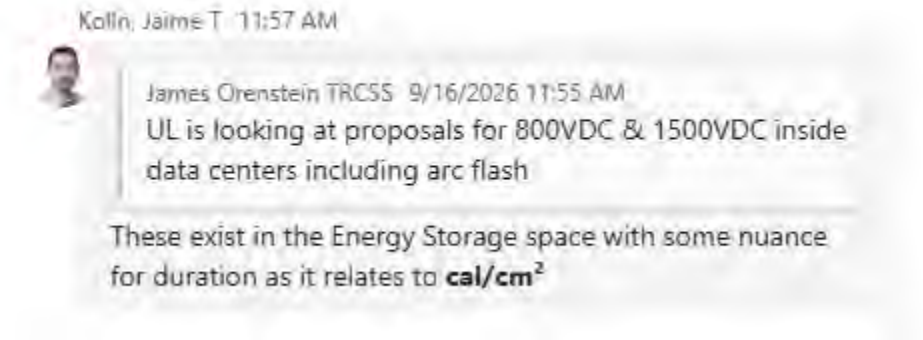
Brian Patterson said he would volunteer to provide a liaison report for the **EMerge Alliance.** He said they work on standards predominately in the area of microgrids. They also are involved with IEEE on an effort to look at direct current.

Brian went on to explain more about this work.

Jaime said he would like to invite Brian to be a future GWAC Guest Speaker.



Jaime responded to Jeff saying that there were hardware availability issues.



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Alaa – can present in November while GWAC is at the Las Vegas F2F meeting on November 16 or 17. It would be best for him to be the first agenda item in the morning presentation due to the 13 hour time difference. Jaime will have him present at the first of the agenda on either Monday or Tuesday.

Jame asked Alaa to plan for a 30 minute presentation followed by 10 to 15 minutes of Question and Answer time.

GRIDWISE Architecture Council



Adjourn

Next GWAC Online Meeting: October 21, 2026

https://gridwiseac.org/