Consent Item 7

TO: East Bay Community Energy Board of Directors

FROM: Beckie Menten, Program Manager, Building Electrification and Energy Efficiency

SUBJECT: Approve Second Amendment with Frontier Energy to Update Scope and Add to Budget for Technical Support on Development and Filing of Energy Efficiency Funding Request

DATE: October 21, 2020

__________________________________________________________________

Recommendation

Adopt a Resolution Authorizing CEO to Execute Second Amendment with Frontier Energy to add additional services to the scope and an additional $109,948 to the budget for Technical Support on Development and Filing of Energy Efficiency Funding Request.

Background and Discussion

Energy efficiency has been a cornerstone of California’s energy policy since the late seventies when California passed the Energy Act, which requires investor-owned utilities to treat demand reduction as the first resource strategy in meeting projected energy demand. Through this policy (and with an increase in energy performance of buildings as established in California’s building code), California has managed to maintain a flat rate of energy consumption (per capita) over the past forty years. These policies have also helped to minimize the need for new power plant installation and overall ensure a more efficient electricity system in the State. This has also saved ratepayers millions of dollars over the past half century,¹ as the cheapest energy is the energy you do not use.

¹ According to an article by NRDC, Californian’s energy efficiency programs have resulted in more than $5 billion of net benefits over the past decade. (Source: https://www.nrdc.org/experts/sierra-martinez/california-restores-its-energy-efficiency-leadership.)
To provide funding for energy efficiency programs, funds are collected from all ratepayers in IOU service area via non-bypassable charges on energy bills. These funds are governed by statutory requirements in the Public Utilities Code and are administered by the California Public Utilities Commission (“CPUC”). In 2008, the California legislature passed a bill providing CCAs with statutory access to these funds for the implementation of energy efficiency programs for their customers. The bill offers two avenues for CCAs to access these funds: 1) the election process, or 2) the application process.

1) The election process is offered as a streamlined opportunity for CCAs to access funds collected from their customer base to offer funding specifically for that CCAs customers. As a CCA customer is also eligible to receive programs offered at the statewide and regional levels, for example, upstream incentive programs which reduce the cost of a technology before it reaches a distribution channel, the funding a CCA is eligible to receive is reduced based on funding allocated to these statewide and regional programs. The CPUC approves election filings through a resolution process, certifying that plans filed by aspiring administrators meet the following criteria:

   a. Is consistent with the goals of the programs established pursuant to Public Utilities Code Sections 381.1 and 399.4;
   b. Advances the public interest in maximizing cost-effective electricity savings and related benefits;
   c. Accommodates the need for broader statewide or regional programs;
   d. Includes audit and reporting requirements consistent with the audit and reporting requirements established by the CPUC pursuant to this Section;
   e. Includes evaluation, measurement, and verification protocols established by the community choice aggregator; and
f. Includes performance metrics regarding the community choice aggregator’s achievement of the objectives listed in paragraphs (1) to (5), inclusive, and in any previous plan.²

2) The application process does not restrict the funding eligible to be received by a CCA to that collected by CCA customers only, and the CCA can similarly serve any customer of its choosing. As this avenue draws upon funds from the larger pool of ratepayers, not just those within the CCA service area, the CCA must accept the full jurisdiction of the CPUC regarding the use of those funds. While this avenue may provide a larger budget for CCAs, the CCA must also accept a substantial administrative burden to comply with CPUC requirements.

EBCE Energy Efficiency Strategy
Recent changes to the PCIA, coupled with rate impacts associated with the global COVID-19 pandemic and resulting shelter-in-place requirements in Alameda County, have the potential to erode revenue surplus and impact the availability of funding for local programs. In order to achieve on EBCE’s goals for carbon reduction and local investment while maintaining competitive and reliable rate structures, seeking outside funding for local programs - particularly those that have the potential to further reduce rate revenue - is a key strategy. Additionally, EBCE customers already pay these fees to the CPUC; thus, any additional programs EBCE funds through rate revenue are additional charges to our customers and further erode our competitive margins.

EBCE is interested in pursuing access to energy efficiency funding. While energy efficiency has the potential to reduce revenue through decreased demand for energy, it also can help to minimize the overall power purchasing needs of the agency. If designed correctly, energy efficiency programs can encourage overall baseload reduction and influence a reduction in summer peak demand - the period during which energy is the most expensive to the CCA. If EBCE opts to request funding for energy efficiency, it will have the opportunity to design and deliver programs that offer the greatest upside to its resource portfolio; rather than focusing solely on generalized baseload reduction, EBCE can design programs that compliment the unique needs of a CCA portfolio - including fuel substitution programs that reduce building related greenhouse gas emissions and programs that target reductions at times when energy is the most expensive for EBCE.

Energy efficiency programs also offer significant benefits to EBCE’s customer base. Not only can energy efficiency help reduce the utility bills of customers, energy efficiency programs can improve safety and comfort of homes and offer other non-energy benefits. Through implementing its own energy efficiency portfolio, EBCE also has the opportunity to design programs that are specific to its service territory - helping to ensure underserved customers have access to programs designed

² D. 14-01-033, pg. 27
specifically for them, and focusing on unique workforce development opportunities in EBCE’s service area.

**EBCE’s Energy Efficiency Funding Application**

Based on preliminary staff analysis, EBCE staff find that a funding request under the “election” route could offer up to $5 million per year to support energy efficiency programs. Given the potential pool of funding available under the election route as well as the decreased administrative burden and jurisdictional authority over the use of these funds, EBCE staff recommends a funding request to the CPUC under the election route.

EBCE has been exploring the potential of a new energy efficiency program model called “pay-for-performance” (“P4P”). Historical energy efficiency programs pay incentives to customers based on estimated or “deemed” savings calculations. The P4P programs offer a new approach, which pays incentives based on actual savings impacts as measured at the meter of the home. These programs not only protect EBCE against potential overpayment relative to actual results, but they also offer more flexibility in project implementation. Existing deemed programs require many restrictions over what can and cannot be incentivized, as they are based on estimated savings results. P4P programs only need to be concerned with the actual savings delivered, reducing the complexity of program design. As a result, these programs have the potential to not only reduce administrative costs associated with program delivery (resulting in a more cost-effective program), they also offer the opportunity to combine multiple measures in a project, such as building envelope, HVAC improvements, and smart thermostats, to help complete whole building improvements as a package and to incorporate potential peak shaving strategies.

In addition to the P4P programs, EBCE is interested in offering programs designed specifically for its service area. As EBCE works with the technical consultant to analyze EBCE’s service area and identify unique characteristics, specific emphasis will be given to designing programs that are accessible to EBCE’s underserved customers. These customers include renters, households of low to moderate income, and non-native English speakers. There is also the potential to design programs specific to EBCE’s member agencies, offering these municipal customers programs that are suited to their climate goals and provide support where it is most needed.

**Proposed Amendment with Frontier Energy**

To assist in designing and energy efficiency portfolio and filing a funding request that meets CPUC requirements, EBCE seeks to amend its existing agreement with Frontier Energy to add additional services to the scope and additional compensation to the budget for energy efficiency related technical support services. Frontier Energy currently provides similar services to MCE, Lancaster Choice Energy, Clean Power SF, and was recently selected through competitive solicitation to offer these services for San Jose Clean Energy.
Frontier would assist EBCE in assessing opportunity through a regional market assessment, facilitating stakeholder sessions where EBCE can understand the unique needs and interests of our customer base, and supporting the development of the funding request, including structuring a portfolio that meets the cost-effectiveness requirements established by the CPUC. Frontier would also assist EBCE in the development of a Tier 3 Advice Letter, which is the official mechanism to request funding under the “elect to administer” approach. As EBCE has a specific interest in exploring P4P programs as a primary approach under its EE programs, Frontier has also brought on a subcontractor, KW Engineering, who has significant experience with meter-based energy efficiency program approaches.

EBCE is leveraging the piggy-backing clause of the Administrative Procurement Policy and the recent solicitation conducted by SJCE to meet the administrative procurement policy required for budgets over $100,000. Additionally, Frontier Energy is well qualified to offer these services, and EBCE hopes to leverage the experience Frontier Energy has in supporting several other CCAs as they have applied for and administered CPUC funding for energy efficiency programs.

Upon execution of this Amendment, EBCE and Frontier will immediately begin the work of conducting market assessments and stakeholder sessions and will target working on portfolio design through the end of 2020. Leveraging the implementation of EBCE’s P4P pilots and this initial research, EBCE hopes to bring an energy efficiency funding application for Board review and approval in early 2021 and is targeting early Q2 to bring the filing to the CPUC. Once the filing is brought to the CPUC, the regulatory process can take anywhere from several months to over a year, depending on the reception of the filing by CPUC staff and participants in the regulatory proceeding; however, EBCE hopes that with the experience of staff, Frontier Energy, and significant engagement with key stakeholders prior to filing, this timeline can be shortened and EBCE could receive funding before the end of the 2021 calendar year.

**Fiscal Impact**
Funding for this $109,948 Amendment was included in the FY 20/21 Local Development Budget. If successful with its funding application to the CPUC, EBCE could access up to $5 million per year in funding for energy efficiency programs.

**Attachments**
A. Resolution Authorizing CEO to Execute Second Amendment with Frontier Energy; and
B. Second Amendment to Frontier Energy CSA
RESOLUTION NO. ___
A RESOLUTION OF THE BOARD OF DIRECTORS OF THE EAST BAY COMMUNITY ENERGY AUTHORITY AUTHORIZING THE CEO TO EXECUTE A SECOND AMENDMENT TO THE CONSULTING SERVICES AGREEMENT WITH FRONTIER ENERGY, INC

WHEREAS, the East Bay Community Energy Authority (“EBCE”) was formed as a community choice aggregation agency (“CCA”) on December 1, 2016, Under the Joint Exercise of Power Act, California Government Code sections 6500 et seq., among the County of Alameda, and the Cities of Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Piedmont, Oakland, San Leandro, and Union City to study, promote, develop, conduct, operate, and manage energy-related climate change programs in all of the member jurisdictions. The cities of Newark and Pleasanton, located in Alameda County, along with the City of Tracy, located in San Joaquin County, were added as members of EBCE and parties to the JPA in March of 2020.

WHEREAS, in November 2019, EBCE entered into a Consulting Services Agreement with Frontier Energy to provide electric vehicle charging infrastructure analysis services.

WHEREAS, in July 2020, EBCE and Frontier Energy amended the Agreement to add additional compensation, add additional services to the scope, extend the termination date, and update the schedule.

WHEREAS Frontier Energy offers technical support services for energy efficiency portfolio development, including support for CCAs to seek this funding from the California Public Utilities Commission.

WHEREAS, energy efficiency programs offer significant potential benefits to EBCE customers, such as helping to reduce energy bills, improving the comfort and safety of buildings, providing local workforce benefits, and reducing building-related greenhouse gas emissions, all of which EBCE seeks to provide to its customer base.

WHEREAS, Frontier Energy is qualified to offer these services and currently provides similar services to several CCAs across California.

WHEREAS, EBCE now seeks to amend the Agreement with Frontier Energy to add additional services to the scope and to add additional compensation for technical support on development and filing of the energy efficiency funding request.
NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE EAST BAY COMMUNITY ENERGY AUTHORITY DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. The Board of Directors hereby authorizes the CEO to execute the Second Amendment to the Consulting Services Agreement between EBCE and Frontier Energy, in substantially the form attached hereto, to increase the total not-to-exceed amount by $109,948 (for a total amount not to exceed $509,948), to add additional services to the scope, to add an additional authorized subconsultant, and to update the hourly rates of compensation. The CEO is further authorized to execute any clarifying or clerical changes to the First Amendment to the Consulting Services Agreement, as approved by General Counsel.

ADOPTED AND APPROVED this 21st day of October, 2020.

__________________________________________
Dan Kalb, Chair

ATTEST:

__________________________________________
Stephanie Cabrera, Clerk of the Board
Second Amendment to Consulting Services Agreement by and Between East Bay Community Energy Authority and Frontier Energy, Inc

This Second Amendment to the Agreement with Frontier Energy, Inc for Consulting Services (“Second Amendment”) is made this 21st day of October, 2021, by and between the East Bay Community Energy Authority, a Joint Powers Agency formed under the laws of the State of California (“EBCE”) and Frontier Energy, Inc, a California Corporation (“Frontier”), for the purposes of adding additional compensation, adding additional services to the scope, adding an additional authorized subconsultant, and updating the hourly rates of compensation.

Recitals

A. EBCE and Frontier entered into that certain Consulting Services Agreement dated November 1, 2019 (“Agreement”), wherein Frontier agreed to provide electric vehicle and charging infrastructure analysis services to EBCE, with compensation not to exceed $250,000.

B. EBCE and Frontier entered into that certain First Amendment to the Consulting Services Agreement on July 15, 2020 to add additional compensation, increasing the not-to-exceed amount by $150,000 for a total amount not to exceed $400,000, to expand the scope of services, to extend the term through November 30, 2021, and to update the hourly rates of compensation.

C. EBCE and Frontier now desire to further amend the Agreement to add additional compensation, increasing the not-to-exceed amount by $109,948 to cover the cost of additional services related to technical support to support EE portfolio design and CPUC filing for EE funding for a total amount not to exceed $509,948, to add an additional authorized subconsultant, and to update the hourly rates of compensation.

Now therefore, for good and valuable consideration, the amount and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Section 6.1 of the Agreement (“Compensation and Payment”) is amended in part to increase the total compensation of the Agreement by $109,948 for a total amount not to exceed five hundred nine thousand nine hundred forty eight dollars ($509,948).

2. Exhibit A (“Scope of Work”) of the Agreement is replaced in its entirety by Exhibit A, attached hereto.

3. Exhibit D (“Subconsultants”) of the Agreement is replaced in its entirety by Exhibit D, attached hereto.

4. Exhibit E (“Compensation/Budget”) of the Agreement is replaced in its entirety by Exhibit E, attached hereto.
5. All other terms and conditions in the Agreement not otherwise modified by this Second Amendment will remain in full force and effect.

In witness whereof, the Parties have entered this Amendment on the date written above.

East Bay Community Energy Authority, A Joint Powers Authority

Frontier Energy, Inc, A California Corporation

Nick Chaset
Chief Executive Officer
Date: ____________________________

Date: ____________________________

Approved as to form:

EBCE General Counsel

Name:
Title:
Date: ____________________________
Exhibit A

Scope of Work

Electrical Vehicle and Charging Infrastructure Analysis

The Consultant will work with EBCE and the cities of Albany, Berkeley, Dublin, Hayward and Oakland, and the County of Alameda (“Participating Municipal Governments”) to analyze the role of electric vehicles (“EV”), EV charging infrastructure technologies (“EVSE”) and supporting Distributed Energy Resources (“DER”) needed to accelerate municipal fleet electrification. The Consultant will a) conduct fleet assessments that identify right sizing, vehicle retirement and electrification options in line with each city’s commitments/goals, b) identify charging needs and barriers at sites where vehicles are domiciled, c) make vehicle and EVSE technology and site planning recommendations, and d) assess suitability of integrating other DER solutions to optimize EV adoption.

Phase I: Municipal Fleet Assessments

Task 1.1: Assess and Report City’s Fleet of Vehicles

Consultant will complete a systematic evaluation of all municipal-operated fleet vehicles in the following order: Berkeley, Albany, Dublin, Hayward, Alameda County and Oakland.

This evaluation will include on-road light, medium and heavy-duty vehicle inventories to be provided by each municipal department. To the maximum extent possible, data collected should include vehicle make, model, age; operation and maintenance costs; fuel type, annual consumption and associated procurement expense; vehicle procurement date and expected service life; owning/using department; parking assignment; and annual vehicle utilization.

This data may be supplemented by interviews with city staff to gain a comprehensive understanding of the cost and benefits of a transition from fossil fuel powered internal combustion engine fleet vehicles to plug-in EVs. Based on provided data, and supplemental information gained through coordination with the participating cities, the consultant will prepare a report that identifies fleet right sizing, retirement and specific electrification recommendations for each vehicle analyzed.

Deliverables:

1. Summarized vehicle data, and fleet management recommendations (e.g., right sizing, retirement).
2. Report documenting fleet assessment with detailed and specific vehicle electrification recommendations for each municipal fleet portfolio.

Task 1.2: Determine Vehicle Energy Requirements and Charging Needs
The Consultant will leverage the results of Task 1.1 to understand the charging requirements of each fleet EV and estimate electric load forecasts and charging infrastructure requirements for each municipal facility where EVs will be deployed. The Consultant will also recommend grid integration and smart charging technologies that should be considered to eliminate barriers and optimize the benefits of fleet electrification. Where fleet vehicles are co-located with workplace and potentially publicly available charging options, the Consultant will assess opportunities for additional EVSE investments.

**Deliverables:**

1. Charging profile report documenting EV needs for each municipal fleet, forecasted electrical load profiles for each recommended EV based on specific departmental use case, and charging infrastructure needed at each municipal facility where vehicles will be domiciled and charged. The Consultant shall include in each city’s report maps illustrating the locations of charging infrastructure by type and quantity to meet the use case of specific fleet vehicles.

**Phase 2: Site and Technology Evaluation**

**Task 2.1: Conduct DER Suitability Analysis**

Consultant will leverage Task 1.2 (e.g., EVSE host site charging requirements) to assess potential integration of other DER solutions (e.g., solar photovoltaics, battery energy storage) at municipal facilities where concentrations of fleet EVs will be domiciled. The Consultant will work with EBCE and city staff to understand municipal facility electrical load data (e.g., building load, usage and electric rate) and specific site conditions (available space, roof condition and orientation, electrical panel capacity and switchgear location).

The Consultant shall conduct initial site surveys (on-site visits and use of remote using satellite imagery) to create an estimate of EVSE ports to be installed (leveraging Task 1.2) and preliminary PV design. High-level ESS capacities will be estimated based on electrical load data available through EBCE. This work will be completed at up to 20 sites across the participating cities.

Following the DER capacity screening, the Consultant will perform a final ranking adjustment by considering ease of permitting and construction.

**Deliverables:**

1. DER suitability report outlining screening of municipal sites. Report should include a detailed description of the factors analyzed, as well as a prioritized list of each site analyzed and technology recommendations to support fleet EVs.

**Phase 3: Making the Business Case**

**Task 3.1: Conduct Financial Cost/Benefit Analysis**
Consultant will use data from Tasks 1 and 2 to develop a total cost of ownership model for each municipal fleet under two scenarios: 1) business-as-usual, and 2) vehicle electrification. This financial analysis should include but is not limited to:

- Vehicle Purchase/Lease Cost
- Infrastructure Development Costs
- Lifetime Maintenance Cost and Savings
- Lifetime Fuel Cost and Savings
- Auction Proceed Estimates (e.g., sale of vehicles)

Consultant will also leverage the DER suitability analysis to estimate the financial costs and benefits to various integrated technology deployment approaches, and will recommend the best sites, technology configurations, and financial models. Finally, the Consultant will estimate the annual GHG impacts of a transition to EVs against business-as-usual (e.g., baseline). This estimate should include impacts for both plug-in hybrid EVs and battery electric vehicles, and the percentage of change.

- G-VMT
- E-VMT
- Gasoline/diesel (gallon)
- Electricity (GGE)
- MPEe
- GHG (MTCO2e)
- GHG (g/mile)

**Task 3.2: Prepare Fleet Transition Plans**

Consultant will leverage Task 1-3 deliverables to develop a formalized EV deployment plans for each municipal fleet in line with each city’s commitments/goals. Each plan should address upcoming and subsequent procurement cycles to ensure fiscally responsible EV acquisition and DER technology deployment.

**Deliverables:**

1. Financial and benefits analyses and determinations.
2. Reporting on vehicle, site, DER technology and financial model recommendations.
3. Scenarios to meet each fleet’s electrification requirements with the greatest ease of implementation and integration.

**Progress Reports**

Monthly progress reports will be due to EBCE describing progress toward completion of the work outlined above until the end of the Project.
Technical Support to Support EE Portfolio Design and CPUC Filing for EE Funding

Frontier and kW Engineering will support EBCE with their Elect to Administer filing by leveraging experience in both program design and CCA administration to deliver a successful program plan for timely certification. To accomplish this task, Frontier and kW Engineering propose the following tasks:

1. **Funding Determination**: work collaboratively with EBCE to evaluate the maximum funding available for program administration. In collaboration with client, we will:
   - Review the calculation performed to confirm accuracy and make recommendations.
   - Provide a recommendation on the feasibility of available funding to deliver a cost-effective program.
   - If funding availability proves unfeasible, the remaining tasks will not be performed.

   Deliverables:
   - Kick off meeting
   - Program funding determination results

2. **Market Assessment**: in collaboration with EBCE, the team will conduct a market assessment, including market characterization and market potential. This assessment will be undertaken in two steps: 1. An initial, less detailed market scan and evaluation of IOU programs to inform a gaps analysis; 2. A detailed data analysis of the specific sectors that will be proposed for program funding. In collaboration with client, we will:
   - Conduct a market assessment, including market characterization and market potential
   - Perform research to inform this assessment consistent with client-provided information and available budget
   - Support with data requests to PG&E, and analyze data received

   Deliverables:
   - Initial market scan for gaps analysis
   - Written market assessment for incorporation into ETA documentation

3. **Program Ideation and Design**: the Frontier-kW Team will work collaboratively with EBCE to study City and CCA customer priorities and facilitate discussion on potential programs. We will review available program participation, review customer outreach and engagement channels, as well as consider existing project and program opportunities that can be leveraged. We will work collaboratively with client to understand how EBCE program goals align with Market Assessment and customer priorities. This will start with
two to four interactive and collaborative work sessions with the client to focus and refine the proposed sectors, strategies, and goals for EBCE programs. We will:

- Facilitate discussion with client on potential program designs
- Review existing EBCE program participation
- Identify high opportunity energy savings potential and targets by building type and demographic/customer segments using the California Potential and Goals Study, the California Energy Commission’s Residential Appliance Saturation Study and associated Database, the American Community Survey, the Construction Industry Research Board, and other primary and secondary sources and reports
- Review customer outreach and engagement channels, as well as consider existing project and program opportunities that can be leveraged
- Develop 2 to 3 high-level program design concepts and obtain EBCE feedback

Deliverables:

- Two to four program design work sessions to develop initial program strategy
- 2 to 3 high-level program design concepts, including discussion of target customers, eligible measures, energy savings potential and energy savings platform/approach, and alignment/coordination with other active programs

4. **Stakeholder coordination:** at the direction of EBCE, the Frontier-kW Team will:

- Collaborate and inform coordination with regulatory and City stakeholders.
- Support EBCE in socializing the Program Plan with Energy Division staffers and regulatory stakeholders.
- Support responses to questions and comments.
- Prepare draft presentations for use in stakeholder meetings.
- Support client’s discussion, comments and revisions on ETA submittals with CPUC staff
- Support client counsel with inputs to regulatory filing protocol

Deliverables:

- Stakeholder coordination support including agenda development
- Up to 2 draft presentations summarizing proposed program designs and associated EBCE program and customer service goals

5. **Cost effectiveness and technical Assistance:** based on proposed program concepts, the Frontier-kW Team will:

- Research energy efficiency measures relevant to program concepts.
- Prepare cost-effectiveness calculations and estimated savings impacts in line with CPUC targets and requirements.
Deliverables:
- Up to 6 iterations of Cost Effectiveness Tool (CET) inputs and outputs, including resulting Total Resource Cost (TRC) and other cost-effectiveness calculations, for review and comment by client

6. **Tier 3 Advice Letter**: the Frontier-kW Team will collaborate with EBCE to author the program plan and respond to criteria of Public Utility Code 381.1 (e)-(f). Our team will describe programs proposed with appropriate detail. This includes:
- Assist with review of EBCE drafted Advice Letter
- Describe proposed programs with appropriate detail
- Support development of: program budgets; strategic framework, initial goals and intervention strategies, and detailed strategies and narratives.
- Integrate findings as necessary from Market Assessment and Cost-Effectiveness tasks

Deliverables:
- Program plan and Advice Letter content necessary for ETA submittal

7. **Project Management**: the Frontier-kW Team will host regular meetings with the EBCE Team to keep the effort on schedule; strategize and sequence EBCE engagement with the CPUC, and provide direction, input, and feedback on required content drafted by EBCE staff. Invoices will be provided monthly within the allocated budget.
Exhibit D

Subconsultants

The following subconsultants have been authorized by EBCE:

1. DKS Associates,
2. Gladstein, Neandross Associates, and
3. kW Engineering.
Exhibit E

Compensation/Budget

Services under this Agreement are not to exceed $509,948 and will be compensated based on the following hourly rates:

Frontier Energy

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