

# Introductions

Holly Wallace: Moderator

- *Senior Manager of Member Programs, Illinois ASBO*



Haj Young: Speaker

- *Managing Director, IEC Powered by Future Green*



Tim Farquer: Speaker

- *Administrative Lead, Bus2Grid*



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# Our Services

## Electricity

- Unique energy and hedging strategies
- Over 80 brokerage partners/suppliers
- Structured products and flexible strategies

## Natural Gas

- Economies of scale is the game
- Hedging strategies and active management
- Futures premiums decreased at scale with combined loads

## Solar + Storage

- Complimentary member energy assessment
- Proposed solutions work regardless of vendor preference
- Recommendations are dynamic and customer specific

## Demand Response

- Enrollment encouragement
- Pricing benefits and tailored solutions
- \*Currently developing discounted equipment site

## Energy Assessments

- Customized energy efficiency and facilities assessment
- Robust report with recommendations and options
- Vendor agnostic solutions for maximum value

# Alert: The Changing Energy Environment!!!

## Electricity prices continue to rise - PJM auction results

- Capacity prices increasing due to demand from AI, electric vehicles, crypto mining, and growing technology adoption by consumers

PJM Interconnection, the largest electrical grid operator in the United States, held its annual power market auction Tuesday, and the results are staggering.

The auction produced a price of \$269.92/MW-day for most of the PJM footprint, compared to \$28.92/MW-day for the 2024/2025 auction. Capacity auction prices fluctuate annually based on the need for investment in generation resources, but a more than 800% increase will have a massive ripple effect across PJM's 13-state footprint

**MISO auction results to be announced April 28<sup>th</sup> : Prices will rise**

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# There is POWER in Numbers!!

Economies of Scale drive savings for Members in the Electricity & Natural Gas Supply Programs

2022-23 Academic Year

Over 200 Districts in Electricity Program

284,000+ Megawatt Hours under  
management

Over \$6 Million in Savings

2022-23 Academic Year

Over 210 Districts in Natural Gas Program

1,375,000+ Dekatherms under  
management

Over \$2 Million in Savings

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CELEBRATING  
**75**  
YEARS

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# IEC Electricity Supply Program

| FEATURE                                | ADVANTAGES  | BENEFITS   |
|--|---|--|
| <b>IEC Negotiated Contract</b>         | IEC negotiating on member district's behalf   | Pre-negotiated contract with favorable terms   |
| <b>24-month Contract Term</b>          | Provides members with the ability to build a budget plan for 2-years                          | Member doesn't have to contract again in less than a year  |
| <b>Price Lock</b>                      | Member can make favorable energy purchases based on their risk tolerance                      | Provides for dollar cost averaging by allowing multiple purchases based on when the market makes favorable moves |
| <b>Demand Charge Pass-through</b>      | Member pays for capacity, transmission, and ancillaries based on their usage profile          | Member pays no "risk premiums" for having unknown demand charges "fixed"   |
| <b>Full-swing</b>                      | No volumetric bands to limit usage without risk to market movement                            | No increased risk of market exposure due to dramatic change due to unforeseen events                             |
| <b>20% Add/Delete Language</b>         | Add/delete facilities at current contract rate for up to 20% of contract volume               | Add/delete facilities with no ETF within the 20% range of contract volume  |
| <b>Net-40 Day Payment Terms</b>        | Net-40 days to make payment   | Process payments without added late premiums   |
| <b>20% On-site Generation Language</b> | On-site solar can be added without a contract buffer before needing to recalculate the price. | Allows members the ability to add on-site solar with limited need to re-work contract pricing                    |
| <b>10% Green-e RECS</b>                | Begins the process of meeting state renewable energy demands                                  | Members can communicate to their stakeholders how they are beginning their sustainable journey                   |


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# IEC Gas Supply Program

| FEATURE   | ADVANTAGES   | BENEFITS   |
|---|--|--|
| <b>Multiple Programs Available</b>                | Allows districts to choose the best option for their individual needs and goals.   | Districts enroll in a plan that works best for their district, not a one-size-fits-all solution. |
| <b>Managed Program</b>                            | Minimal effort; experts manage a diversified portfolio.  | Conservative, budget-focused strategy for stable, predictable energy costs.                      |
| <b>Customized Portfolio Management Program</b>    | Member-driven strategy with flexible energy design, fixed-price choices, and Spot Pool control.  | Provides strategic flexibility to seize market dips with low risk and customizable purchasing.   |
| <b>Spot Pool Program</b>                          | Gas is priced at the IEC Spot Pool rate, includes one free annual switch to the Managed Program, and offers flexibility for price drops. | Avoids fixed contracts and enabling gains from stable or falling prices.                         |
| <b>Energy Manager Portal</b>                      | 24/7 access to track and manage the district's natural gas usage and spending online.  | Access transaction history, online bill paying, advanced analytics, and market insights.         |
| <b>Illinois Prompt Payment Act Term Compliant</b> | Up to net 60-day payment term  | Improves financial management and ensures timely resource availability.                          |

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# Analyze Spend to Understand Savings

READING  
YOUR  
ELECTRIC  
BILL



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# Generate Your Own Power & Save

## WHY ON-SITE SOLAR REDUCES ENERGY SPEND?

- The “Grid” is a toll road.
  - You are charged delivery fees and tax for your energy using the toll road.
- On-Site allows your school to avoid the “toll fees” within your energy cost.
- On-site energy creation gives us leverage as consumers to avoid a large portions of our current energy cost.



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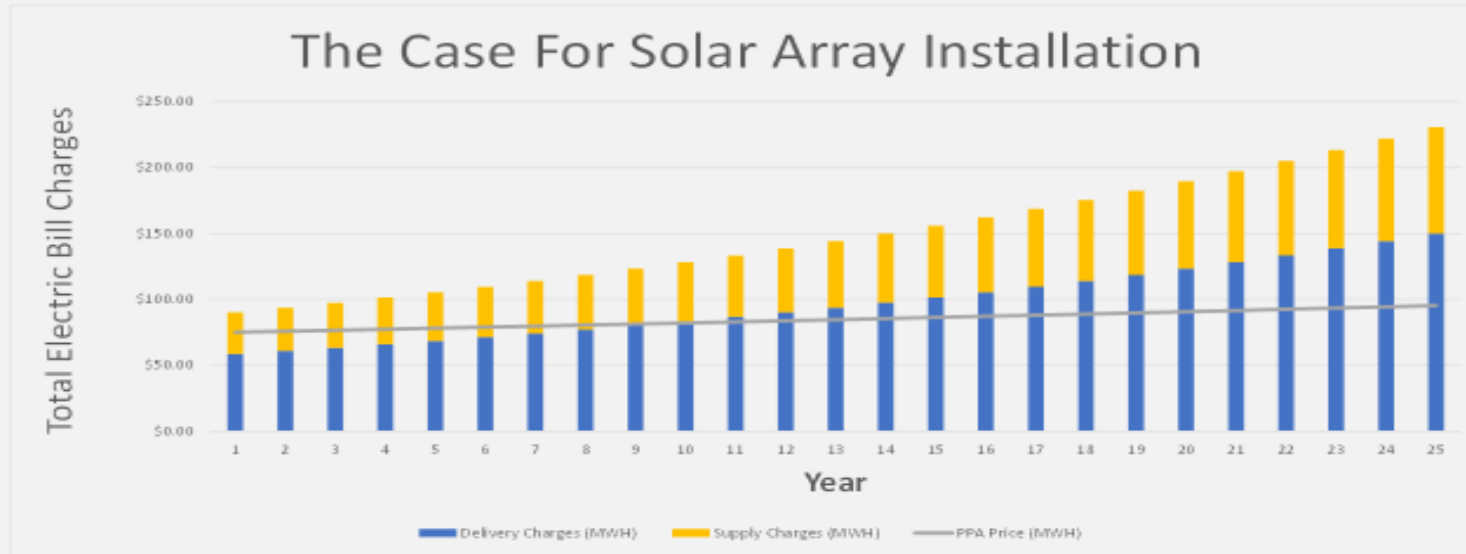
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# The Benefits of Solar Generation

## REDUCING YOUR ENERGY SPEND

### The Case For Solar Array Installation



- ❖ Assumes electricity price increase at average historical inflation rate of 4%
- ❖ PPA price includes a modest escalator of 1%

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# Magnify Savings!!!

Adding a Backup Battery to Store Your Green Energy Increases the Savings to Your District!!

SOLAR + STORAGE  
= THE SMARTEST  
OPTION

Battery storage

Optimizes Solar output

Improved Resiliency

Additional savings and opportunities  
to further reduce energy spend

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# Case Study: Century School District

## Rural Cooperative Solar Development



- First time in 20 years joining the Illinois Energy Consortium

|                     |                           |
|---------------------|---------------------------|
| School District     | Century -<br>Grade School |
| Solar Array         | 311 kW                    |
| 1st Year Production | 455 MWH                   |
| 1st Year Savings    | \$10 K                    |
| Project Savings     | \$600 K                   |



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# Case Study: Stark County School District



|                     |                              |
|---------------------|------------------------------|
| School District     | Stark Grade School           |
| Solar Array         | 150 kW                       |
| 1st Year Production | 231kWH                       |
| 1st Year Savings    | \$6K (est)<br>\$15K (actual) |
| Project Savings     | \$295K                       |



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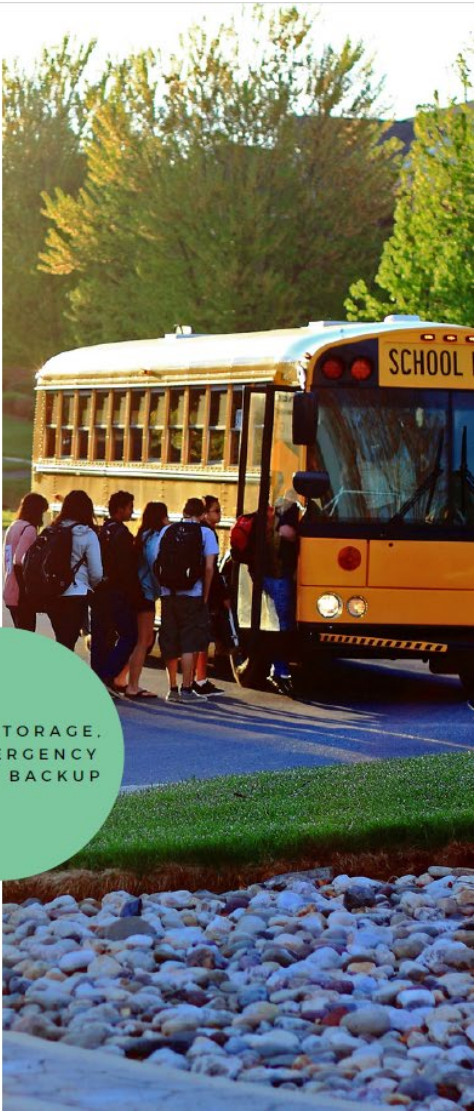
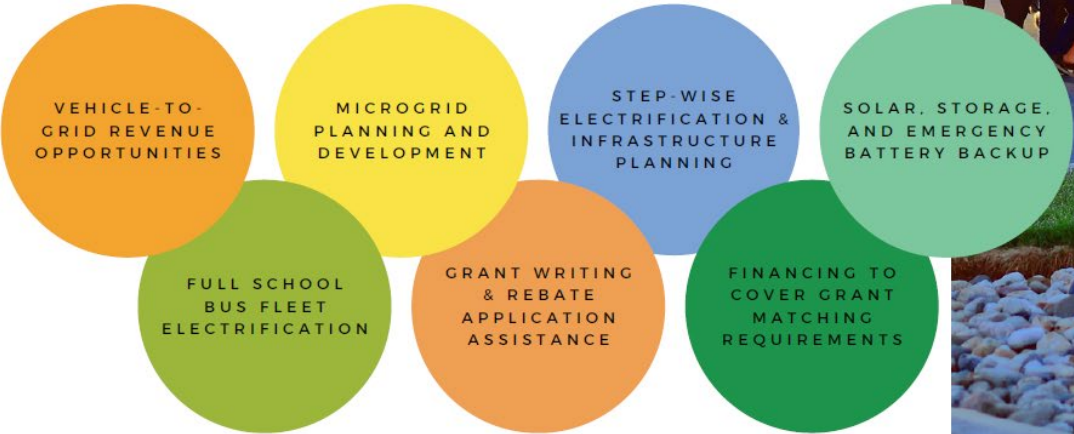
# The IEC's Bus2Grid Program



## MISSION

IEC Powered by Future Green's Bus to Grid Program seeks to help every Illinois school district electrify their school bus fleets with little to no out-of-pocket cost and significantly improve the quality of air our children breathe. A central focus is to ensure school districts are in the driver's seat and are equipped with all the resources required so that they directly benefit from savings and revenue-sharing opportunities.

## SERVICES



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# Illinois Impact So Far: Bus2Grid Projects

\$45M

Direct Savings  
(est)

\$35M

Federal Grants  
for Schools

30+

School Districts

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# Electric School Buses for Peoria's Clean Energy Future

Two Peoria-area school districts have added electric school buses to their fleets, thanks to the vision and hard work of local educators and students and the creation of the Edwards Settlement Fund.

March 25, 2021



**Selena Kyle**

Senior Litigating Counsel

Alyssa Brown (Alum)

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The Hollis and Pekin electric school buses, taken at the bus launch event at the Pekin Transportation Department on March 23, 2021

2018 first  
Electric  
School  
Bus bid

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# Williamsfield Schools Fall 2022 EPA Rebate Winner!

Superintendent Tim Farquer is Administrative Lead of IEC's Bus2Grid Program



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# Bus2Grid Wins \$15m Microgrid Grant!

## Williamsfield Schools (CUSD #210) (Williamsfield, IL)

This project will install and deploy functional microgrids on the campus of 20 Illinois public school districts. On-site solar production, stationary storage, innovative HVAC controls, and bidirectional electric school bus batteries will be leveraged for financial savings and emissions reductions. Each microgrid will establish the resilience necessary for the building to serve as an emergency shelter during extended grid outages & or weather-related events. Project objectives include at least: 20 active microgrids, 22 gigawatts hours of added solar production, 10 megawatts of callable energy storage during times of peak demand, 8 megawatts of mobile emergency backup power to leverage during outages, 20 local emergency shelters available during outages, and increased energy resilience.

Amboy CUSD #272  
Dixon Public School #170  
East Moline SD #37  
Herscher CUSD #2  
Hollis CSD #328  
Huntley CSD #158  
Joliet Township HSD #204

Meridian CUSD #223  
Pembroke CCSD #259  
Peoria SD #150  
Prairie Hills SD #144  
River Trails SD #26  
Roanoke-Benson CUSD #60  
Spoon River Valley CUSD #4

Stark County CUSD #100  
United CUSD #304  
Vienna HSD #133  
Washington Central SD #51  
Wethersfield CUSD #230  
Williamsfield CUSD 210

| Team Members  |                 |
|---|-----------------|
| <ul style="list-style-type: none"><li>University of Illinois at Chicago</li><li>IEC-FG</li><li>Econergy</li></ul> |                 |
| Total Funds Requested   | \$ 14,994,951   |
| Proposed Cost Share (%)   | \$ 847,635 (5%) |
| Number of Buildings   | 24              |

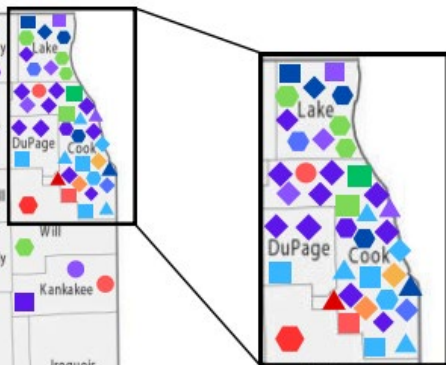


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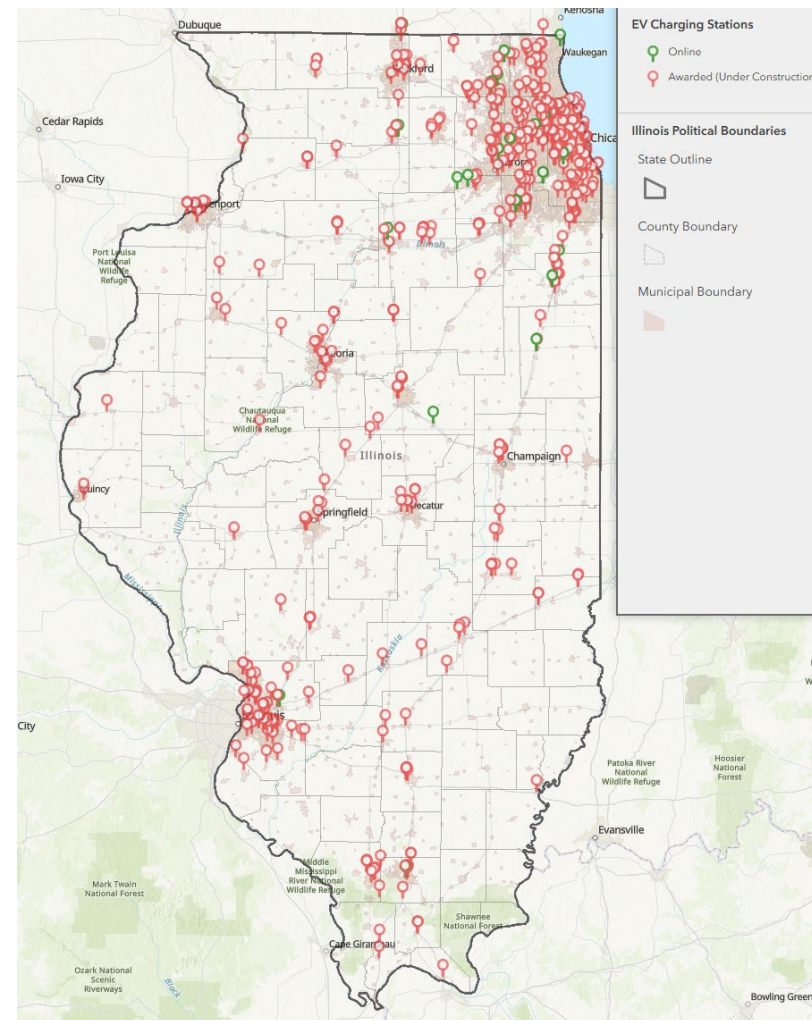


### Total Buses = 597

- US EPA CSBP 2022 Rebates = 117
- △ US EPA CSBP 2023 Grants = 180
- US EPA CSBP 2023 Rebates = 190
- ◇ IEPA Volkswagen Awards = 21
- ⬡ CHDV Awards 2024 = 87
- ★ Edwards Coal Plant Settlement = 2

### Total School Districts = 94

- US EPA CSBP 2022 Rebates = 12
- △ US EPA CSBP 2023 Grants = 14
- US EPA CSBP 2023 Rebates = 28
- ◇ IEPA Volkswagen Awards = 28
- ⬡ CHDV Awards 2024 = 10
- ★ Edwards Coal Plant Settlement = 2



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# Williamsfield: Operational Savings

**In addition to saving the cost to buy new buses in the future, there are savings on maintenance and fuel!!!**

## Utilization and savings takeaways:

- ✦ Economy is slightly below average @ 67.kWh per mile.
  - This includes OOS units, so some may be due to troubleshooting/testing.
  - REGEN DISABLE button is being pressed regularly. More on this below.
- ✦ District avoided purchasing 898\* gallons of fuel at a cost of \$3,816\*
- ✦ Used a total of 8,462 kWh for propulsion.
  - Using your solar cost per kWh of \$0.0275, total cost of propulsion = \$232.7 (That's exciting to see!)

|  | kWh/mi: | \$/kWh<br>(util. rate) |
|--|---------|------------------------|
| * based on your local<br>reported avg. utility<br>& fuel rates | 1.45    | \$0.03                 |
|  | ICE MPG | fuel \$/gal            |
|  | 6.5     | \$3.81                 |

**That works out to a monthly total savings of \$3,583 (\$.61 per mile) traveled vs. a diesel bus!**

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# TCO & Price Parity

| DIESEL                                |           |                  | ELECTRIC                                     |           |                  |
|---------------------------------------|-----------|------------------|--|-----------|------------------|
|                                       |           | \$/mile          |  |           | \$/mile          |
| Bus cost                              | \$165,000 | \$1.000          | Bus/charger/infra cost                       | \$360,000 | \$2.182          |
| Bus life cycle (years)                | 10        |                  | Bus life cycle (years)                       | 10        |                  |
| Miles per year (per bus)              | 16,500    |                  | Miles per year (per bus)                     | 16,500    |                  |
| Lifetime miles per bus                | 165,000   |                  | Lifetime miles per bus                       | 165,000   |                  |
| Fuel Economy (mpdge)                  | 7.5       |                  | Fuel Economy (kWh/mile)                      | 1.7       |                  |
| Fuel cost (per gal. year 1)           | 3.804     |                  | Fuel cost (per kWh year 1)                   | 0.0800    |                  |
| Lifetime fuel cost                    | \$124,745 | \$0.756          | Lifetime fuel cost                           | \$23,477  | \$0.142          |
| Lifetime Maint cost                   | \$40,000  | \$0.242          | Lifetime Maint cost                          | \$20,000  | \$0.121          |
| <b>COST PER MILE</b>                  |           | <b>\$1.998</b>   | <b>COST PER MILE</b>                         |           | <b>\$2.445</b>   |
| <b>TOTAL COST OF OWNERSHIP</b>        |           | <b>\$329,745</b> | <b>TOTAL COST OF OWNERSHIP</b>               |           | <b>\$403,477</b> |
| <b>ELECTRIC ANNUAL OPERATING COST</b> |           |                  | <b>FUNDING NEEDED TO REACH PRICE PARITY:</b> |           |                  |
| Fuel & Prorated Maintenance           |           | \$4,348          | Bus/Charger/Infrastructure cost              |           | \$73,733         |
| <b>DIESEL ANNUAL OPERATING COST</b>   |           |                  |  |           |                  |
| Fuel & Prorated Maintenance           |           | \$16,474         |  |           |                  |



# Current Funding & Revenue Opportunities

- ComED EV Rebates \$5-180k
- ComEd Make Ready Charger Rebate
  - Location based
  - \$1,000 per kW
  - Max \$500K
- IRA Tax Credits
- Carbon Credit Revenue
- V2G Pilots

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# IEC & Bus2Grid Announce Exciting New Partnership with Fleet Power!!!

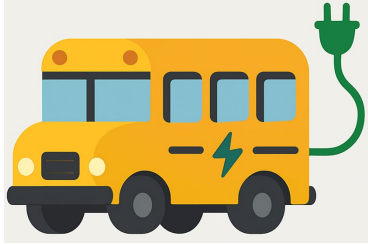


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# How Carbon Credits Work – Step By Step



## 1. Emission Measurement

The Fleet-Power platform tracks how much less pollution your electric buses produce compared to diesel buses.



## 2. Registration and Verification

An independent review is done to confirm emissions reductions. Verified savings are certified and officially recorded as carbon credits.



## 3. Carbon Credit Issuance

Fleet-Power officially registers the credits, ensuring they meet the required voluntary carbon market standards.



## 4. Sales to Corporate Buyers

Credits marketed and sold to companies to offset CO<sup>2</sup>. Sales revenue is returned to your district, creating a new funding source.

**12 to 18 Month Process**

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# What's in it for your school district?

## Generate Revenue – Without New Costs

- ❑ Your district earns money simply by using the electric buses you already have
- ❑ No upfront investment, extra staffing, or operational changes required
- ❑ A district with 10 electric buses could potentially earn thousands of dollars each year from carbon credits – funds that can directly benefit your students and community

## Potential Uses of Financial Benefits

- ❑ Funds from carbon credit sales can be used directly for district needs, such as:
  - Funding extracurricular activities
  - Supporting classroom technology upgrades
  - Enhancing student programs

# Get Started with Carbon Credits!

1

**Connect with Fleet-Power or Bus2Grid:** Schedule a call or meeting to discuss your fleet and potential benefits.

2

**Provide Basic Details:** Share info about your buses and operations – Fleet-Power manages the process from there.

3

Fleet-Power measures, verifies, and sells your carbon credits, bringing new funds directly back to your district.

## Contact info:

- [Tim@bus2grid.org](mailto:Tim@bus2grid.org)
- [Haj@future-green.org](mailto:Haj@future-green.org)
- [Enrique@fleet-power.com](mailto:Enrique@fleet-power.com)
- [Vibhav@fleet-power.com](mailto:Vibhav@fleet-power.com)
- [Jeff@fleet-power.com](mailto:Jeff@fleet-power.com)

# IEC- FG Bus 2 Grid Services

- Fleet Electrification Planning
- Transportation Energy Audit
- Engineering Services
- Charging Management
- Energy Management
- OEM Liaison
- IRS Direct Pay Rebates
- Grants & Incentives

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# New Energy Services & Demand Response

## SMART SAVINGS PROCESS



- **Non-ESPC** (Energy Savings Performance Contractor) approach
- Grant/Rebate assistance when available
- Capture full benefits for the life cycle of equipment/improvements

We help schools take control of their energy use and energy goals. Access expert energy specialists who can analyze energy usage and develop corrective action plans.

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# Case Study: Community College

## Upgraded control system and equipment operation

- Installed secondary meter to support ADR
- Intelligent run -time adjustments
- Thermostat & air/water handling improvements
- Insulation replacement
- Ongoing adjustments can capture 5 - 10% additional savings

Ongoing, thoughtful support helped customer save 13% more than estimated by ESCO.

**48% kWh savings**

**56% kW savings**

**48%**

kWh Reduction

**56%**

kW Demand  
Reduction

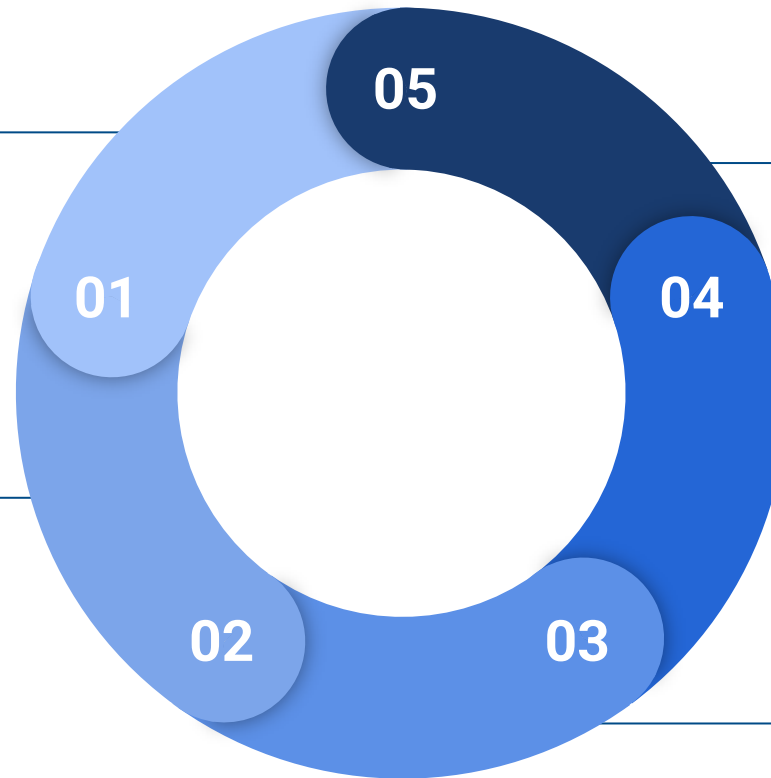
# Case Study: Building Automation Systems

## Sensors & Actuators

Comprehensive and precise energy data collection across school systems/facilities

## Network & Communication

Seamless integration and real-time data exchange between various building systems and energy providers



## Energy Integration

## Smart Control Devices

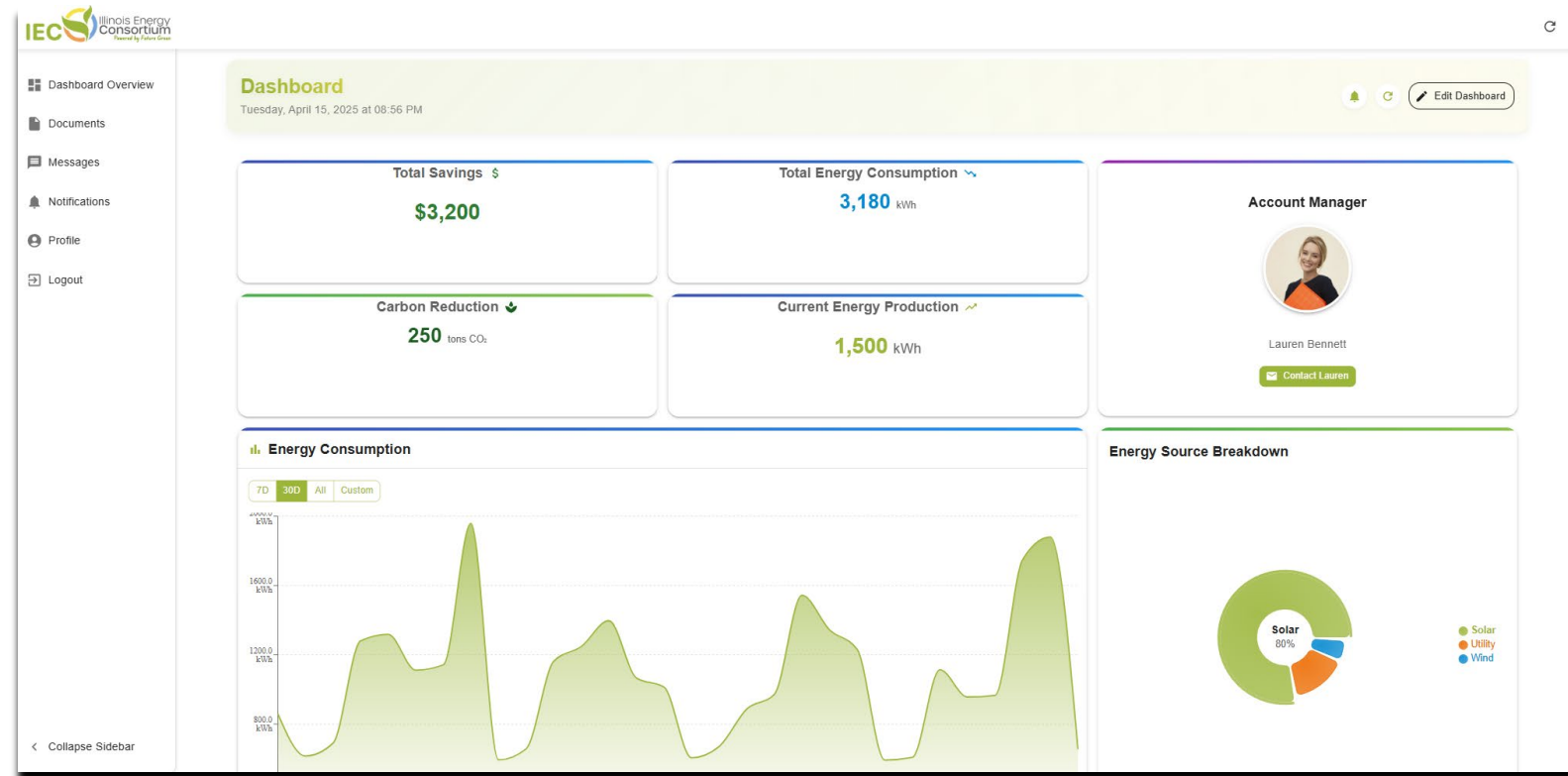
Enable real-time adjustments to energy use, allowing facilities to automatically reduce power consumption

## Software & Analytics

Providing data-driven insights and trend analysis to maximize savings/efficiency

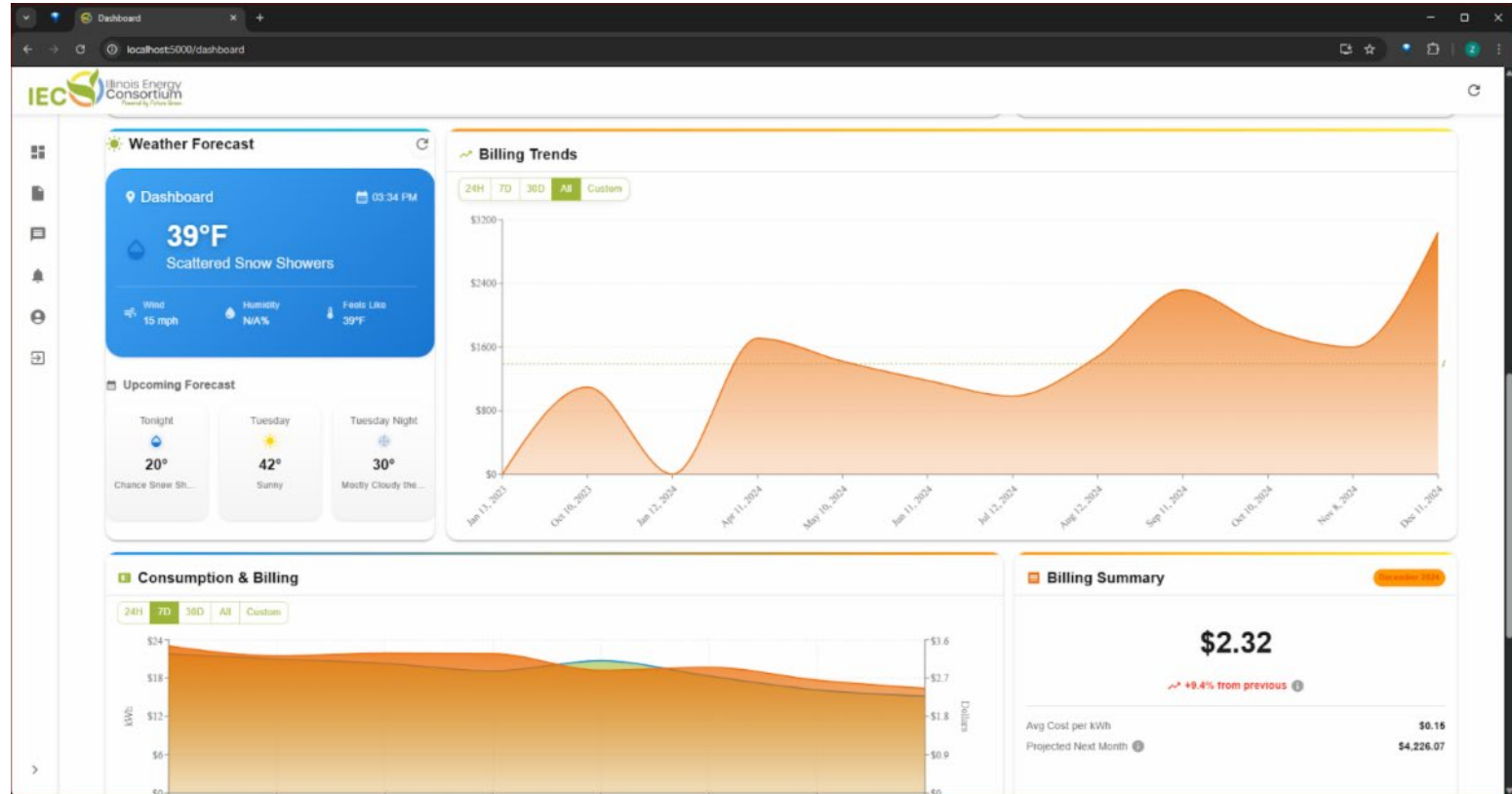
# New & Exciting!! IEC Energy Analytics Tool

- **Real-Time Energy Tracking:** Monitor your district's energy consumption and compare data across campuses with intuitive visual dashboards.
- **Streamlined Contract Management:** Easily view and manage all your energy contracts, renewal dates, and supplier information in one secure location.
- **Custom Reports & Analytics:** Generate downloadable reports for board meetings or internal planning, showing your cost savings, usage trends, and sustainability progress.



# IEC Energy Dashboard: Beta Launched Today!

- **On-Demand Support:** Need help? Submit billing and usage inquiries directly to your Account Manager through the portal and track the status of your inquiries in real time.
- **Sustainability Insights:** Access new tools that help you Identify clean energy and efficiency programs tailored for your district.





# Questions and Answers

*We thank you for your time!*

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# Presenters:

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