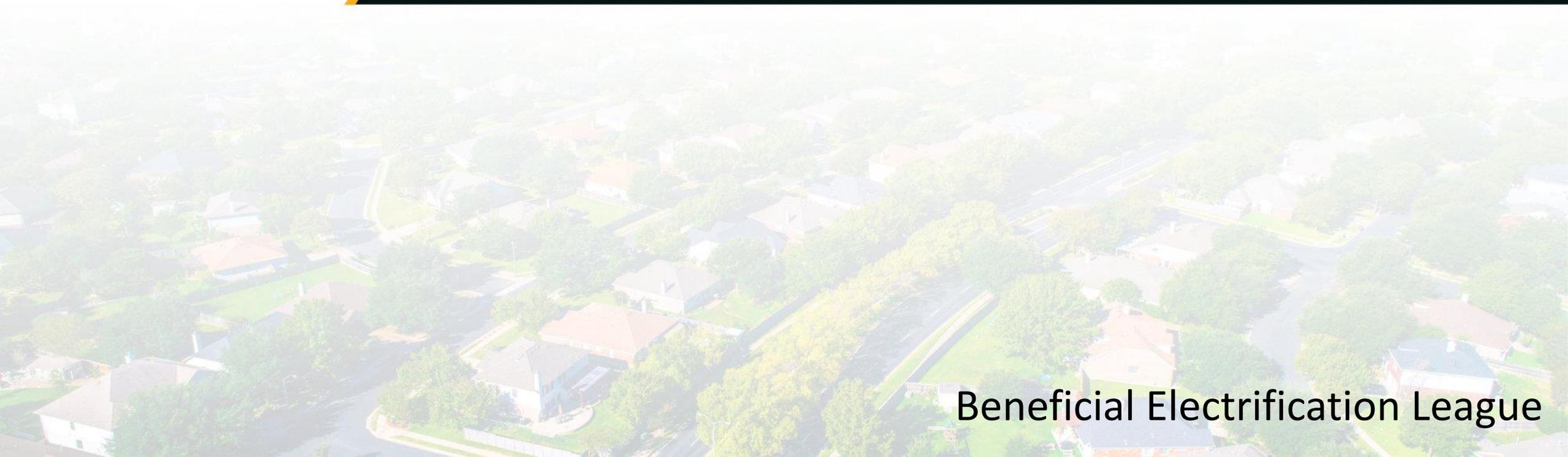




Beneficial Electrification



Beneficial Electrification League



Today's Agenda:

- **Technology**
- **Policy**
- **Customer Engagement**

BEL's Mission and Vision

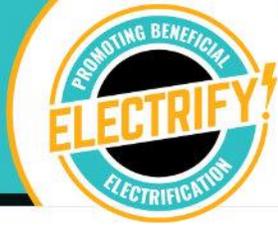
Vision

Our vision of the future is for beneficial electrification to be universally accepted as a necessary strategy to meet economic, consumer and environmental goals.

Mission

To increase understanding on the benefits of electrification by promoting the market acceptance of beneficial electrification, educate policy makers on the value, benefits and tools of Beneficial Electrification and serve as a conduit and facilitator of BE resources.

What is “Beneficial Electrification?”



Beneficial Electrification (BE) includes the application of electricity to end-uses where doing so satisfies at least one of the following conditions, without adversely affecting the others:

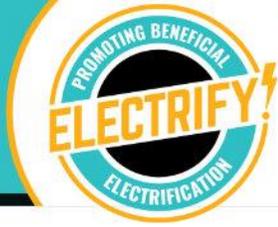
- Saves consumers money over time;
- Benefits the environment and reduces greenhouse gas emissions;
- Improves product quality or consumer quality of life;
- Fosters a more robust and resilient grid

Beneficial Electrification programs are a valuable opportunity to engage both electric utilities and environmental groups in the effort to identify solutions that work well for the end-use consumer, local communities and the environment.

NOT an “Electrify Everything” Concept

Follow The Beneficial Electrification League on LinkedIn

Beneficial Electrification



What's your favorite thing powered (or charged) by electricity?



What's Your BE Experience?



What's Your BE Experience?



**Bigger, better,
replaceable,
rechargeable
batteries**



What's Your BE Experience?



What's Your BE Experience?



Before
Beneficial
Electrification



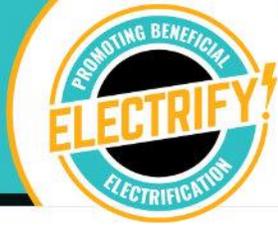
What's Your BE Experience?



After
Beneficial
Electrification



What's Your BE Experience?



AFTER
Beneficial
Electrification



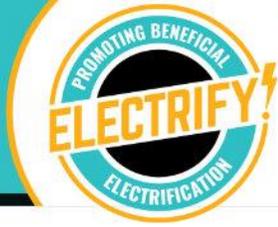
Technology Interest Beyond EVs



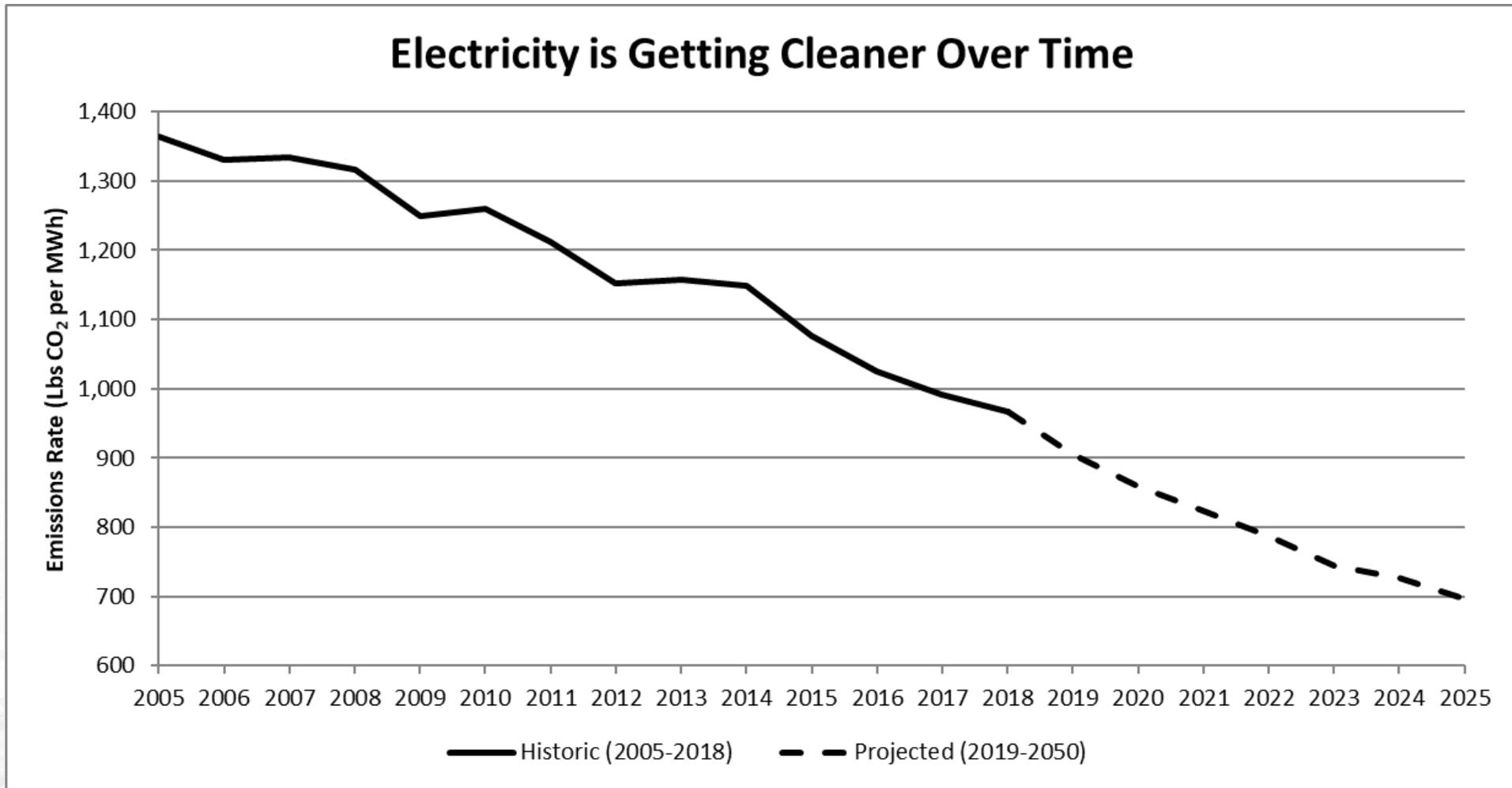
MORE MORE MORE!



AND!

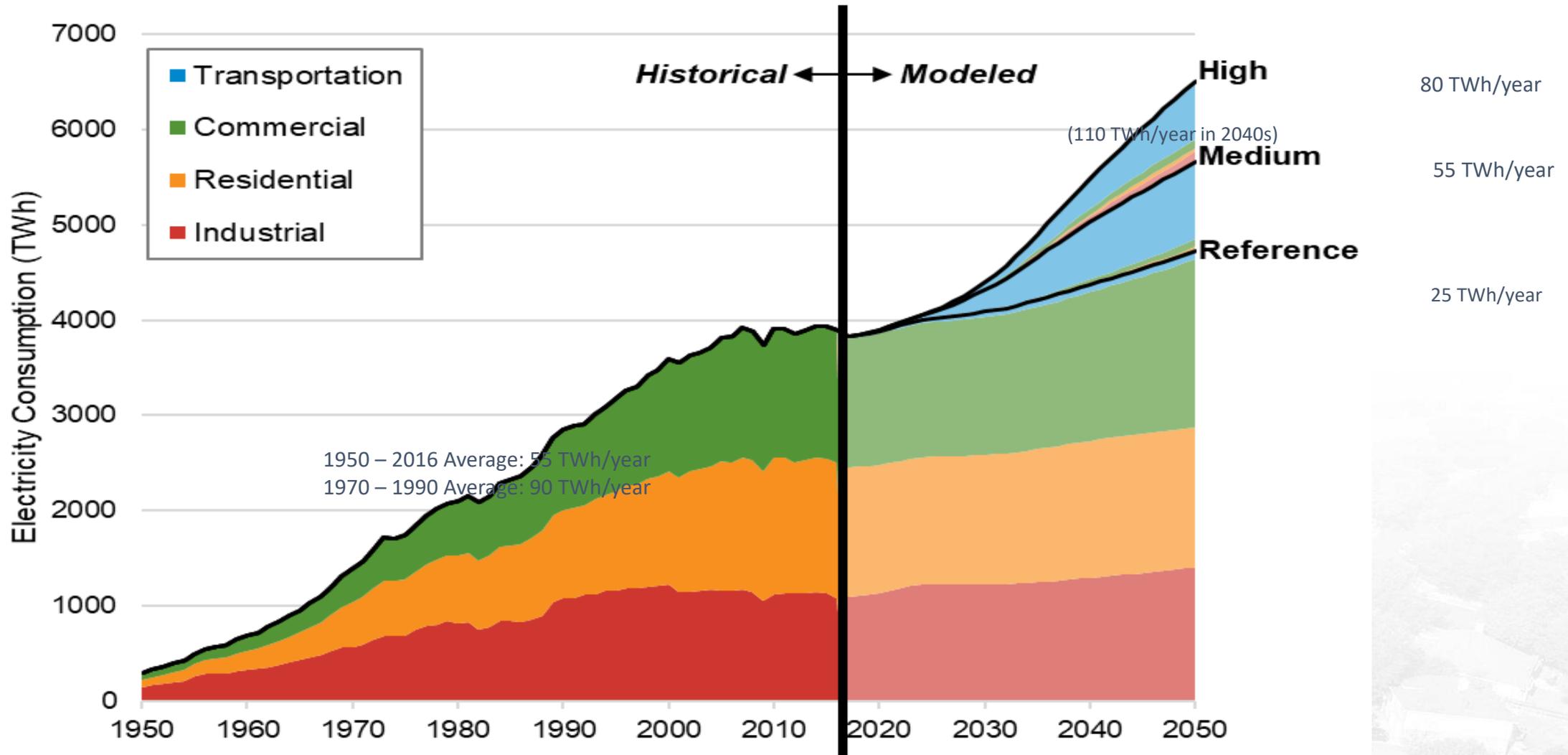
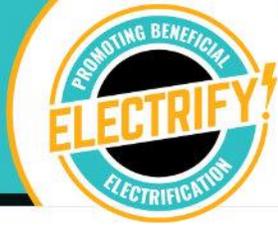


Opportunity to Improve “Emissions Efficiency”



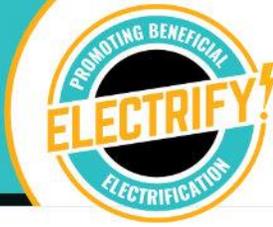
By virtue of being plugged into the grid, the environmental performance of electric devices improves over time.

Electric Load Growth Significant, but Not Unheard of



Source: NREL

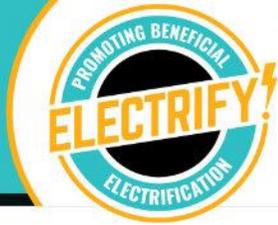
Infrastructure Investment and Jobs Act (IIJA)



- **SUMMARY OF THE ACT**
- **Division A – Surface Transportation; Title I – Federal-Aid Highways; Subtitle D – Climate Change**
- Section 11401: Grants for Charging and Fueling Infrastructure. \$7,500,000,00
- **Division D – Energy; Title I – Grid Infrastructure and Resiliency; Subtitle A – Grid Infrastructure Resiliency and Reliability**
- *Section 40101: Preventing Outages and Enhancing Resiliency of the Electric Grid. \$5,000,000,000*
- *Section 40103: Electric Grid Reliability and Resilience Research, Development, and Demonstration. \$5,000,000,000*
- *Section 40107: Deployment of Technologies to Enhance Grid Flexibility. \$3,000,000,000*
- **Division D – Energy; Title V – Energy Efficiency and Building Infrastructure; Subtitle B – Buildings**
- *Section 40511: Cost-Effective Codes Implementation for Efficiency and Resilience. \$225,000,000*
- **Division D – Energy; Title V – Energy Efficiency and Building Infrastructure; Subtitle D – Schools and Nonprofits**
- *Section 40541: Grants for Energy Efficiency Improvements and Renewable Energy Improvements at Public School Facilities. \$500,000,000*
- **Division D – Energy; Title V – Energy Efficiency and Building Infrastructure; Subtitle E –**
- *Section 40551: Weatherization Assistance Program. \$3,500,000,000*
- *Section 40552: Energy Efficiency and Conservation Block Grant Program. \$550,000,000*
- And on and on and on and on and on and on.....



Federal Funding Process



From this ↓



To this ↓



BEL Strategy – Ease Access and Leverage Funding

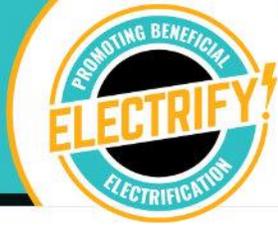


- \$5 Billion EPA (IIJA)
- Assist electric cooperatives, munis and school districts in awareness of the program and technology.



- \$3.5B DOE WAP (IIJA)
- \$4.5B IRA HOMES (IRA)
- \$4.5B IRA HEEHRA (IRA)
- Tax credits (IRA)
- Create a network of stakeholders that can leverage funding to achieve W/E together.
- Explore a national program to make it easier to implement opportunities

Inflation Reduction Act – August 2022



Inflation Reduction Act – August 2022

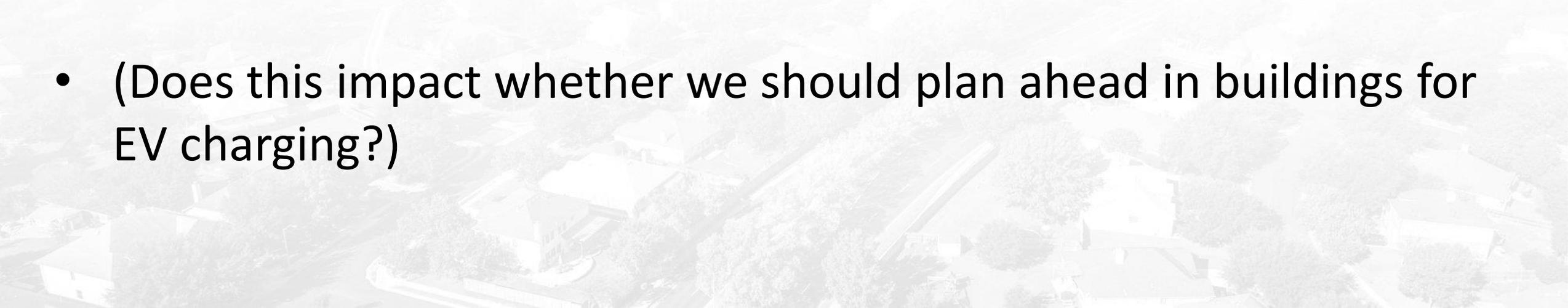


- A tremendous amount of implementation work is yet to be done at the IRS and other federal agencies
- Certain program specifics are still unknown, particularly where funds pass through to states
- BEL will be working with federal agencies to provide input in the coming weeks
- This presentation is not meant to be used as legal tax advice

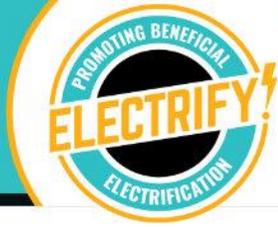
Clean Energy Production and EVs



- Generation technology incentives are extended through 2024 and then pivot to a technology neutral approach
- New electric vehicles eligible for \$7,500 and used EVs for \$4,000
- The law is written in a way to spur domestic manufacturing of finish products and key components such as batteries
- (Does this impact whether we should plan ahead in buildings for EV charging?)



The Inflation Reduction Act: HEEHRA



Point-of-sale rebates
up to \$14,000 for
LMI households

- \$8,000 for heat pumps
- \$1,750 for heat pump water heaters
- \$840 for heat pump clothes dryers
- \$840 for electric or induction stoves
- \$4,000 for electrical panel upgrades
- \$2,500 for rewiring
- \$1,600 for basic weatherization

How Does it All Add Up?



- Double (and triple) dipping may be feasible and warranted under the law's provisions.
- Lots of details still need to be clarified, but the IRS is already working furiously on implementation
- Beneficial Electrification League will continue to provide updated information and guidance as IRA implementation rolls out

Why Weatherize and Electrify Together?



- Electrification without Weatherization = potential comfort issues and oversizing
- Weatherization without electrification = **missed** opportunity for assessment and BE/EE opportunities
- W/E Together = Reduced peak load (counterintuitive), increased comfort and multiple benefits



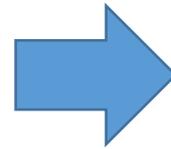
Why Weatherize and Electrify Together?



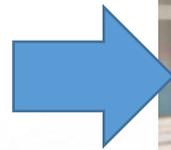
From Leaky "Mummy" WH to High Performance



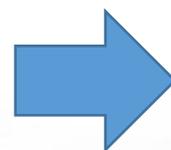
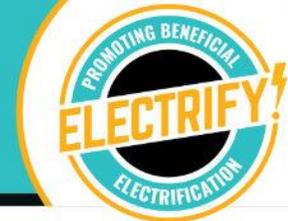
Leak and Corrosion



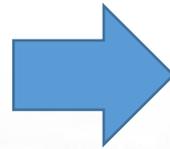
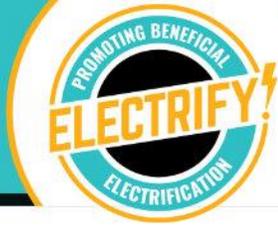
From Dangerous Rats Nest to Clean Electric



Heating and Cooling



Healthier Cooking



Remember - It's About the Consumer!

ELECTRIFICA

Customer Engagement

*We've done this
kind of thing
before!*



"IT'S LIKE HAVING A PARTY EVERY DAY when you live in a Gold Medallion Home," say Kenneth and Marilyn White as they celebrate Mrs. White's birthday with daughters Patty, 8, Christie, 12, and Cheryl, 9.

**"We're having more fun now that we've moved
into a modern total electric home"**

Total Electric Living is a clean break with the past



A flameless electric water heater needs no flue.
So it tucks away almost anywhere.

Total Electric Living is a clean break with the past



"Before we switched to electric heat, this monster took up a lot of living space."



"Switching to electric heat gave us the space for a new family room. We love it."

"We swapped a 'monster' for a new family room
when we modernized with flameless electric home heating"





Beneficial Electrification is a Performance Upgrade



Experiencing the Benefits is Key



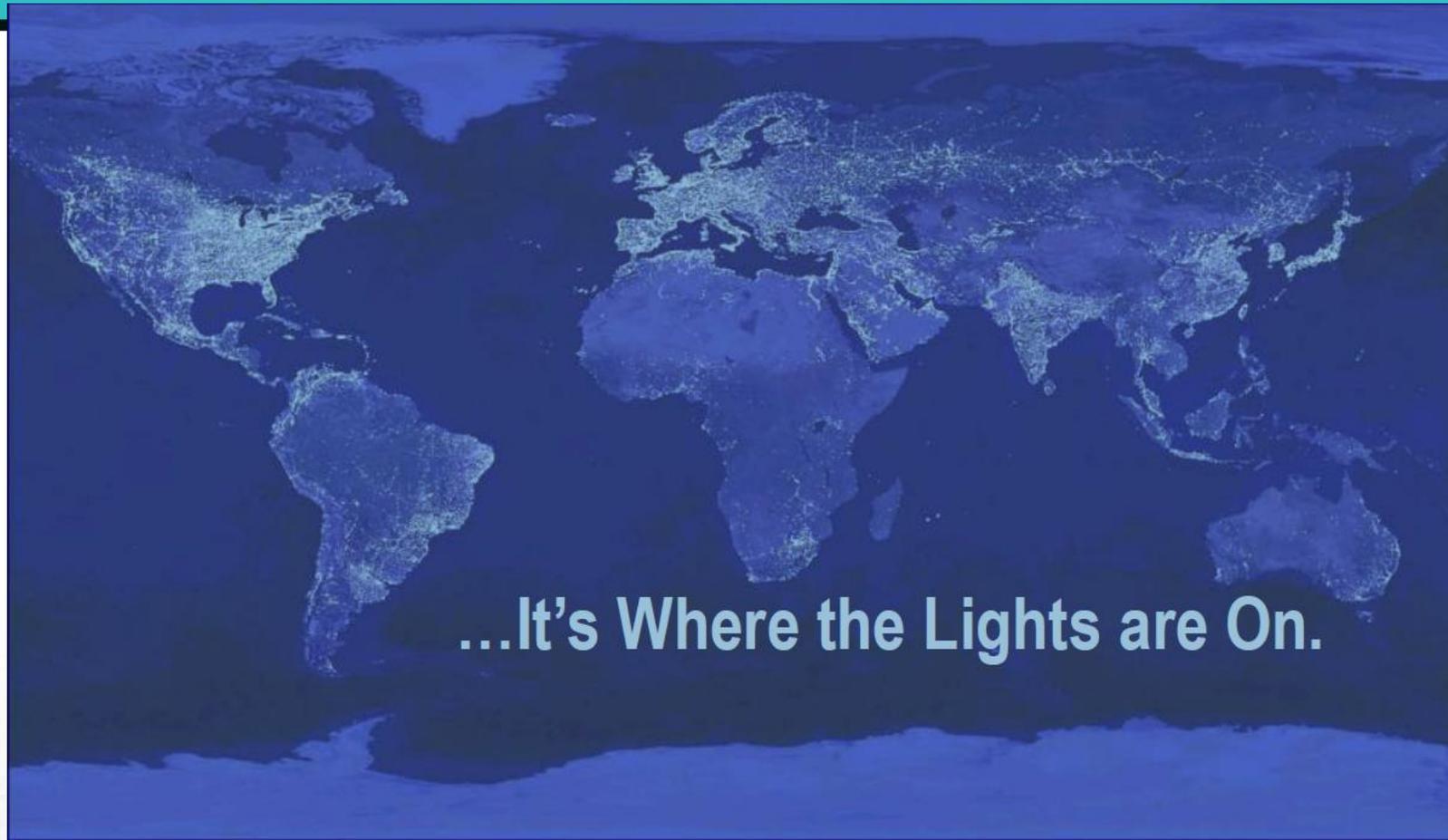
Try it – You’ll Like It!



Connected Communities, Like EVs, Are Appealing to Those Who Experience Them



You Can See Prosperity



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kdennis@be-league.org