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The new energy landscape is becoming:



More **ELECTRIC**

2X

faster growth of electricity demand
compared to energy demand by 2040



More **DIGITIZED**

10X

more connected devices
than people by 2025



More **DECARBONIZED**

82%

of untapped energy efficiency potential in
buildings (*and more than 50% in industry*)







More **DECENTRALIZED**

70%

of new capacity additions will be
renewable forms by 2040

Microgrids unlock new way to **OPTIMIZE RESOURCES** and **MEET BUSINESS.**

Today's complex organizations need easy to understand solutions.

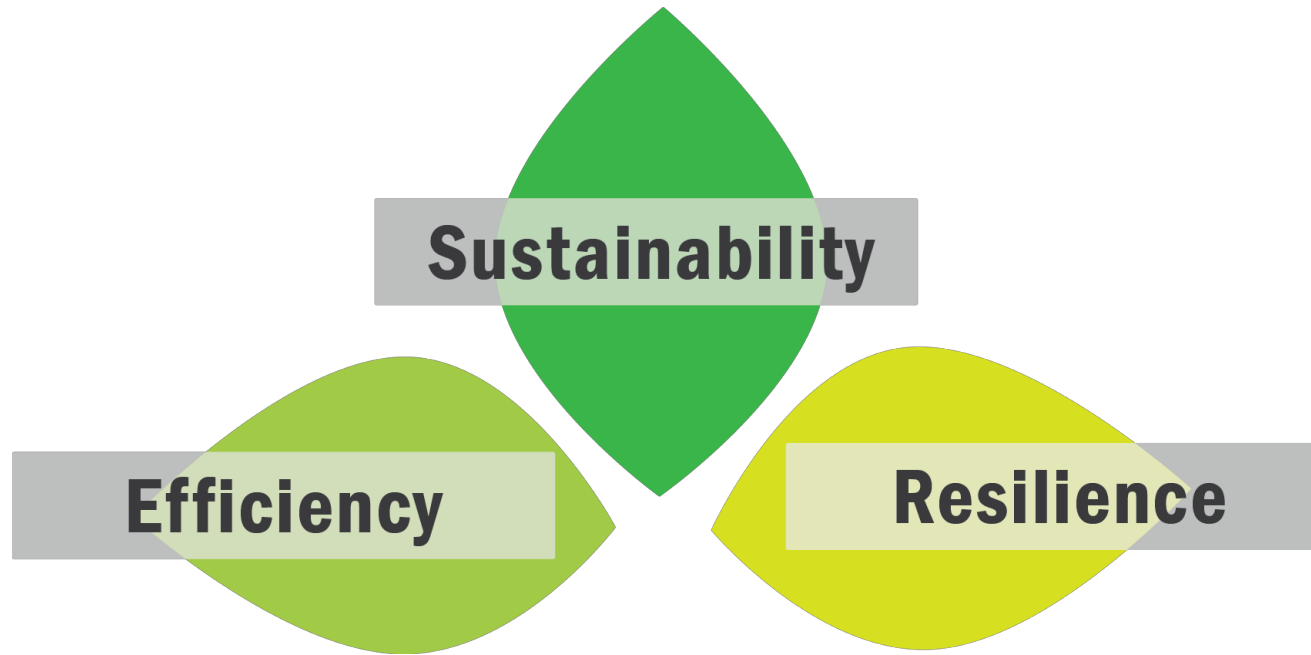
			
Construction	Technology Integration	Manufacturing	Energy
70% of buildings are 30 years or older	15.4B connected devices That number will double by 2020	50% better productivity and holds ZERO SAFETY RECORDABLES	50% increase in energy demands, but need to REDUCE carbon emissions in half.

Faith Technologies, along with key strategic partners like Schneider Electric, are
CHANGING THE FUTURE OF ENERGY.

Promoting education, recreation and conservation since 1971.

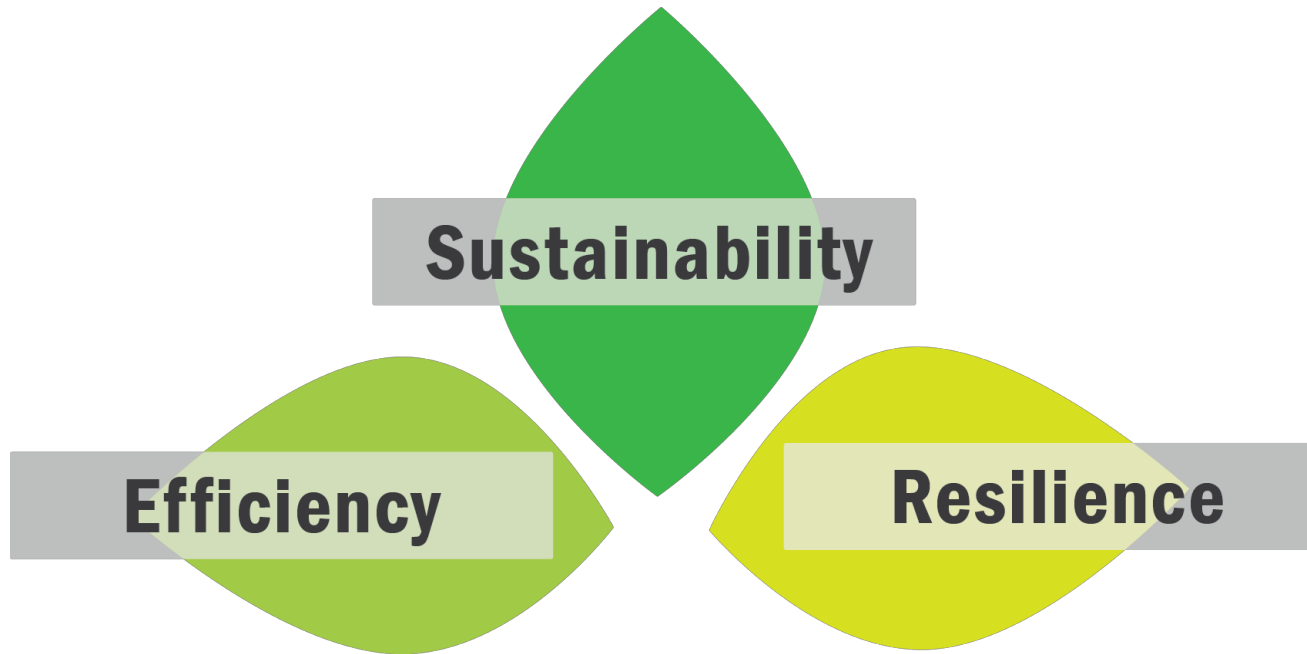
			
About the Preserve	Microgrid supports Mission	Sustainability	Environmental Impact
<p>FOUNDED: 1971</p> <p>more than 700 ACRES</p> <p>EIGHT miles of TRAILS</p> <p>60,000 VISITORS annually</p>	<p>Conserves Natural Resources</p> <p>Clean, Renewable Energy</p> <p>Education Learning Lab</p>	<p>Reduces Costs</p> <p>Draws Additional Visitors</p> <p>Green Efficient</p>	<p>851 TONS OF CO₂ EMISSIONS REDUCED EACH YEAR</p> <p>EQUIVALENT TO:</p> <ul style="list-style-type: none">Preserving 7 acres of forestConserving 92 households of electricityRecycling 297 tons of waste

How did we get here? It begins with “Why”...



- Nature center mission
- Redefining what's possible
 - Making a microgrid, sustainability “real”
 - Visibility – physical presence, data, screens, immersion center, signage, tours

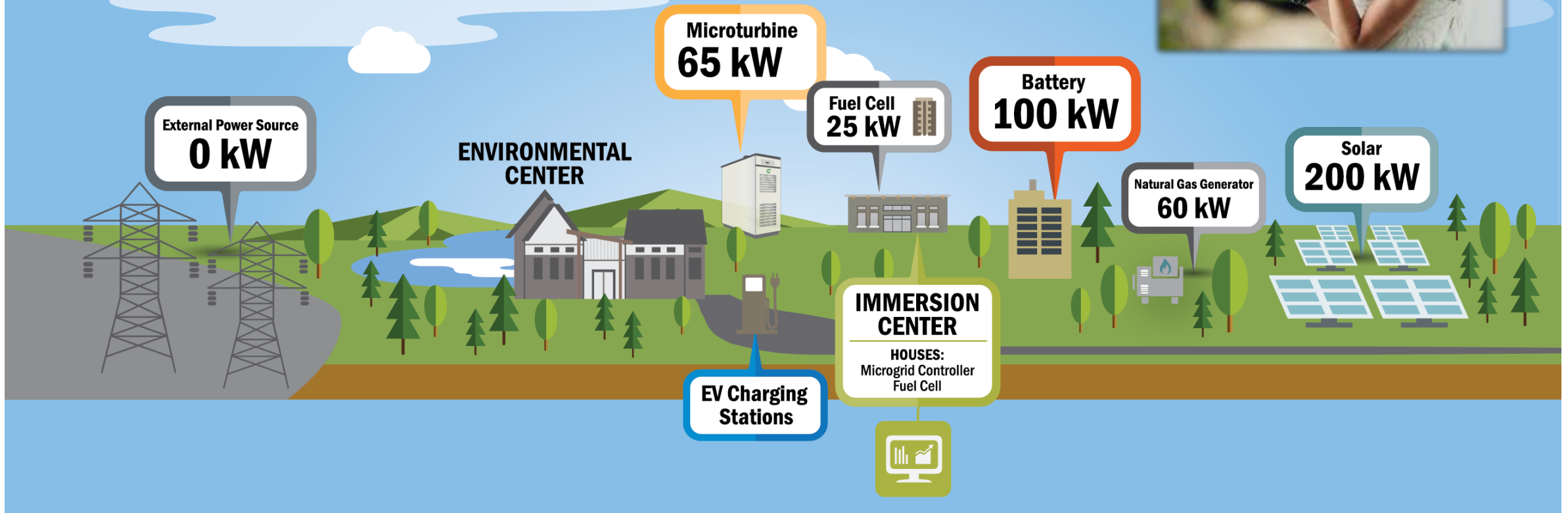
...and continues with what and how.



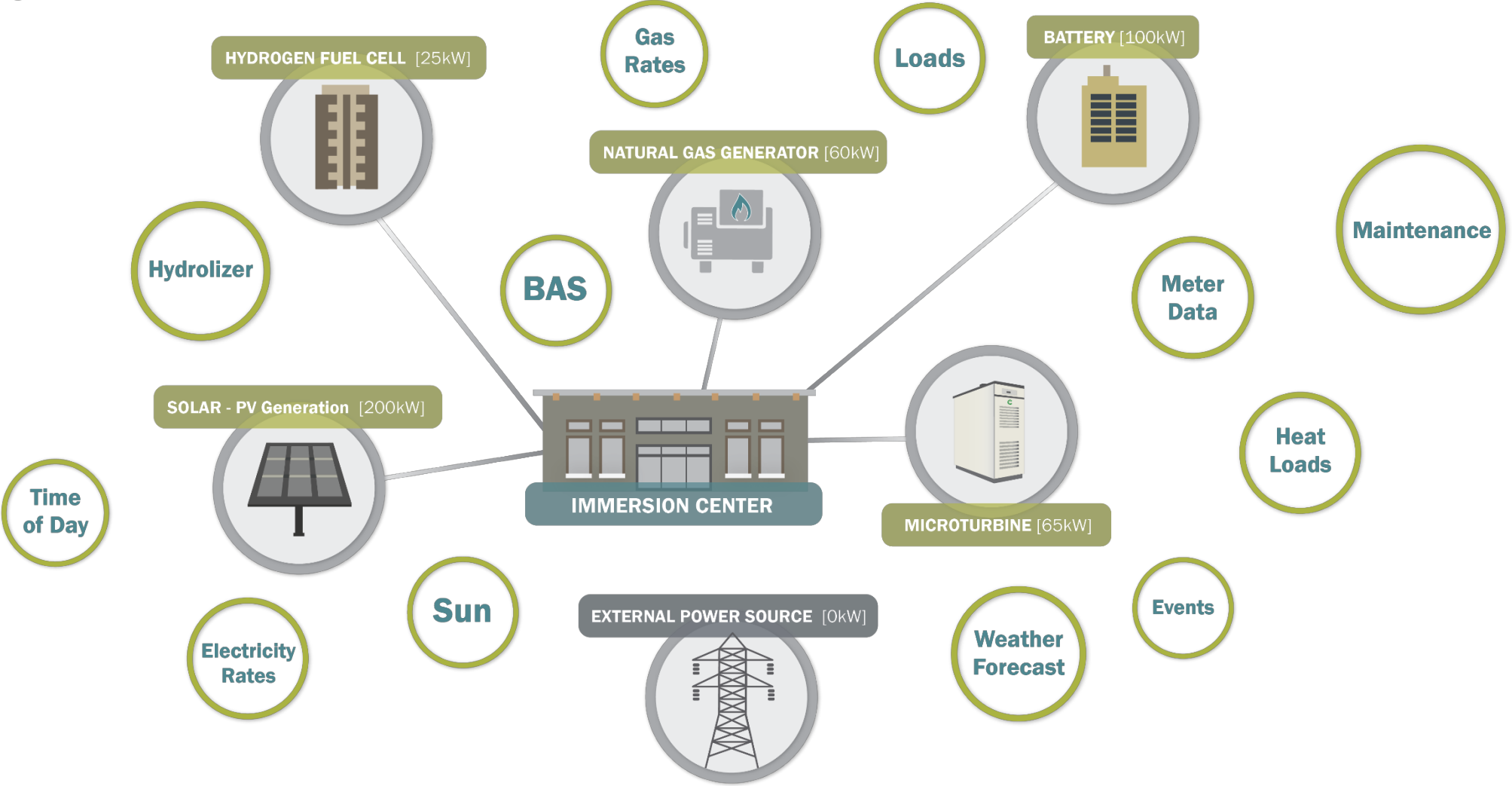
- Serve as a live working lab for Faith/Schneider
 - Test new technologies
 - Test new control schemes
 - Educate and train our staff
- Many purposes (and microgrids) in one
 - Efficiency, resilience, sustainability (by physical, education, example)
 - Multiple DER's in different combinations

The Microgrid

GORDON BUBOLZ
NATURE PRESERVE

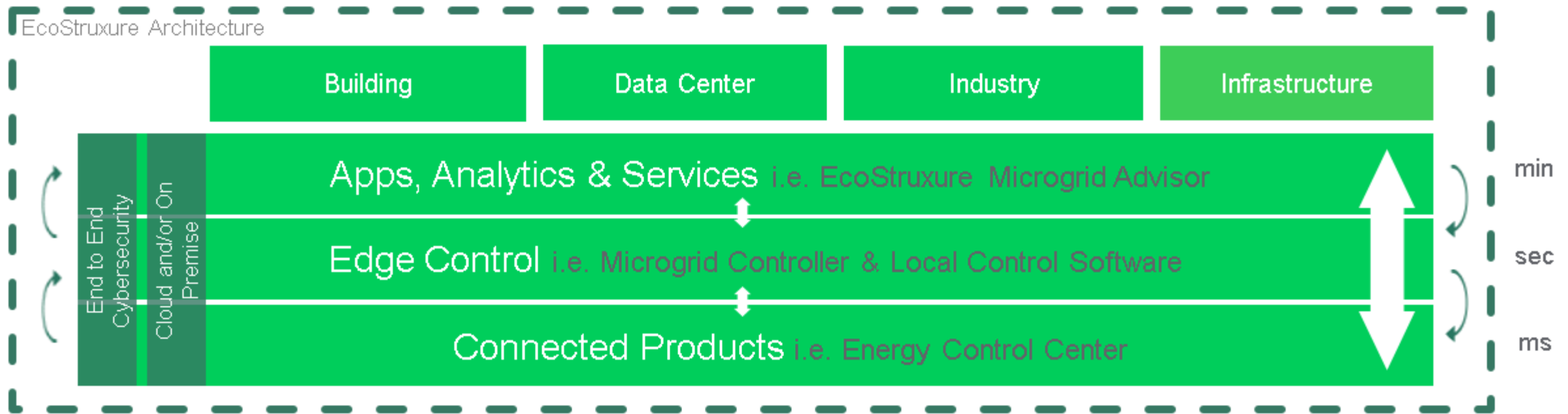


Not SIMPLE

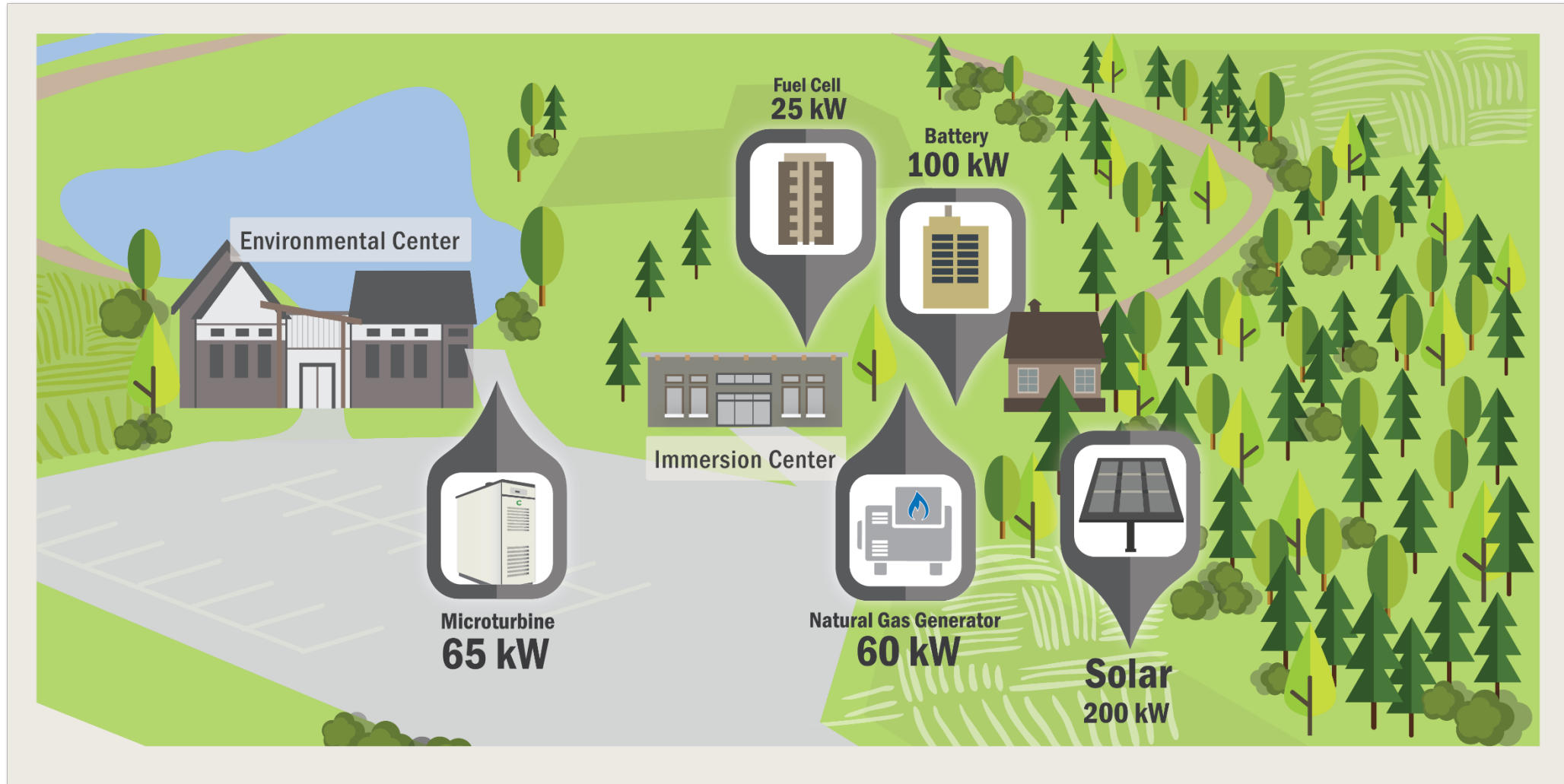


Control and integration

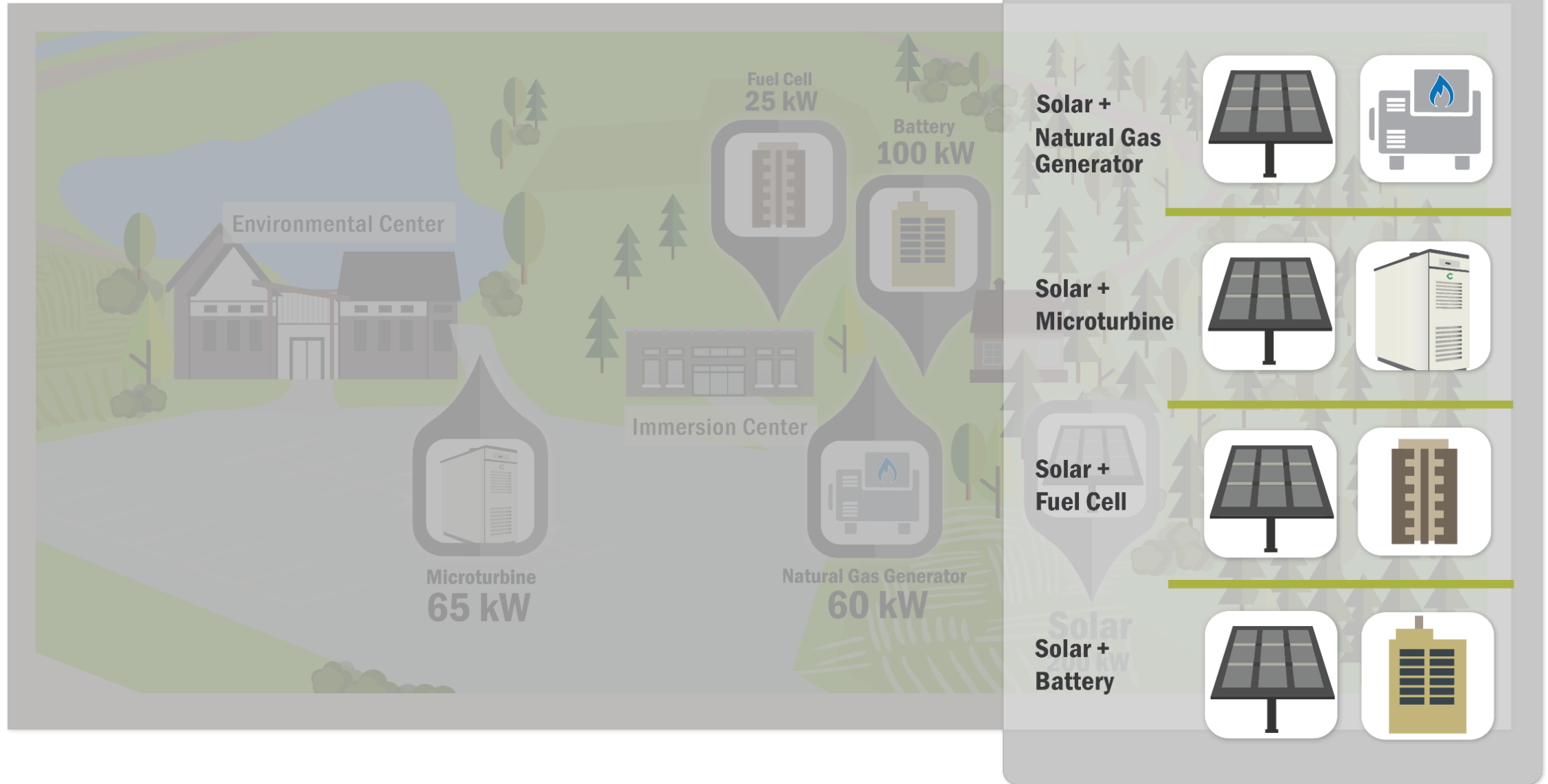
- Three layers of control
- Integration with load



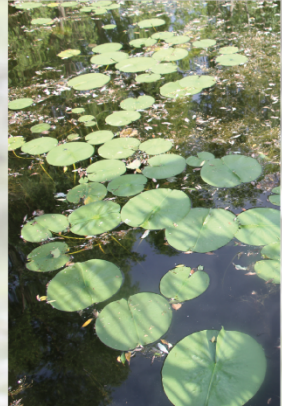
All DER's available and optimized | Normal operations



Many microgrids in ONE



A different approach



- A microgrid that fits the mission
- We don't have to mortgage the future
- Modular construction
- Built with connectivity for “next”

We started with this



Immersion Center by design



Challenges/Hurdles



- Rules Based
 - Utility
 - Regulatory
- Complexity
 - Integrating DER's
 - Getting systems to play nice
 - State of the art technology

Questions? | Comments?

