ZEVAI Project Webinar #2

# The Future of Battery-Powered Micro-Mobility in Health Care and Beyond


The Canadian Coalition for Green Health Care
Coalition canadienne pour un système de santé écologique

CEBA
CANADIAN ELECTRIC BICYCLE ASSOCIATION

ELOCITY
A CONNECTED EV WORLD

VCT GROUP

CEBA
CANADIAN ELECTRIC BICYCLE ASSOCIATION

# Introduction to Battery Powered Micro-Mobility

REGULATIONS
REBATES FOR E-BIKES
LITHIUM BATTERY SAFETY
EBIKE TECHNICIAN TRAINING

CEBA
CANADIAN ELECTRIC BICYCLE ASSOCIATION

# OUR MISSION

*"The mission of the Canadian Electric Bicycle Association (CEBA) is to lead and advance the electric bicycle industry by providing world-class electric bicycle technician training, comprehensive support to E-Bike dealers, and fostering strong relationships with distributors. As a key stakeholder, CEBA is dedicated to championing the interests of the E-Bike industry through effective advocacy and collaboration with like-minded organizations. Our commitment extends to promoting and adhering to regulations that ensure the sustainability, safety, and growth of the electric bicycle sector in Canada and beyond. By uniting industry stakeholders, CEBA strives to elevate the standards of the E-bike industry."*

CEBA
CANADIAN ELECTRIC BICYCLE ASSOCIATION

## REGULATIONS

Current State Of Regulations

## REBATES FOR E-BIKES

The Need For A National Rebate

## LITHIUM BATTERY SAFETY

Important Usage, Storage And Safety Information For Lithium Batteries

## E-Bike Technician Training

Shortage Of Technicians - Leaves A Gap In The Industry

# GAPS IN THE E-BIKE INDUSTRY

- Brushless hub motors represent the majority of E-Bikes on the road, but customers can't get their E-Bike diagnosed.
- People who bought E-Bikes from online vendors or at alternative stores are unable to receive service
- Dealers are provided minimal training (if any) for brushless hub E-Bikes (except for proprietary mid drive motors)
- Shortage of trained E-Bike technicians
- Traditional Bicycle dealers do not have the knowledge or equipment to diagnose E-Bikes (swapnostics)
- Conventional bicycle dealers lack access to adequately trained E-Bike technicians

# How CEBA Is Helping to Bridge the Gaps

- Increasing the workforce of trained E-Bike technicians
- Build on the existing mechanical knowledge bicycle technicians have and train them to become E-Bike technicians, gaining the knowledge and confidence to safely work on E-Bikes
- Dealers will gain the ability to diagnose E-Bikes that have a brushless hub motor (80% to 90% of ebikes on the market)
- Someone with little to no experience can learn how to diagnose E-Bikes like the pros.
- Working with distributors to develop private and custom training programs exclusive for their products and dealers.
- Working with existing E-Bike and micro-mobility shops to increase revenue

# WHO THE TRAINING IS FOR

### BICYCLE DEALERS
Existing employees and new hires - How many calls a day?

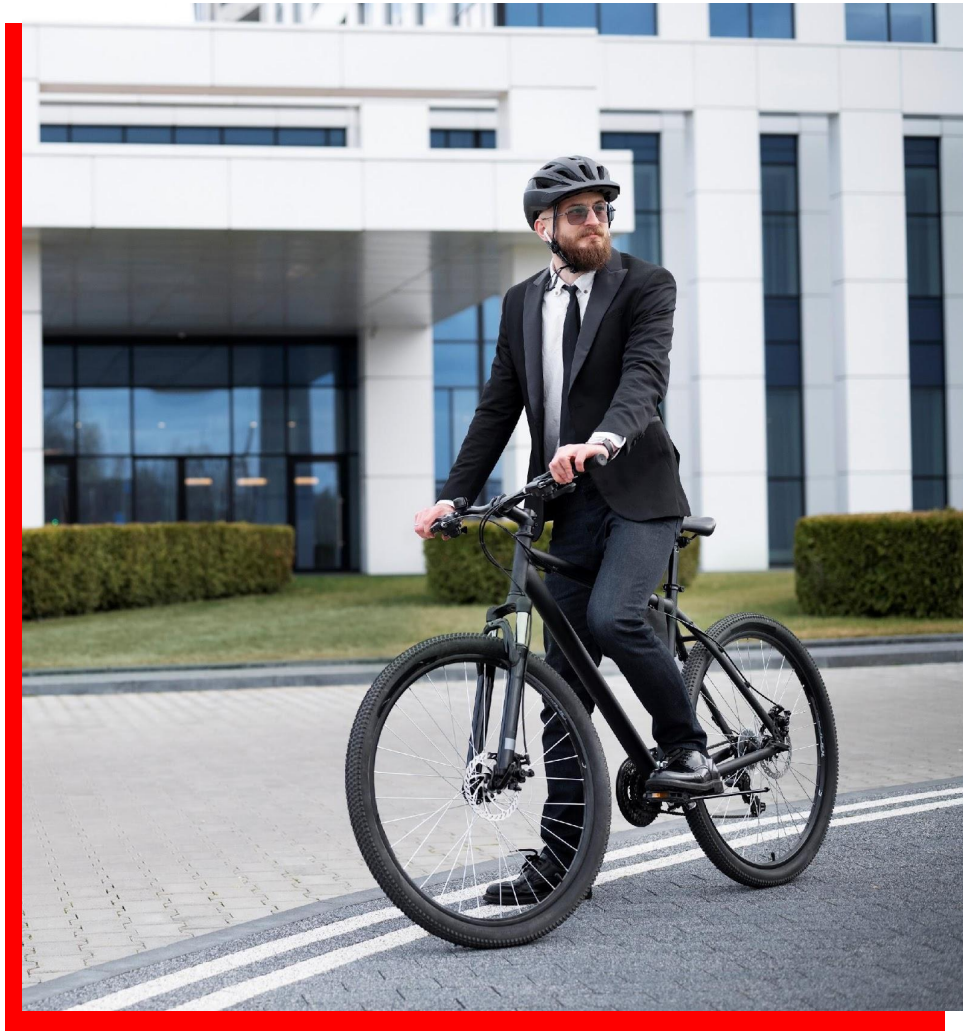
### E-BIKE DEALERS
Existing employees and new hires- Do you only service what you sell?

### E-BIKE RENTAL AND TOUR OPERATORS
Keep the fleet running - You can't rent a downed E-Bike

### MOBILE REPAIR SERVICE
New revenue stream

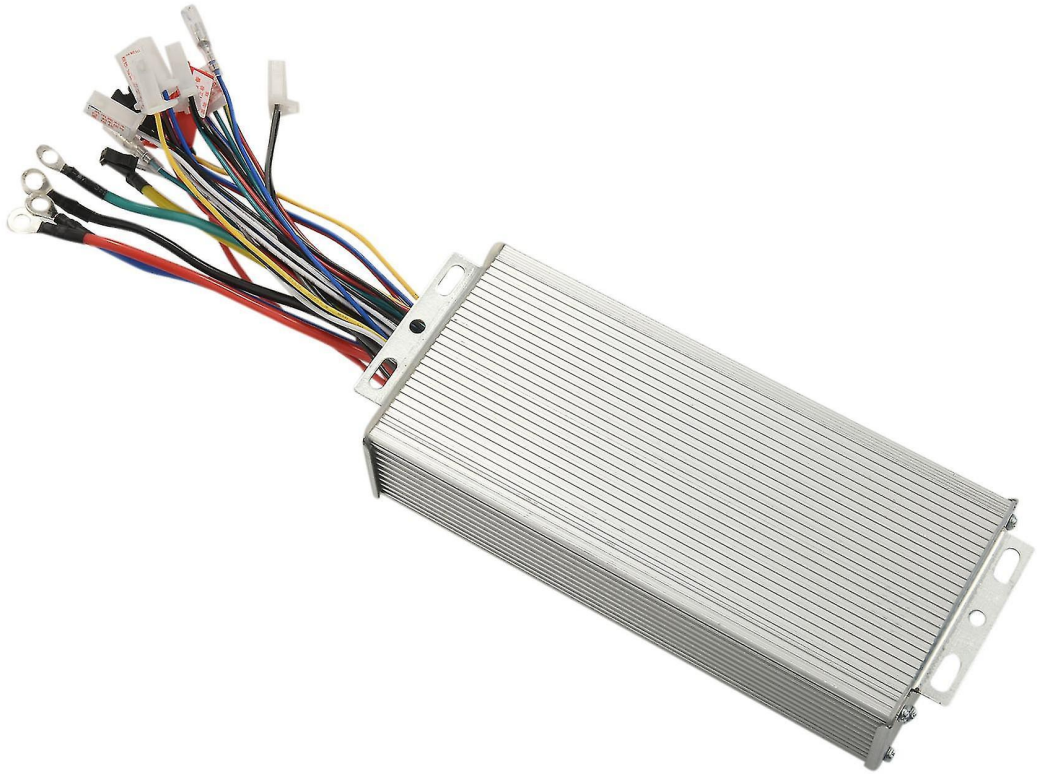
### DISTRIBUTORS
Custom training program and private training

### INDIVIDUALS LOOKING TO START IN THE INDUSTRY
Training will insure success diagnosing E-Bikes



# WHAT YOU WILL LEARN IN THE TRAINING

- In depth knowledge of each electrical component in the system
- How to diagnose the failures quickly, safely and accurately in 15 minutes or less
- Ability to diagnose each component on or off E-Bike (bench test)
- We teach an easy to learn repeatable process
- Learn how to solder and use a multimeter
- How to safely diagnose battery capacity {not just test voltage}
- Best practices for testing, charging, handling and storing lithium batteries.
- Hands on diagnosing with instructor verification



CANADIAN ELECTRIC BICYCLE ASSOCIATION

# DETAILS OF THE CEBA TRAINING

**MAXIMUM OF 6 STUDENTS:**
So our instructors can spend one on one time with each student

**TRAINING IS 2 DAYS:**
6 hours per day

**ONLINE TRAINING:**
With a live instructor providing step by step instructions

**DIAGNOSTIC TOOL INCLUDED:**
We will teach you how to use it effectively and efficiently

**HANDS ON TRAINING:**
Ensuring every student understands the diagnostic process

**ONE YEAR OF TECHNICAL SUPPORT:**
Every student is supported for one year

**MULTI PRONGED APPROACH:**
We know people learn different ways

**CEBA CERTIFICATE:**
Issued when successfully completed

# BENEFITS OF THE CEBA E-BIKE TECHNICIAN TRAINING PROGRAM FOR THE INDUSTRY

- **Safety:** Proper training reduces the risk of accidents and injury during repairs, making the workplace safer for both employees and customers
- **Increasing Sales:** A skilled technician ensures high-quality repairs. Satisfied customers are more likely to return for future purchases or recommend your shop to others, creating a positive reputation that can drive sales.
- **Competitive Edge:** CEBA E-Bike technician training will give you the ability to diagnose your competitors E-Bikes as well as E-Bikes sold directly to consumers online.
- **Consumer Confidence:** Having a CEBA certified technician and certificate displayed in your shop shows customers you care about the industry and are committed to after sales service.
- **Efficiency:** Well-trained technicians can diagnose and fix issues quickly, accurately and safely, reducing turnaround time for customers and increasing your shop's efficiency.
- **Long-term viability:** As E-Bikes become more popular, having skilled, trained CEBA certified E-Bike technicians will position your shop for long term success in a growing E-Bike market.
- **Gain new customers:** If you have ever said "no we only service what we sell" or "sorry we don't service E-Bikes, only bicycles" CEBA certification training will give you the ability to turn those inquiries into: "YES! We diagnose E-Bikes!"

**$80 TO $150 DOLLARS.**
The average rate for diagnosing an E-Bike in North America is $80 to $150 dollars.

CEBA
CANADIAN ELECTRIC BICYCLE ASSOCIATION

# THANK YOU

For More Information Please Visit:
cebassociation.com

# The Future of Charging for Battery-Powered Micro-Mobility

"Prediction is very difficult, especially if it's about the future."
Niels Bohr

Tony Stewart, CXO at Elocity

Canadian Coalition for Green Healthcare
Webinar

# Introduction

- My name is Tony Stewart, co-founder and CXO at Elocity.
- Our mission: Enhancing EV ecosystem connectivity and adoption for sustainable growth. – A Connected EV World
- We address the need for intelligent EV charging technology to support mass EV adoption without overwhelming existing infrastructure. Grid-supportive EV charging and future V2G are imperative initiatives for reducing costs for mass adoption.

# Overview of our HIEV Smarter EV Charging Technology

- Our HIEV technology is showcased in this short video, highlighting:
- AI-driven, open, and interoperable platform.
- The grid-supportive aspect essential for sustainable EV charging.
- The current grid cannot support unmanaged EV charging.
- Intelligent charging transforms EVs into grid assets, utilizing their battery storage capacities efficiently.

# Micromobility and the Urban Ecosystem

- Micromobility's potential in urban environments is vast.
- Standalone charging services for micromobility is a challenging economic model.
- E-bike hubs could elevate the appeal and adoption of e-bikes by providing: Storage, charging, and other services including rental and purchase for sustainable economics.
- E-bike hubs can provide attractive amenities to make e-bike hubs a desirable destination.

# Safety, Security, and Sustainability

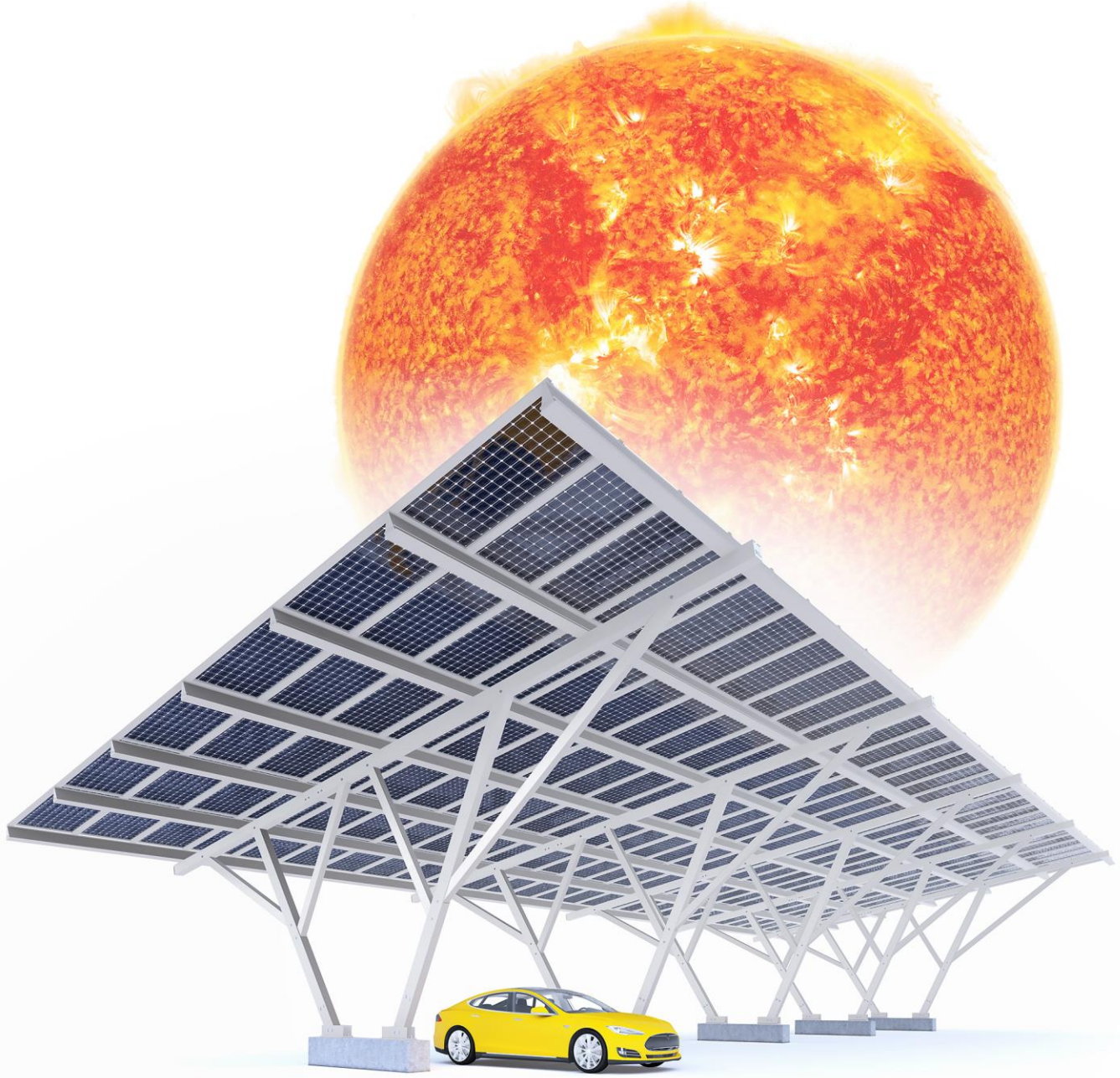
- Key features for E-bike hubs include:
- User authentication, safety, and security.
- Fire suppression capabilities to mitigate battery fire risks.
- Contribution to a sustainable, self-sustaining economic model for micromobility hubs.

VCT GROUP

# Heliostation

## Solar Canopies

*Powerfully transforming space*

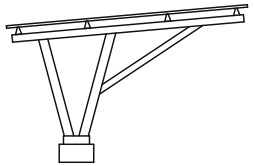


The Canadian Coalition for Green Health Care

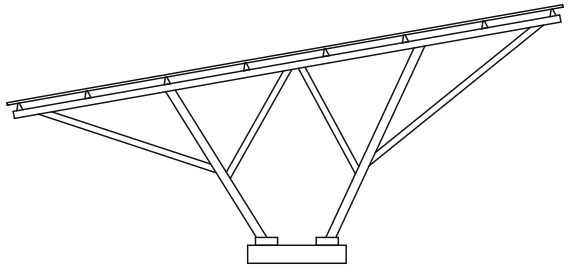
Coalition canadienne pour un système de santé écologique

# evolv1

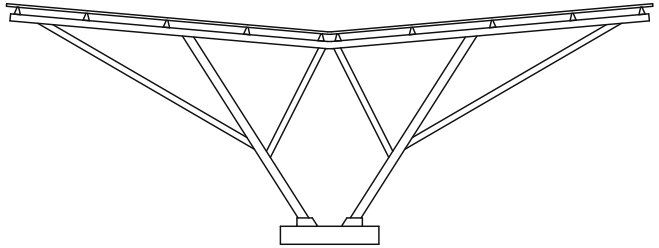
# Heliostation™ Solar Canopies



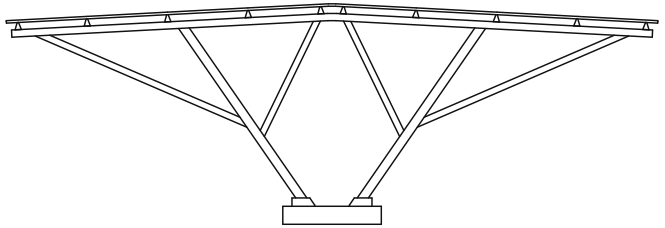
Hermes™



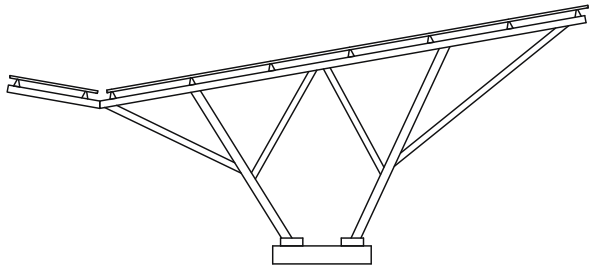
Mercury™



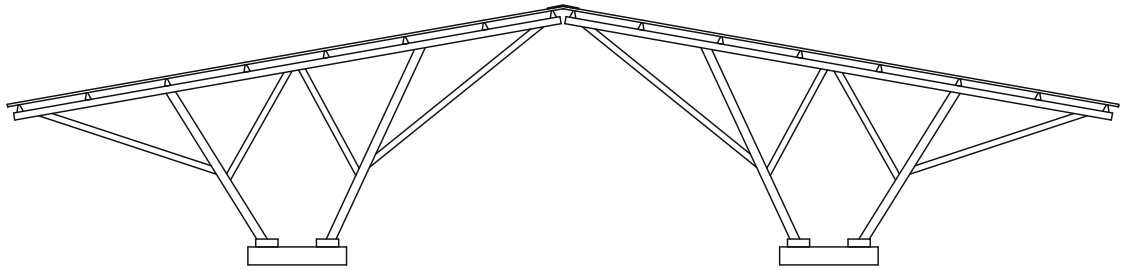
Pegasus™



Apollo™



Mercury Plus™

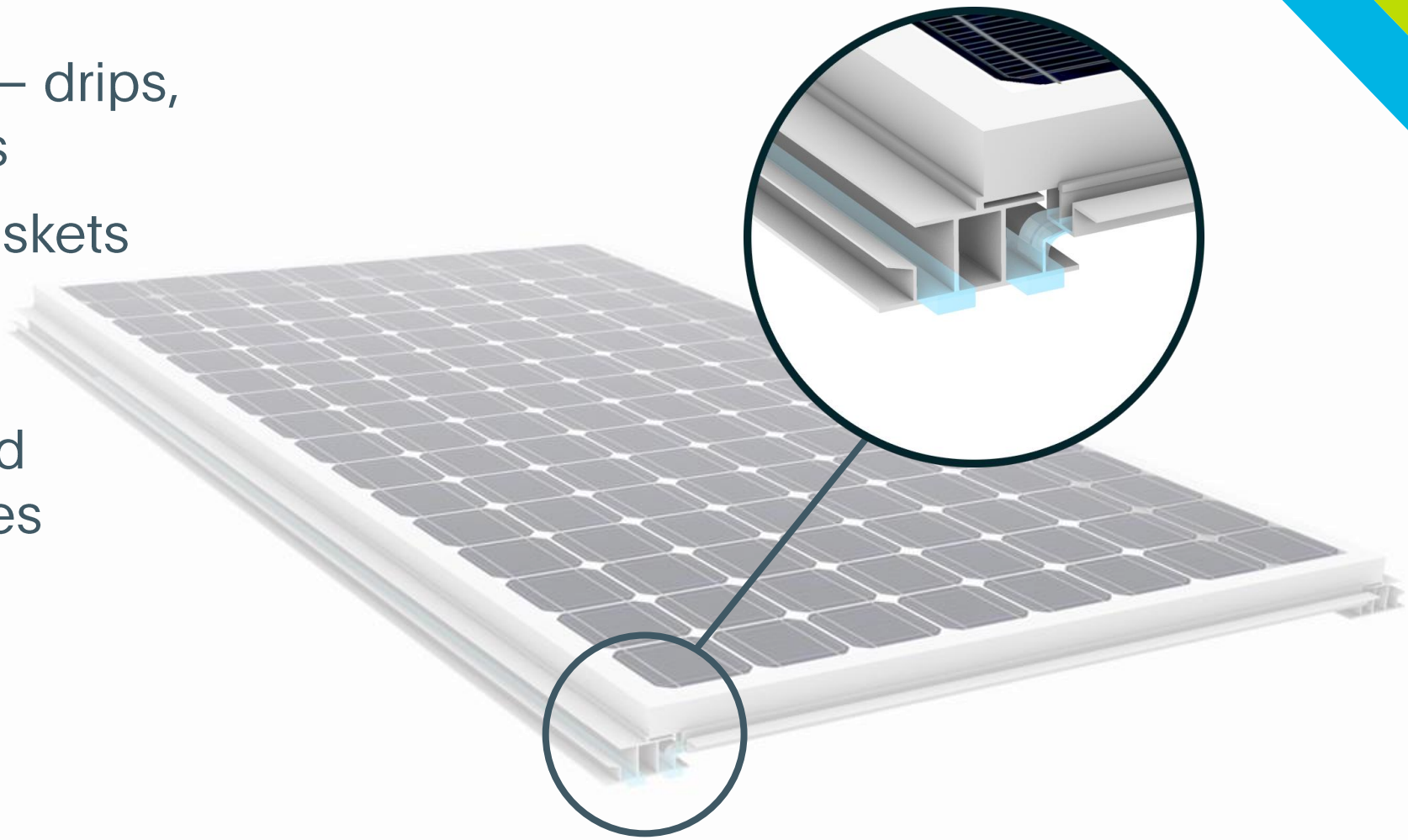


Titan™

VCT GROUP

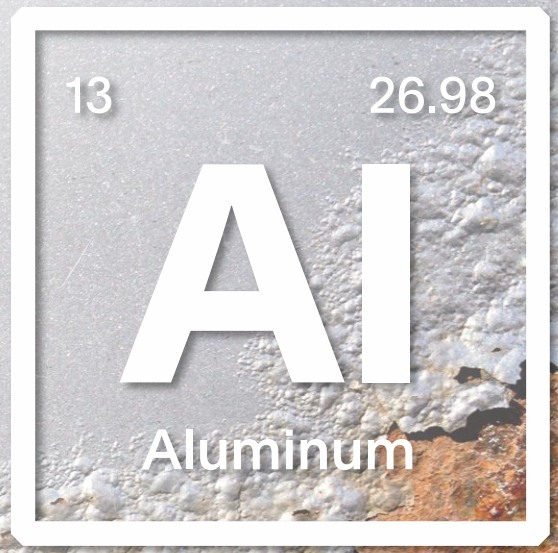
# Watertight canopy

- Issues with canopies – drips, snow build-up, icicles
- The bad solution – gaskets and caulking
- Our solution –water channels incorporated directly into the profiles



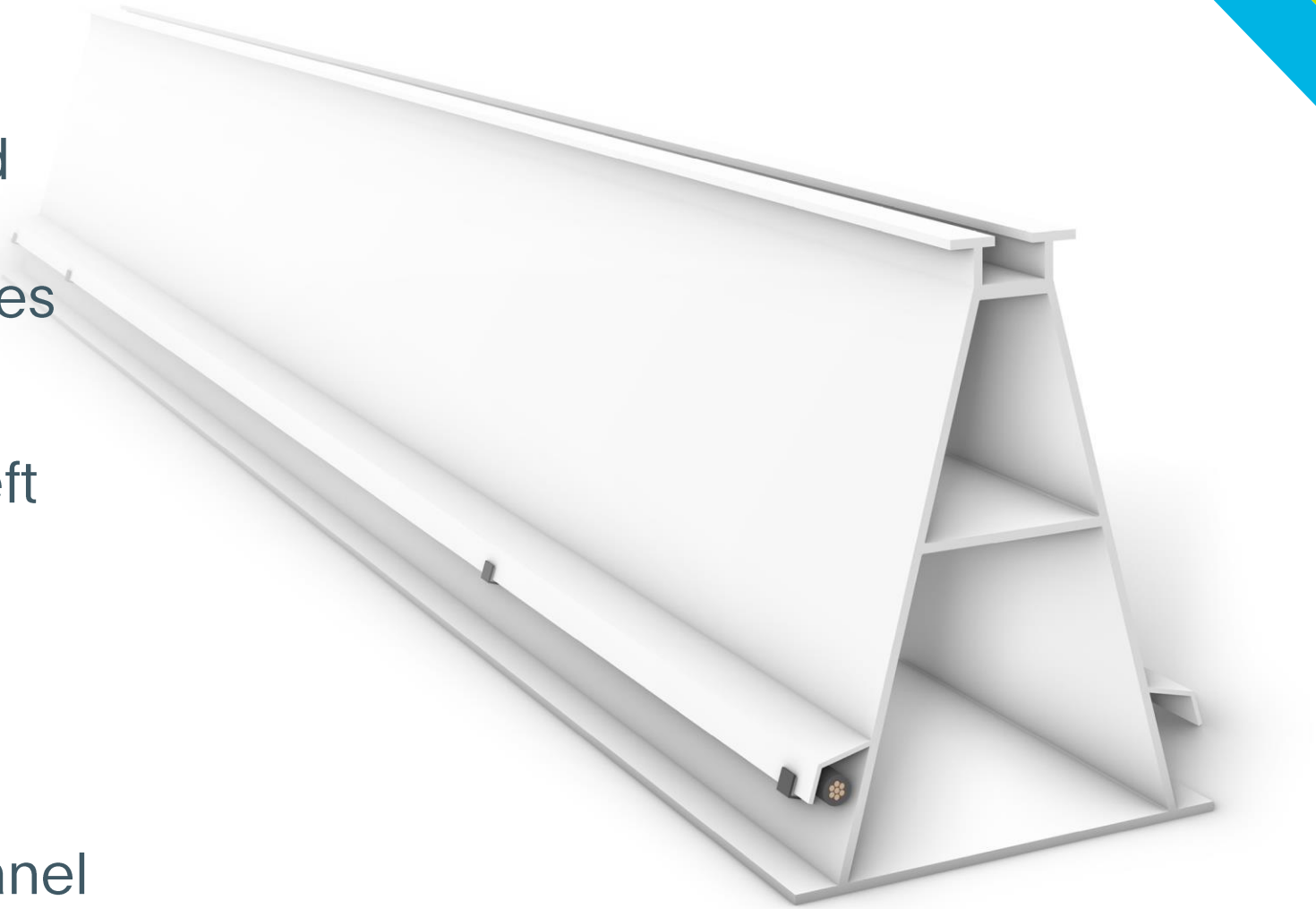
# Why aluminum?

- No rust - long lifespan – 40-50+ years
- 100% recyclable; endlessly
- Can be powder coated or anodized to be “on brand”
- Extruded purlins and beams – no welding during manufacturing or construction
- Up to 50% less material usage vs steel



# Built-in flexibility and cable handling

- Cable runs are integrated into the beam, purlin and strapping extrusion profiles
- Clean aesthetics
- Lowered risk of cable theft or damage
- Continuous bolting channels rather than cut/welded flanges
- Full flexibility for future panel sizes



VCT GROUP

# Heliostation™

Solar canopies for every application.


VCT
GROUP

# Other applications




# EV Charging, Micro-Mobility & Lighting Integrations

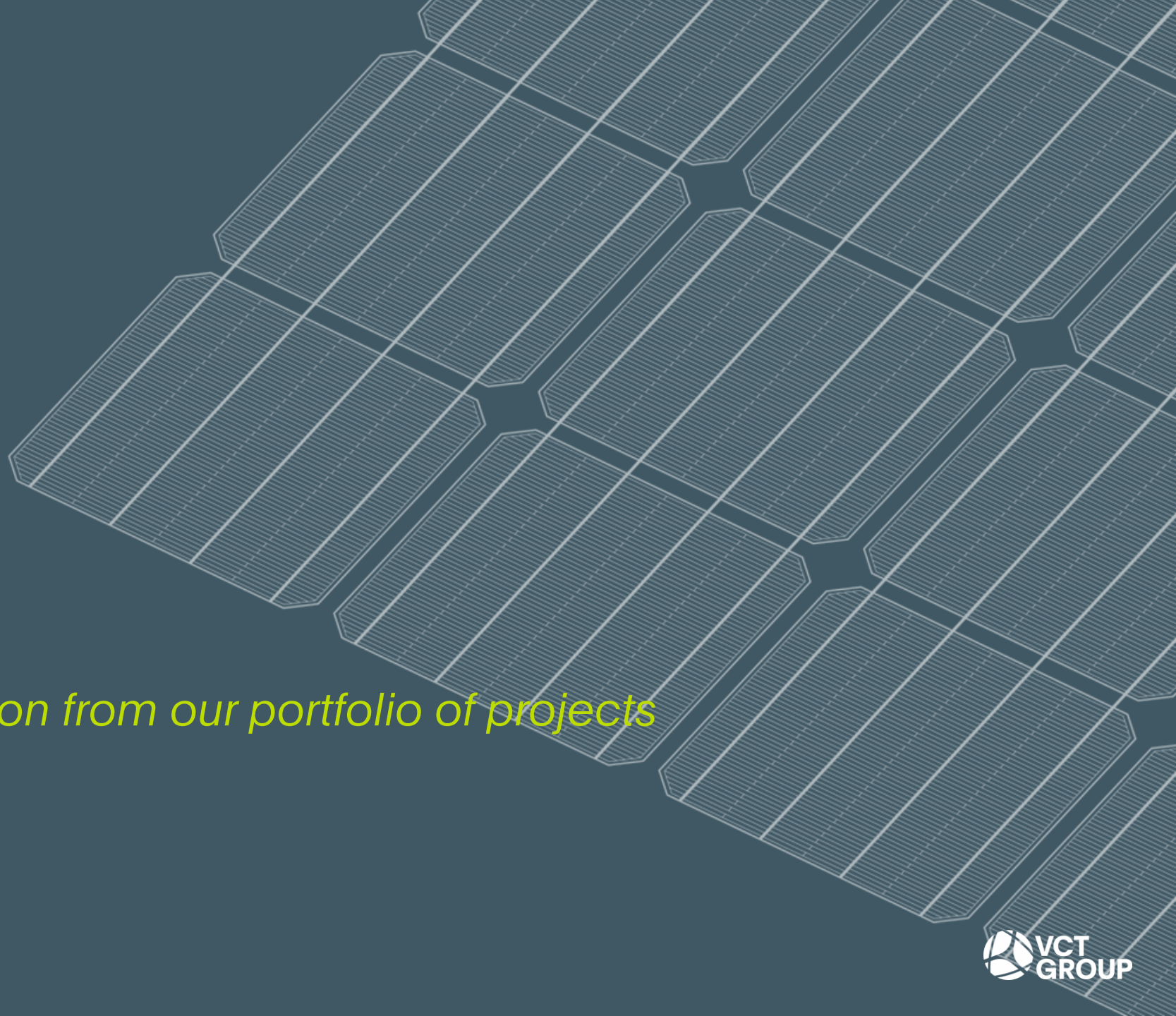
- Rough-ins integrated into each foundation
- Chargers or Electrical can be added as needed
- Lighting “integrated” into the canopy
- Power density to connect EV or Micro-Mobility chargers

# Owner experience

- Demonstrate corporate values of sustainability
- Financial gains - Energy savings, premium parking revenue, EV charging revenue, and snow removal savings.
- Improved client experience.

# Showcase

*A representative selection from our portfolio of projects*



# Evolv1

## *420 Wes Graham Way, Waterloo, ON*

This is one of Canada's first LEED Certified Platinum buildings and designed to be net energy positive from day one. The solar arrays are comprised of ground mounted solar canopies and a ballasted rooftop solar array.

*Pre-dating our in-house Heliostation™ design, the canopies are the Schletter Park@Sol carport architecture.*

**Primary Equipment Installed**

220 kW AC / 264 kW DC Installed on roof.

400 kW AC / 504 kW DC Installed on carports.

**Design Capacity**

872,910 kWh / year

VCT GROUP

# Cora Group

## *375 Hagey Blvd, Waterloo, ON*

Heliostation™ solar canopies with integrated EV charging equipment, lighting and cameras.

The canopies provide shade and water handling in summer, and snow and ice management in winter, all while generating clean, green energy. Covered parking not only saves on power but also reduces snow clearing costs. The installation elevates the experience for clients and staff while demonstrating their environmental commitment.

**Primary Equipment Installed**

200kW AC / 202 kW DC

**Design Capacity**

248,025 kWh / year

VCT GROUP


VCT
GROUP


VCT
GROUP

# Pickering Casino

## *2028 Kellino St, Pickering, ON*

VCT Group's own state of the art solar carport racking with integrated EV charging. Bifacial solar panels maximize production by using all available light, above and below the panels. VCT engineered and manufactured an all-aluminum solar carport connected in a net-metered configuration. We integrated EV car charging equipment, lighting and cameras into a long lasting, beautiful and functional structure.

**Primary Equipment Installed**

200kW AC / 202kW DC installed on the VCT Heliostation™ solar canopy

**Design Capacity**

248,025 kWh / year

VCT GROUP

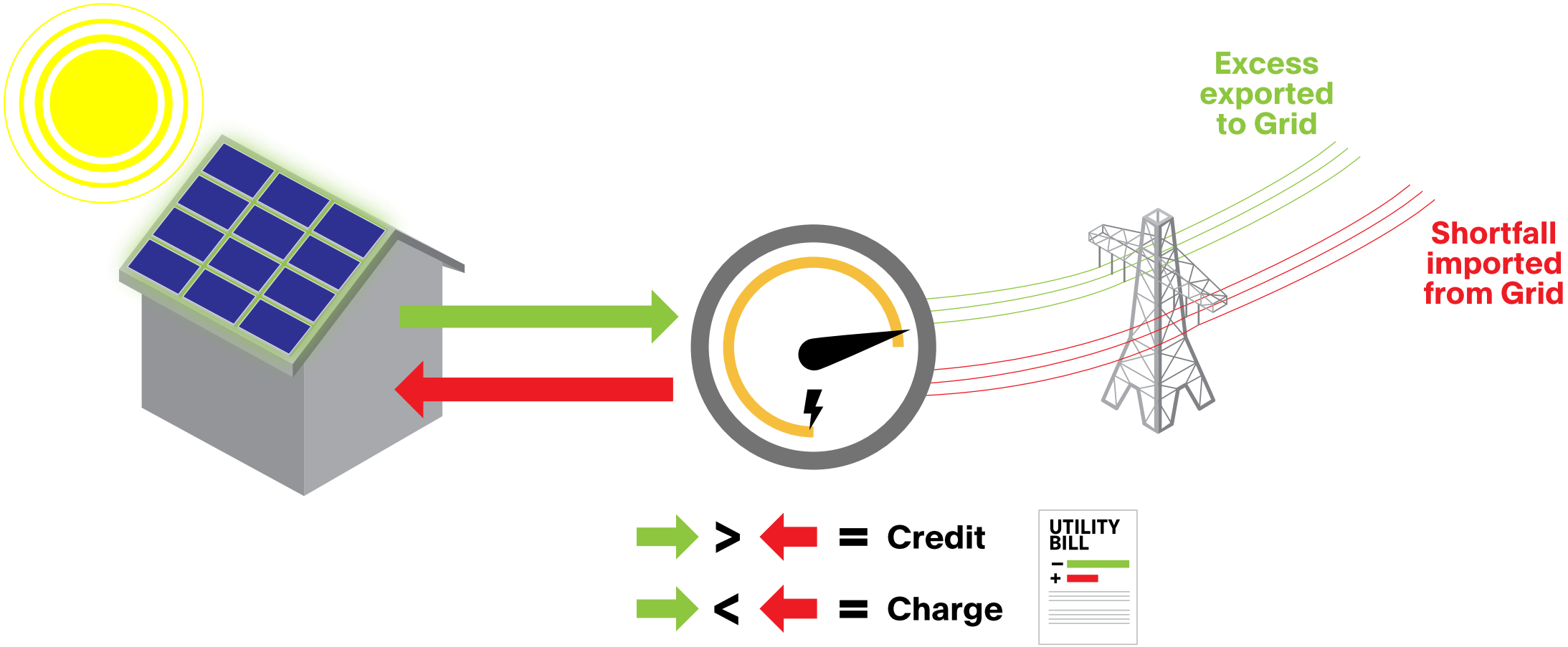
# Thank you.

VCT GROUP.com

**info@vctgroup.com**
3–5 Forwell Rd
Kitchener, ON

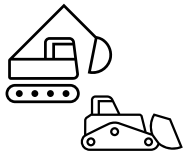
**Powering everyone**

# Solar 101 – How Net Metering Works



# Stacking benefits

More Coverage
More Power
More Layouts
Energy savings



Industry-leading clearance – up to 7.8 m

UL 2703 Certified
CSA Certificate of Compliance (Canada and US)

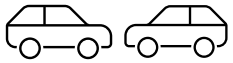
Premium Parking

Renew mindset for parking as a service

Snow handling.

Drive aisle shedding.

Snow teeth (optional)

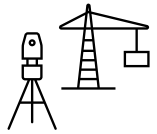


Low Foundation Footprint
Lower loss of Parking Space

Watertight system as standard – no gaskets and no caulking.

Shading
Up to 20m Spans

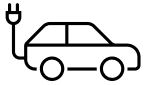
Long Lifespan
30-40 year rated
- No Paint
- No Rust
- No Welds



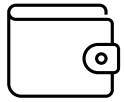
Simplified pre-fab construction.

No on-site welding.

Survey Ready



EV Charger Ready Foundations.



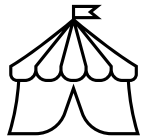
Leverage IRR on typically negative asset space

25% insurance savings on inventory lots

GHG Marketing Advantages in changing market

Provide Premium Charging as a destination, pay-per-kWh or as an amenity for tenants

Increased investment value for attracting future-forward tenants.



Media Exposure, Event and Special Use Rentals

VCT GROUP

# Solar myth busting

- Solar is expensive
- Solar is an added cost
- Solar is not recyclable
- Solar is not ready for baseload
- Solar panels don't work in cold or cloudy weather
- Solar panels require constant maintenance
- Solar panels are not durable and will break easily
- Solar panels decrease a home or building's value

VCT GROUP