

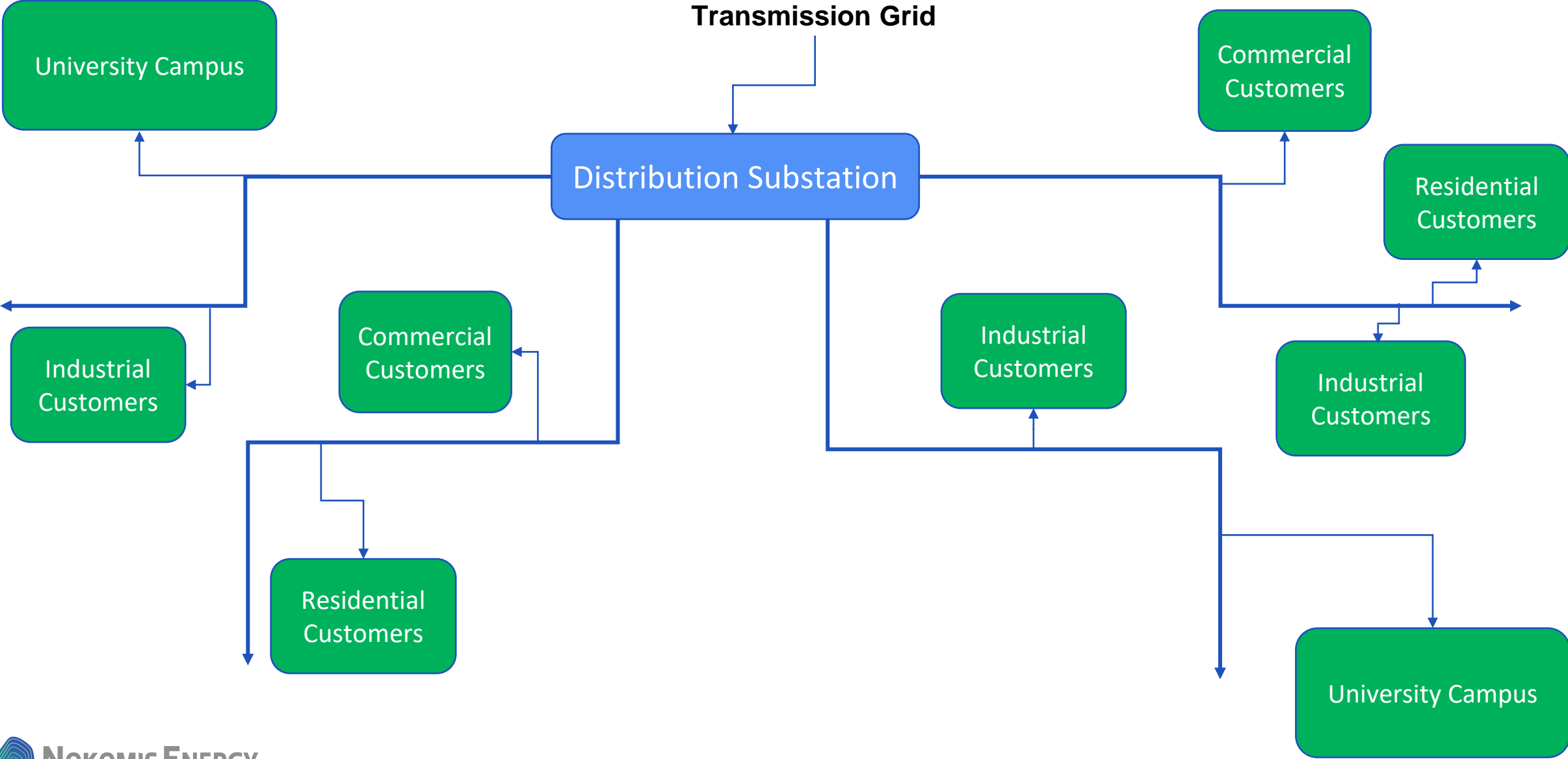
# Northfield DERMS Pilot

February 22<sup>nd</sup>, 2022

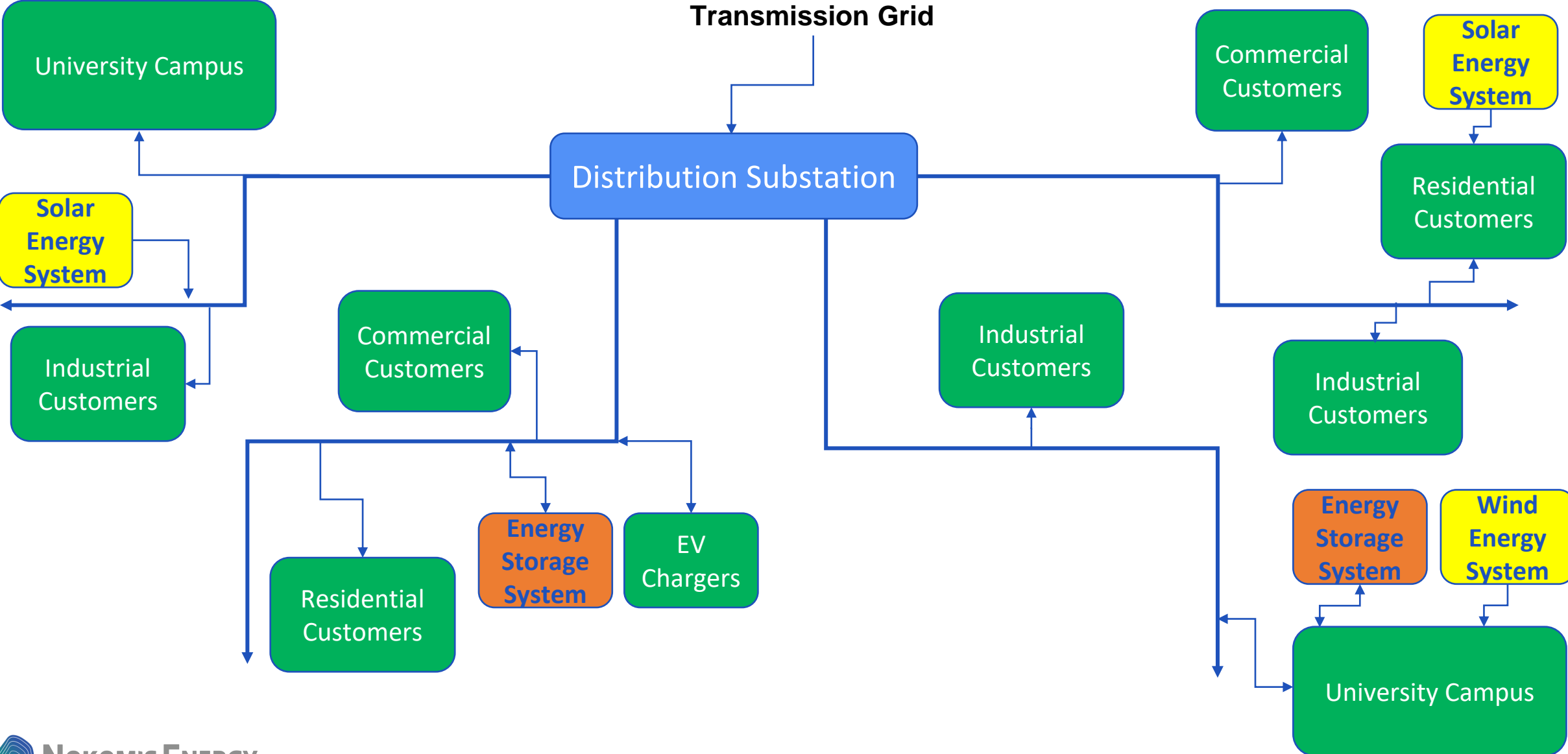


**NOKOMIS ENERGY**

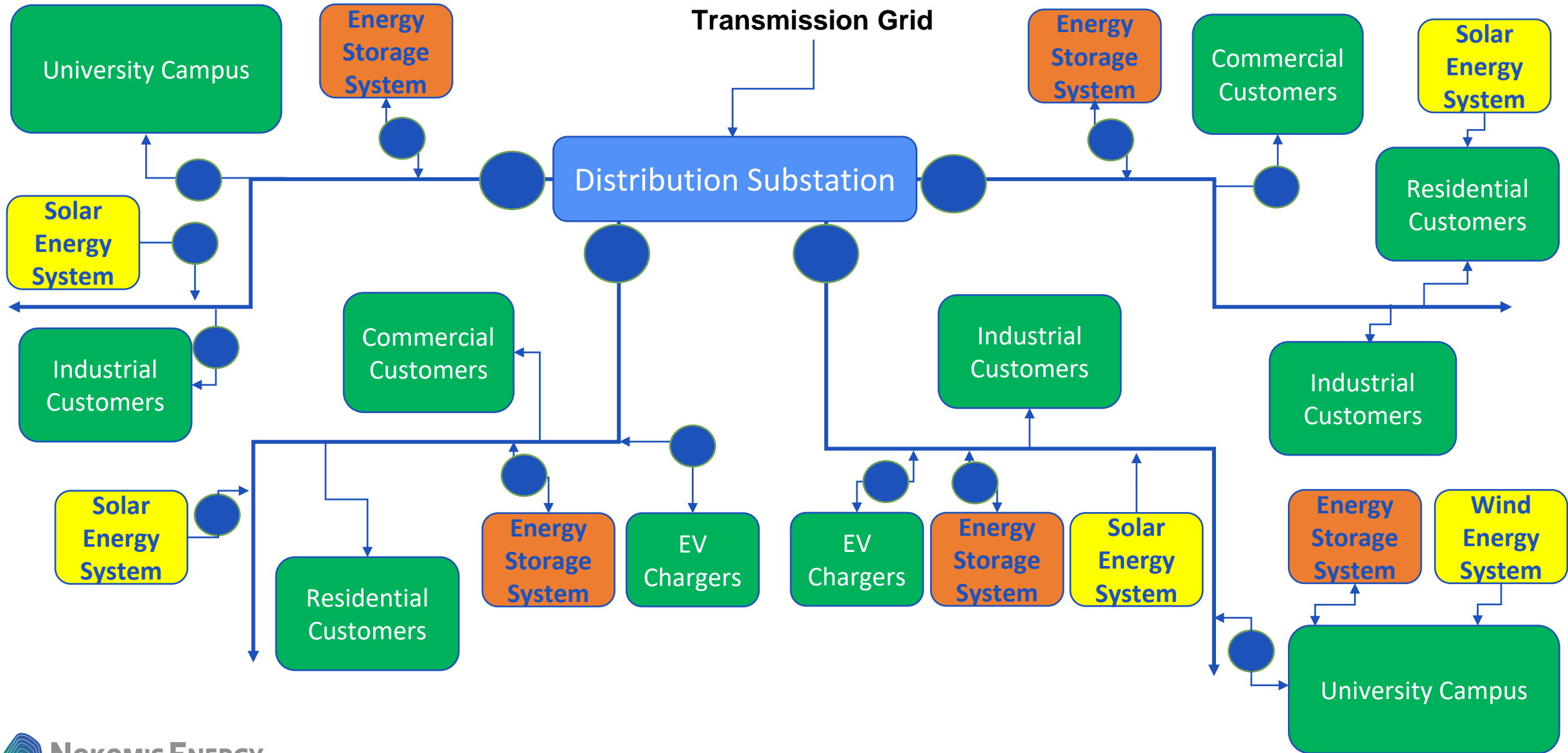
# Traditional Distribution Grid



# Today's Distribution Grid



# Distributed Energy Resource Management System (DERMS)



# Distributed Energy Resource Management System (DERMS) Pilot

## 1. Make efficient use of existing infrastructure

By coordinating electricity generation and consumption you can ensure the grid operates within equipment limits. This reduces the need for traditional engineering margins that require overbuilding infrastructure to account for unpredictable future operating conditions. This can allow for higher penetration of cheaper, local electricity generation.

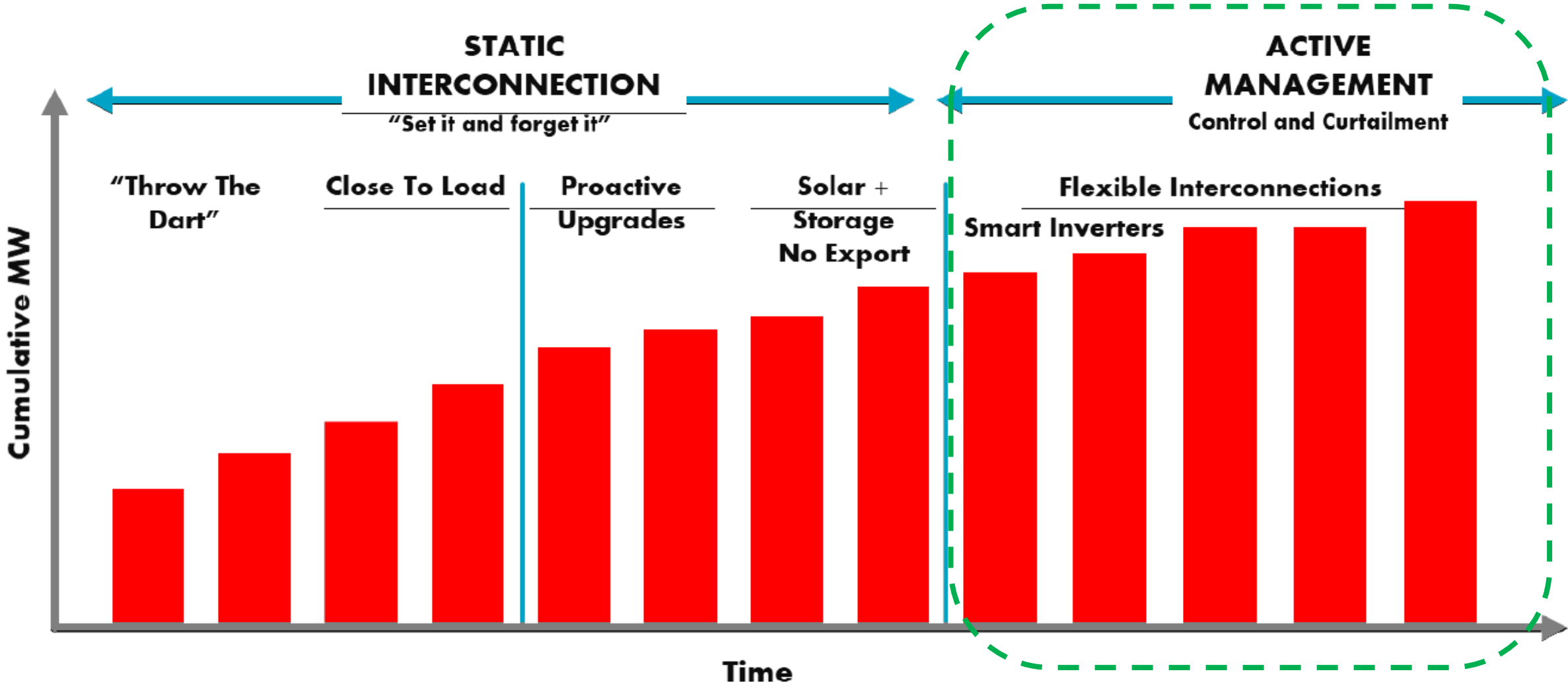
## 2. Improved understanding of grid conditions

The DERMS will be collecting real time data to better inform the utility and its customers of potential issues as well as to inform where future upgrades will be most optimal. Improved diagnosis of issues + more accurate planning.

## 3. Better customer experience

Grid outages will become easier to diagnose and fix. Interconnection studies will be faster and more accurate. The utility will be able to offer more optimal options for customers to buy electricity and provide electricity back to the distribution system.

# Xcel IDP: Evolution of DER Interconnection Processes



## GOALS

- **Demonstrate how to create a local, resilient grid**
- **Unleash private investment in energy**
- **Help Northfield and Minnesota communities meet their energy goals**