



# Powering Electrification Through Open Data

NODE Collective Webinar

May 30, 2024

# About the BDC

The Building Decarbonization Coalition (BDC) aligns critical stakeholders on a path to transform the nation's buildings through clean energy, using policy, research, market development and public engagement.

The BDC and its members are charting the course to eliminate fossil fuels in buildings to improve people's health, cut climate and air pollution, prioritize high-road jobs, and ensure that our communities are more resilient to the impacts of climate change.

- **Sign up for our newsletter!**  
<https://buildingdecarb.org/newsletter>
- **Membership is free!** Join us! [buildingdecarb.org/join](https://buildingdecarb.org/join)



# Thank you to our Trailblazer Members!



# Webinar Logistics

- Everyone is muted
- This webinar is being recorded and will be placed in our website's Resource Library.
- Ask **questions** for our panelists or **comments** for the group in the **chat**.
- All registrants will be emailed with a link and additional resources early next week.



# Today's Hosts



**André Meurer**  
**BDC**  
Director of Digital  
Products



**Autumn Proudlove**  
**NC Clean Energy  
Technology Center**  
Managing Director,  
Policy & Markets



**DeAndrea Salvador**  
**Eli Technologies**  
Director of  
Partnerships



**Frederico Andrade**  
**Eli Technologies**  
Product Manager



**Lacey Tan**  
**RMI**  
Manager,  
Carbon-free Buildings



**Tom Carden**  
**Rewiring America**  
Vice President,  
Engineering



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The **National Open Data for Electrification (NODE Collective)** is a nonprofit alliance dedicated to **sourcing, structuring, and maintaining** comprehensive data on every residential electrification incentive program in the U.S.



# A Fragmented Landscape

5,000+ incentives in the U.S.

1

**Sourcing**  
accurate data

2

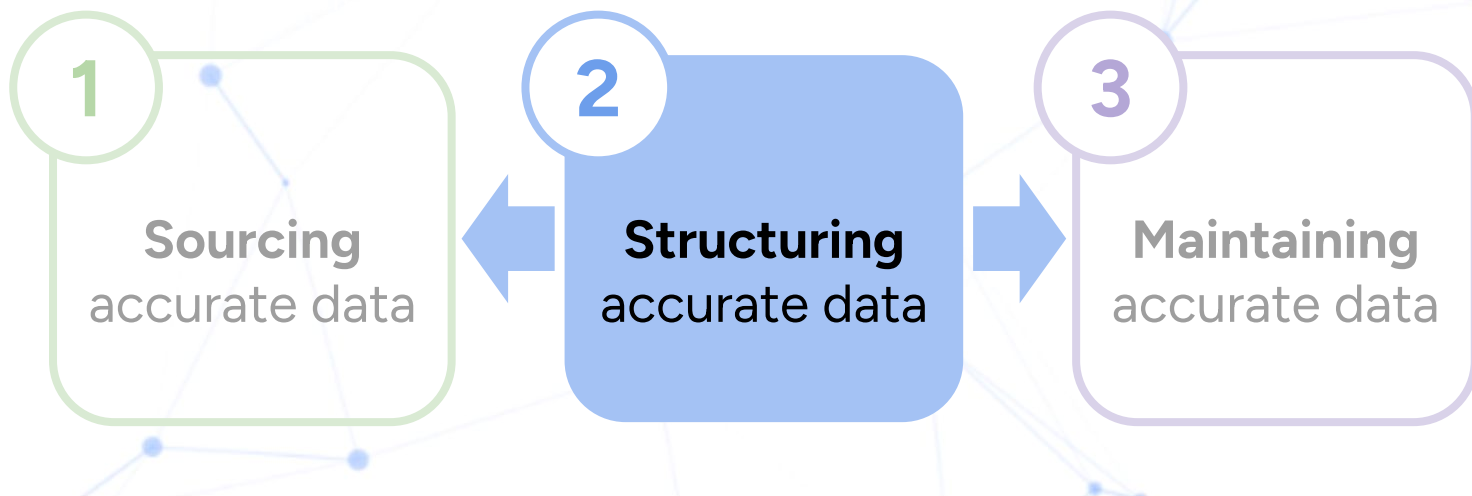
**Structuring**  
accurate data

3

**Maintaining**  
accurate data

# First Step: A Common Data Format

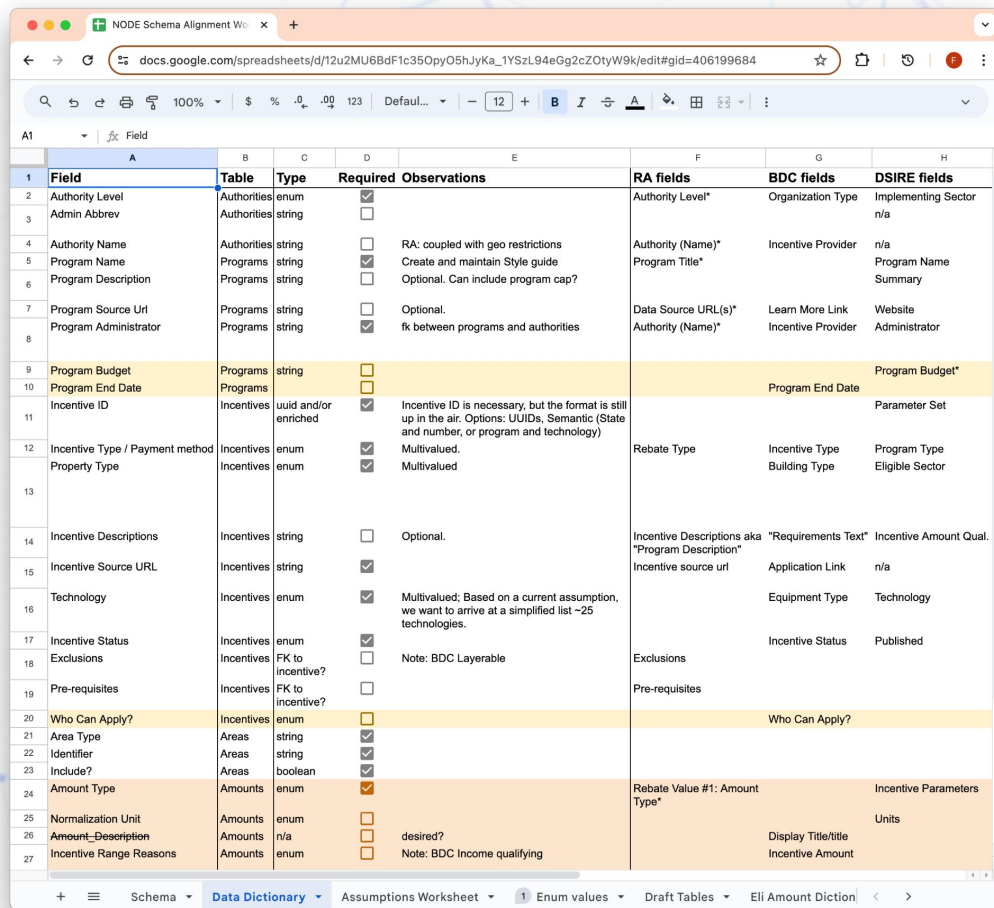
An **open data schema** provides structure and a common language.



# Creating the Data Schema

Different organizations represent incentives in different ways.

We aligned our combined data into a common structure.



Field	Table	Type	Required	Observations	RA fields	BDC fields	DSIRE fields
Authority Level	Authorities	enum	<input checked="" type="checkbox"/>		Authority Level*	Organization Type	Implementing Sector n/a
Admin Abbrev	Authorities	string	<input type="checkbox"/>				
Authority Name	Authorities	string	<input type="checkbox"/>	RA: coupled with geo restrictions	Authority (Name)*	Incentive Provider	n/a
Program Name	Programs	string	<input checked="" type="checkbox"/>	Create and maintain Style guide	Program Title*		Program Name
Program Description	Programs	string	<input type="checkbox"/>	Optional. Can include program cap?			Summary
Program Source Url	Programs	string	<input type="checkbox"/>	Optional.	Data Source URL(s)*	Learn More Link	Website
Program Administrator	Programs	string	<input checked="" type="checkbox"/>	fk between programs and authorities	Authority (Name)*	Incentive Provider	Administrator
Program Budget	Programs	string	<input type="checkbox"/>				Program Budget*
Program End Date	Programs	string	<input type="checkbox"/>			Program End Date	
Incentive ID	Incentives	uuid and/or enriched	<input checked="" type="checkbox"/>	Incentive ID is necessary, but the format is still up in the air. Options: UUIDs, Semantic (State and number, or program and technology)			Parameter Set
Incentive Type / Payment method	Incentives	enum	<input checked="" type="checkbox"/>	Multivalued.	Rebate Type	Incentive Type	Program Type
Property Type	Incentives	enum	<input checked="" type="checkbox"/>	Multivalued		Building Type	Eligible Sector
Incentive Descriptions	Incentives	string	<input type="checkbox"/>	Optional.	Incentive Descriptions aka "Program Description"	"Requirements Text"	Incentive Amount Qual.
Incentive Source URL	Incentives	string	<input checked="" type="checkbox"/>		Incentive source url	Application Link	n/a
Technology	Incentives	enum	<input checked="" type="checkbox"/>	Multivalued; Based on a current assumption, we want to arrive at a simplified list ~25 technologies.		Equipment Type	Technology
Incentive Status	Incentives	enum	<input checked="" type="checkbox"/>			Incentive Status	Published
Exclusions	Incentives	FK to incentive?	<input type="checkbox"/>	Note: BDC Layerable	Exclusions		
Pre-requisites	Incentives	FK to incentive?	<input type="checkbox"/>		Pre-requisites		
Who Can Apply?	Incentives	enum	<input type="checkbox"/>			Who Can Apply?	
Area Type	Areas	string	<input checked="" type="checkbox"/>				
Identifier	Areas	string	<input checked="" type="checkbox"/>				
Include?	Areas	boolean	<input checked="" type="checkbox"/>				
Amount Type	Amounts	enum	<input checked="" type="checkbox"/>		Rebate Value #1: Amount Type*		Incentive Parameters
Normalization Unit	Amounts	enum	<input type="checkbox"/>				Units
Amount-Description	Amounts	n/a	<input type="checkbox"/>	desired?			
Incentive Range Reasons	Amounts	enum	<input type="checkbox"/>	Note: BDC Income qualifying		Display Title/title	Incentive Amount

# Representing Incentive Data

Five tables to represent incentives in a **flexible way**.

Incentives		

Programs		

Authorities		

Areas		

Amount Config		

# The Incentive Record

Core attributes:


- Amount
- Area
- Technology
- Program
- Authority

The screenshot shows a Google Sheet titled "NODE Schema Alignment Worksheet" with the following table structure:

	A	B	C	D	E
1	<b>Authorities</b>	<b>Programs</b>	<b>Incentives</b>	<b>Areas</b>	<b>Amount Config?</b>
2	UUID*	UUID*	UUID*	UUID*	UUID*
3	Authority_Level*	Program_Name*	Program ID*	Incentive ID*	Incentive ID*
4	Admin_Abbrev	Program_Description	Incentive Type (Payment Type)*	Area Type*	Amount Type*
5	Authority Name	Program_Source_Url	Property Type*	Identifier*	Static Value
6		Administrators ID*	Incentive Description	Include?*	Ranged Value
7		Incentives IDs?	Incentive Source Url*		Ceiling Value
8		Program Budget	Technology*		Floor Value
9		Program End Date	Incentive Status*		Normalization Unit
10			Exclusions		Incentive_Range_Reasons /
11			Pre-requisites		Income Qualifying?
12			Who Can Apply		

At the bottom of the sheet, there are tabs for "Schema", "Data Dictionary", and "Assumptions Worksheet".

Capture **complex concepts**  
**in a simple way** to simplify  
contributions.


**NODE Schema Alignment Worksheet**
File Edit View Insert Format Data Tools Extensions Help

100%
\$ % .0 .00 123
Default...
10

	A	B	C	D	E	F
33	Induction Lending Programs	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		SB: Can change to Lending Programs instead
34	Net Metering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Prob ok to not include, very complex
35	Tax Deduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	DSIRE has separate types for corporate tax deductions and persons
36	Sales Tax Incentive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
37	Property Tax Incentive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
38	Grant Program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
39	Feed-in Tariff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This is specific to solar and there are just a small handful of them
40	Note: DSIRE has lots more incentive types					
41						
42	<b>Amount</b>	<b>ELI</b>	<b>RA</b>	<b>BDC</b>	<b>DSIRE</b>	<b>Notes</b>
43	Fiat Amount	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DSIRE basically covers these but in a different format
44	Normalized	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
45	Measure Coverage %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
46						
47	<b>Authority Level</b>	<b>ELI</b>	<b>RA</b>	<b>BDC</b>	<b>DSIRE</b>	<b>Notes</b>
48	Federal Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
49	State Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
50	Regional Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RA Regional = County
51	City Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	DSIRE = "Local Government" is inclusive of both city and county gov
52	Government	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	BDC = Org level is only gov, but incentive distinguishes the type (fed

# Many Challenges Remain!

Evolve schema through  
public comments

**Incentive programs rules and  
data sources are inconsistent**

A quick first  
deliverable vs.  
onboarding many  
stakeholders is a  
balancing act

**Many more  
voices need to  
be represented  
in the NODE  
Collective**

Optimize for  
simplicity & the  
most faithful  
representation

Simplify data  
contributions

Amounts and geography can take  
different shapes

Merge & de-duplicate  
the dataset

Secure sustainable  
funding & resourcing

**Create a process for  
data maintenance**

# We Are Seeking Feedback

Schema available soon at  
[nodecollective.org](https://nodecollective.org).

## NODE Comments

Please submit questions, comments, or requests with this form.  
The NODE Steering Committee reviews comments routinely.

fred@eli.build [Switch account](#)



\* Indicates required question

Email \*

Your email

Name \*

Your answer

Comment \*

Your answer

Submit

Clear form



# Panel Discussion



**André**  
BDC



**Autumn**  
DSIRE



**DeAndrea**  
Eli



**Freddie**  
Eli



**Lacey**  
RMI



**Tom**  
Rewiring  
America

# How To Get Involved



# Ways to Get Involved



## Data Contributions

Providing incentives data to the NODE repository



## Utilizing Data

Using incentives data from the NODE repository (once available)



## Financial Contributions

Contributing financially to support the NODE Collective project

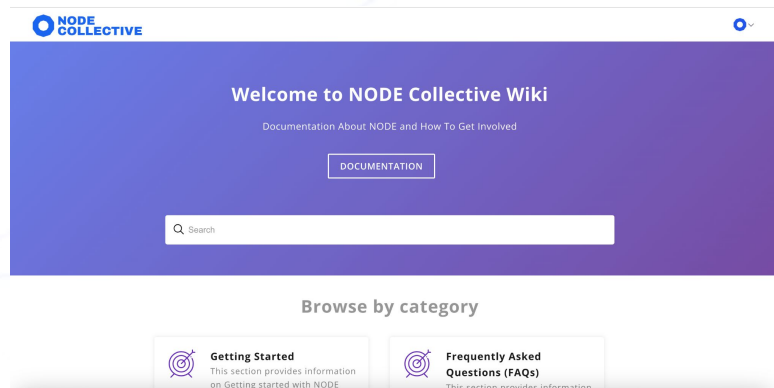
# Asynchronous Ways to Contribute

Online ListServ/Forum:

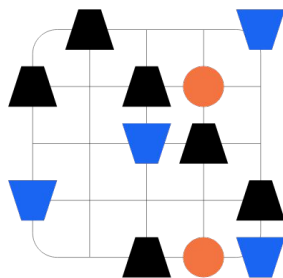
<https://lists.1fenergy.org/g/node-collective-discussion>

NODE Collective Wiki:

<https://node-wiki.document360.io/>



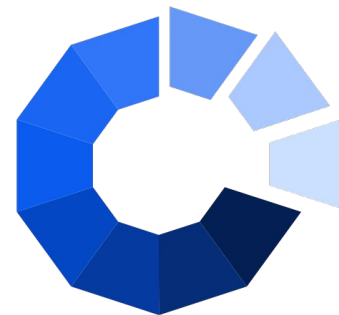
# Choose Your Journey



## **NODE Spark Sessions**

Join our monthly meetings

*Next Meeting: June 26th*



## **Get 1:1 time**

with NODE founding  
organizations

# Thank You

