



energy web

Energy Web Overview

June 2021



We launched EW to help grid operators transform the way they run 21st century energy markets and programs

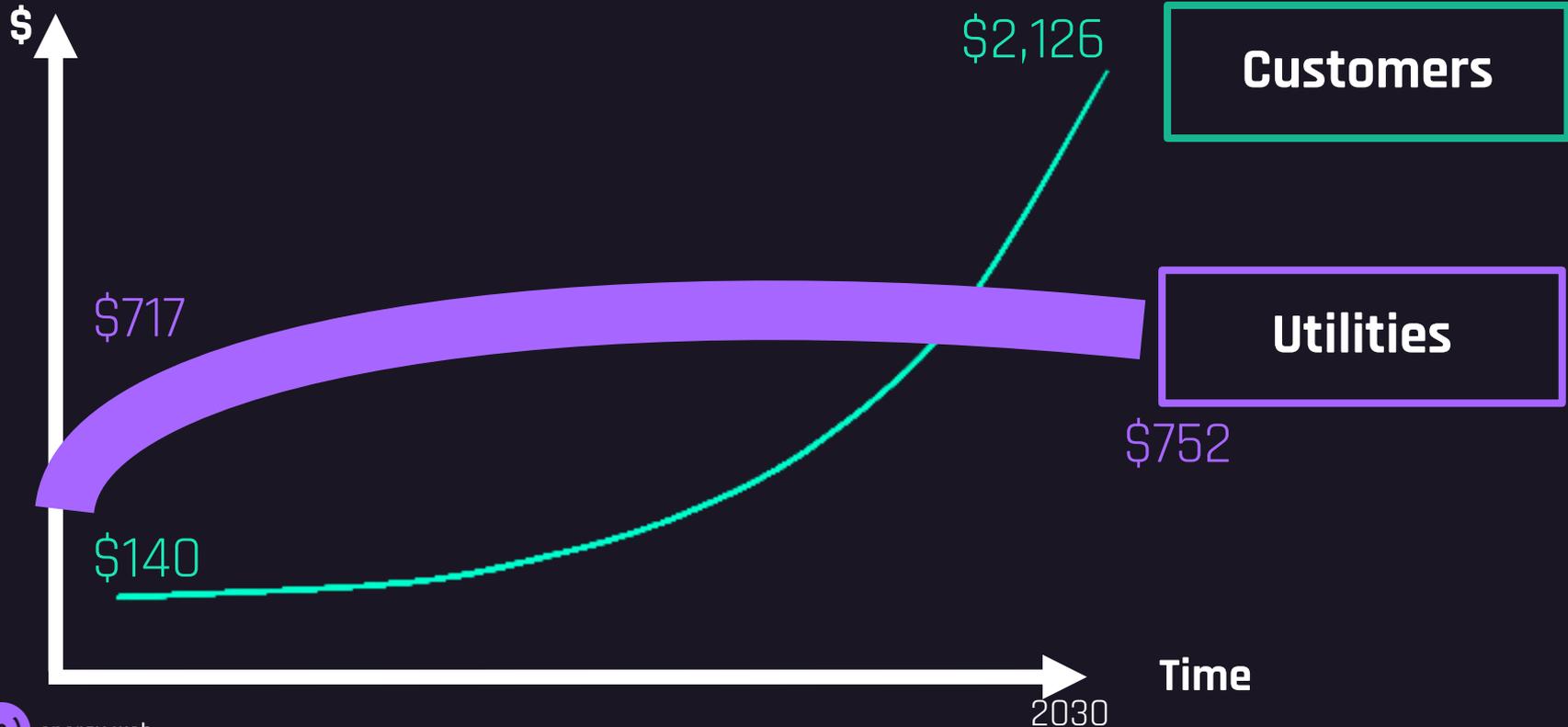
Mission

Our mission is to develop and deploy a **decentralized digital operating system** for the energy sector in support of a low-carbon energy future



Customer spending on RE & DER is on-track to eclipse utility investment

USD billions



These assets are the future of the energy sector

USD billions



Customers

Storage



Smart AC



EV & EVSE



Renewables



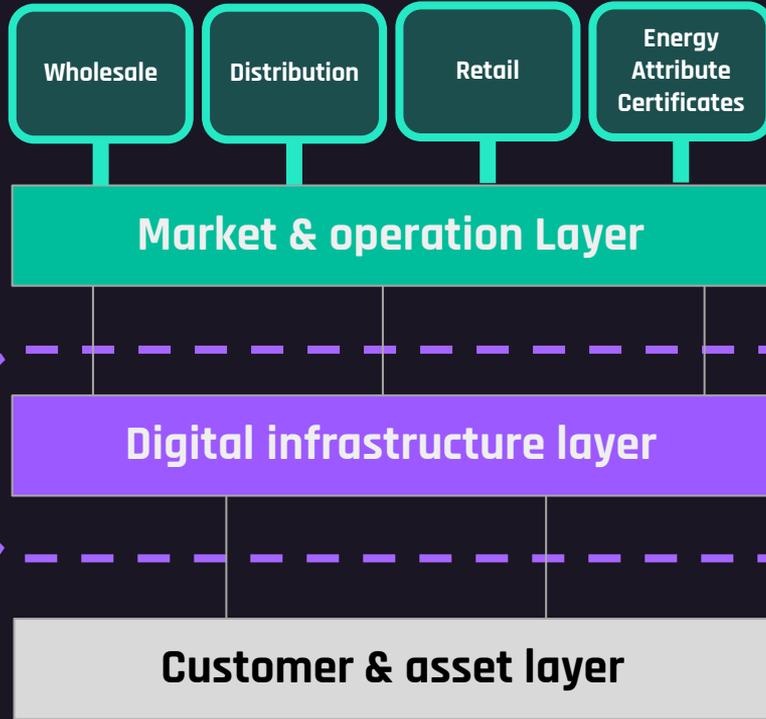
The challenge: grid operators generally unequipped to procure services from DERs. We solve this problem via digital, decentralized infrastructure



20th Century Model: centralized, top-down registration and operation of a small number of thermal assets

Energy Web Model: decentralized, flexible, bottom-up coordination of a large number of customer, OEM, aggregator, and grid operator-controlled low-carbon assets

Our objective is to help markets for grid services from DERs—including EVs—to be deployed as quickly as possible across the world



- Regulators set high level rules for engagement
- Grid operators run markets & programs

Open architecture for establishing identity, permissions, and relationships between assets / grid operators



Shared State
Digital Identity

- Customers invest in assets
- OEMs, aggregators, retailers, and customers use assets to participate in markets

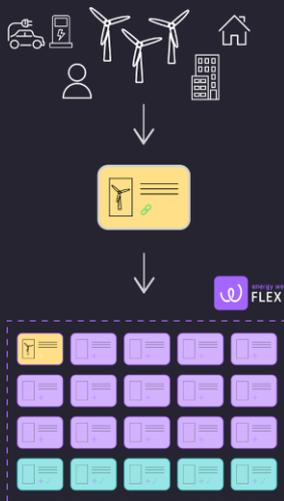
The Energy Web Ecosystem

Member organizations at the forefront of adopting the EW-DOS stack



We are working on three application domains where the EW stack can unlock the most value

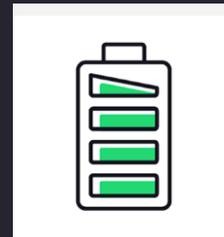
Flex increasing grid flexibility



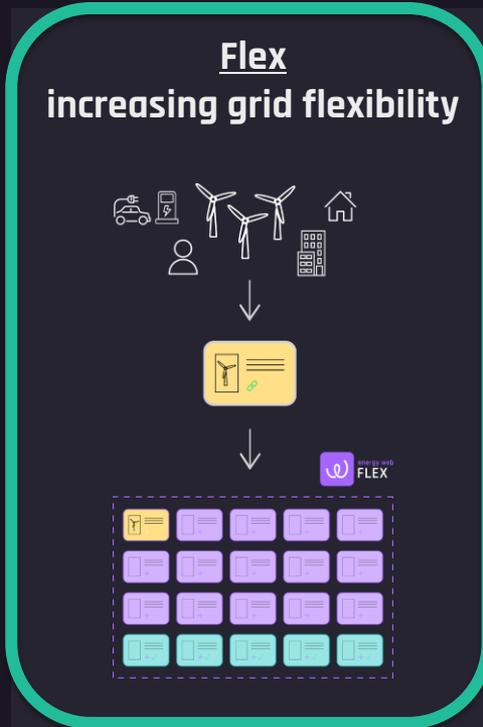
Origin re-defining energy traceability



Trace Trace assets globally



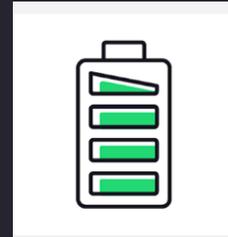
Flex



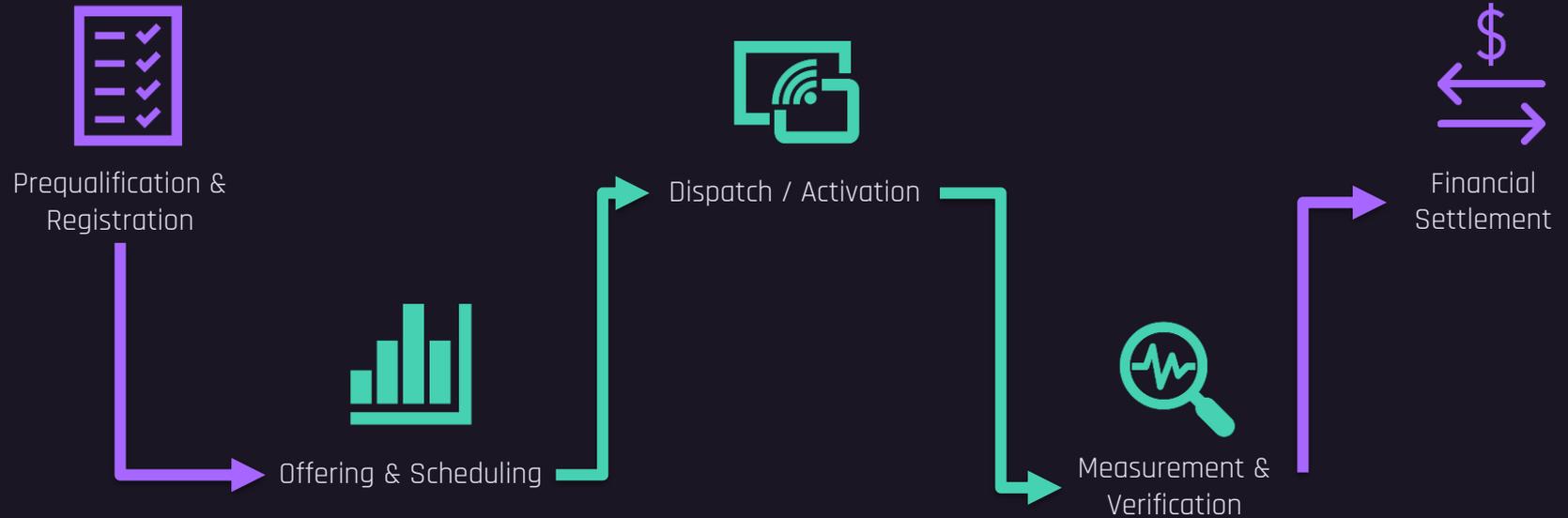
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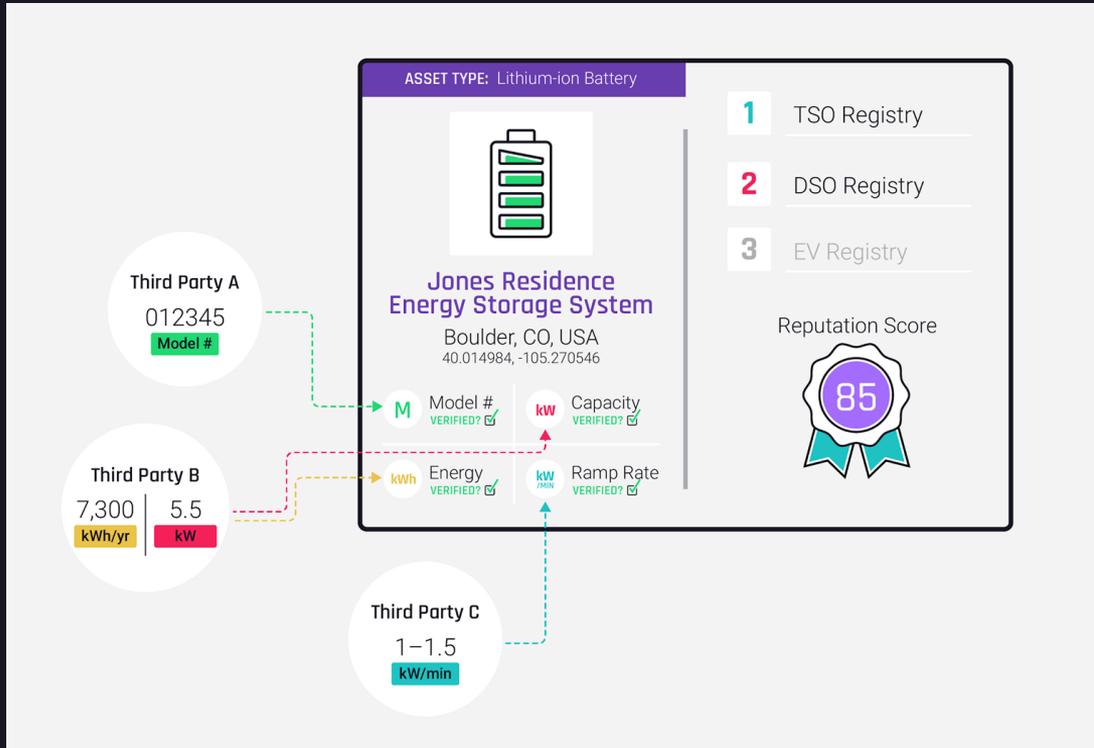
Trace
Trace assets globally



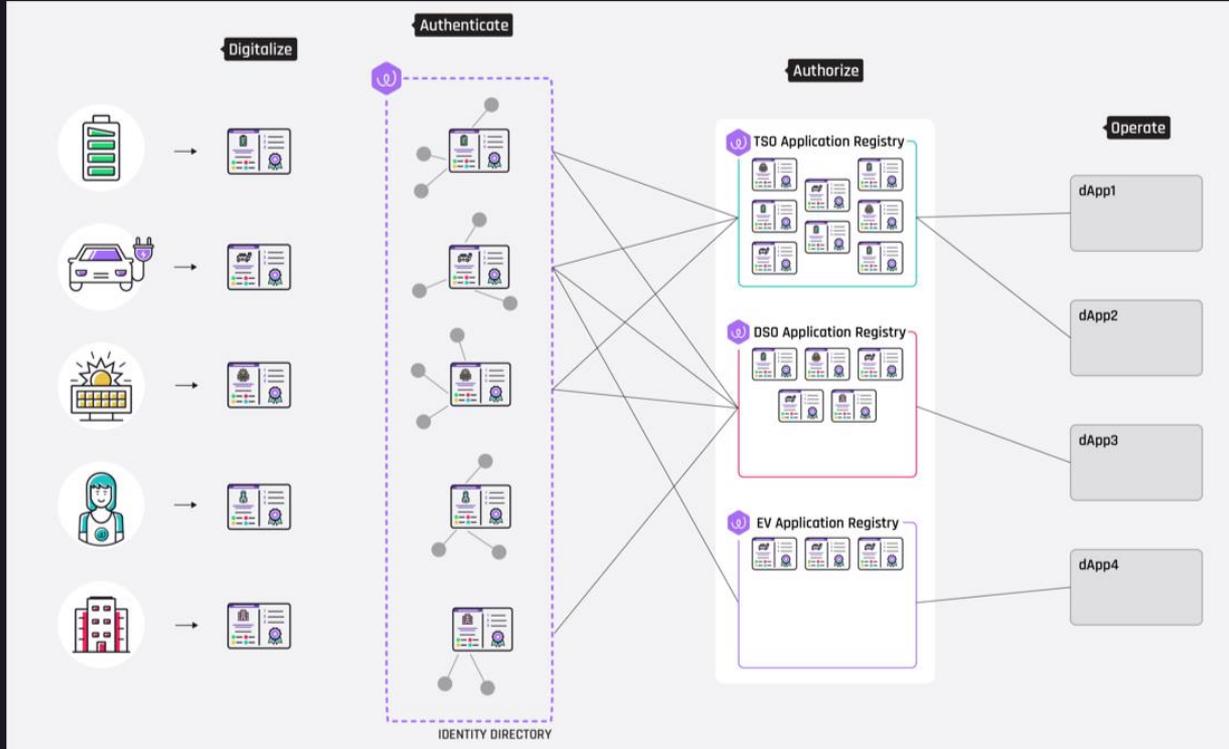
Prosumers and distributed energy resources like vehicles and charge points can provide flexibility. With EW Flex, we make prosumer / DER participation in flex markets trusted by utilities and as easy as online shopping for customers



It works by assigning all customers, asset owners, market participants, and authorities a digital identity



Identities can then register to different energy markets according to local / regional / global rules and regulations





TSO Elster
www.elster.com

Total available capacity		Total reserved capacity		Total charge rate		Total discharge rate	
29,75 MWh	24,05 MWh	191,4 MWh	120 MWh				

Number of vehicles	Preapproved vehicles	Connected vehicles	Number of charge points	Preapproved charge points	Charge points connected to vehicle
9700	8900	850	9300	8700	850

Charge Points

Search Zones

Map showing Charge Points locations.

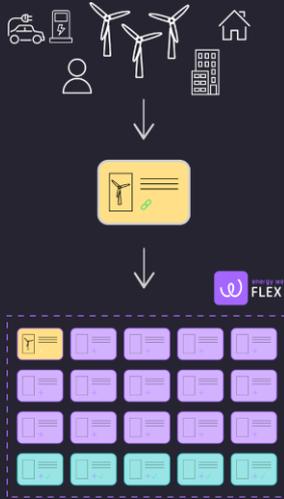
All vehicles

Vehicle Type	Color	Approved for charge station
White Hatchback	White	Yes
White Sedan	White	No
Blue Van	Blue	No
Black Roadster	Black	No
Green Auto	Green	No
Orange Hatchback	Orange	No
Green Auto	Green	No
Orange Hatchback	Orange	No



Origin

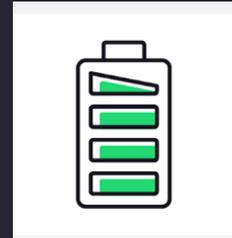
Flex
increasing grid flexibility



Origin
re-defining energy traceability



Trace
trace assets globally



Origin: re-defining energy traceability



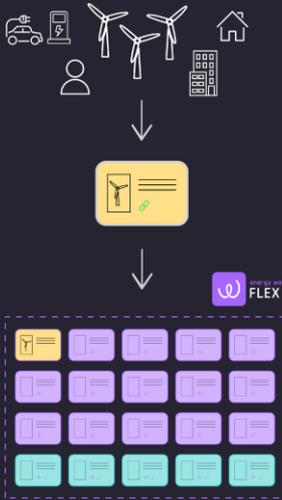
- Green Charging
- Electric vehicles can participate in the energy attribute certificates (EAC) markets



- Simplified access to the fragmented renewables markets around the globe.
- Traceability for carbon offsets from suppliers and the OEM to the customer

Trace

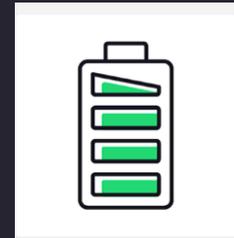
Flex increasing grid flexibility



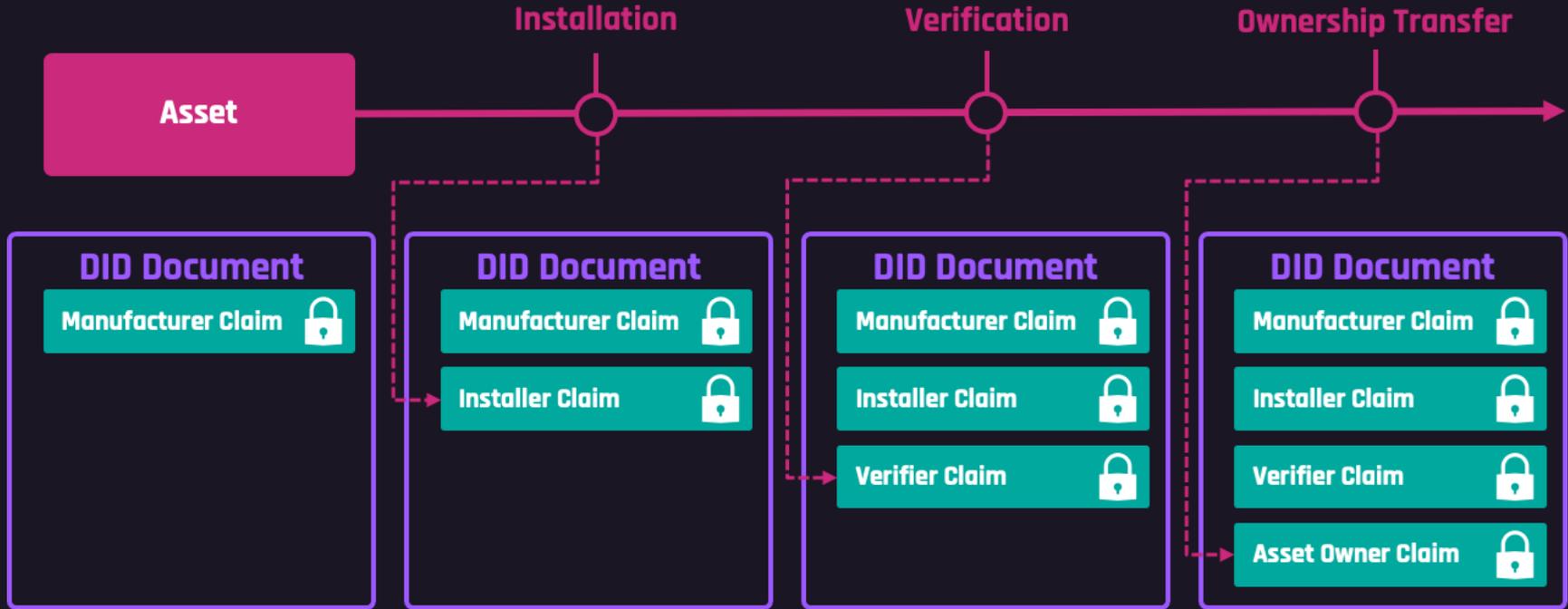
Origin re-defining energy traceability



Trace trace assets globally



Digitizing Assets and Managing their Lifecycle





Thank you!

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