

An AgriSolar Alternative for Large-Scale Commodity Farming



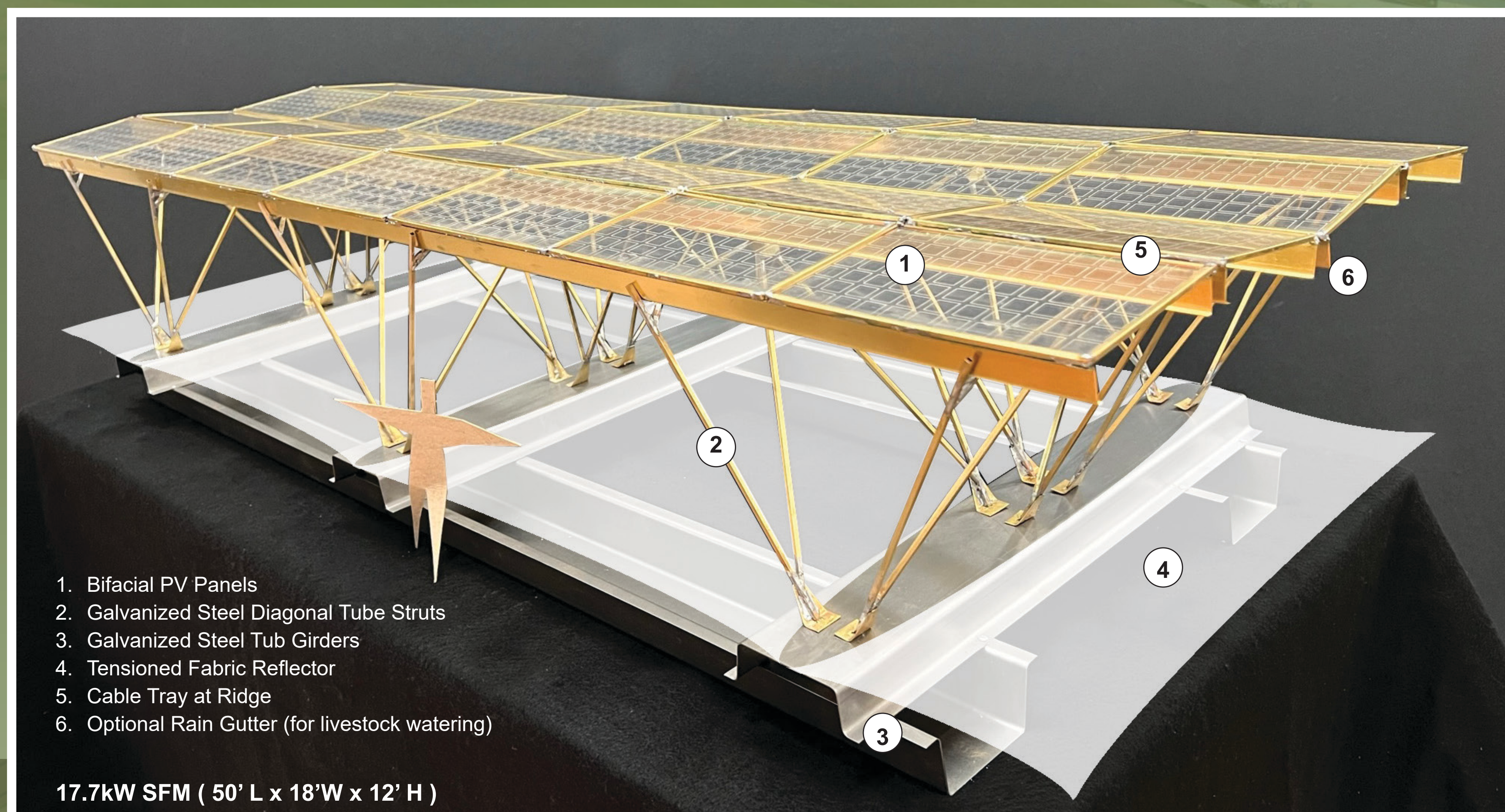
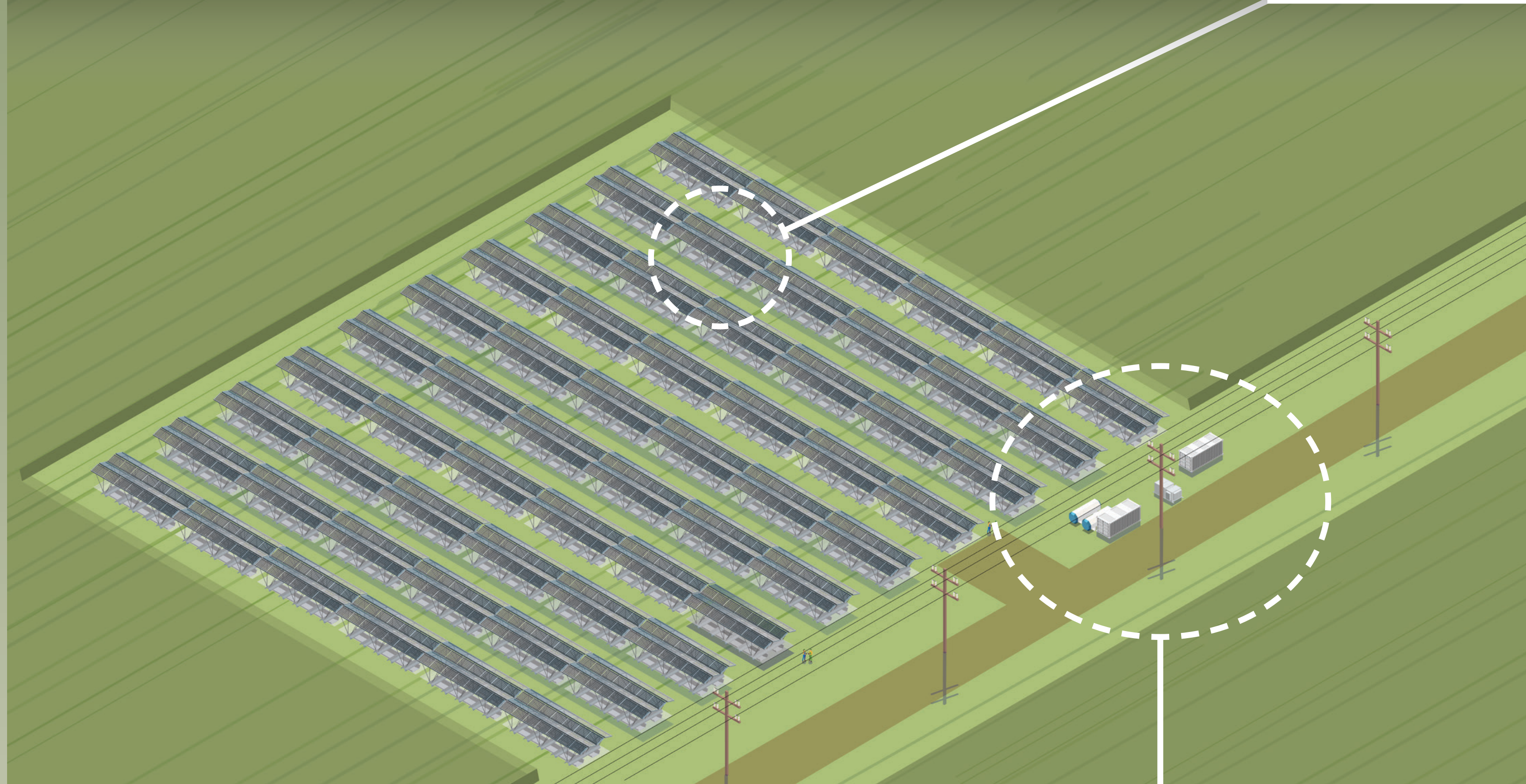
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GOAL

Develop prefab modular solar technology so farmers can increase profits, power on-farm ammonia plants, and revitalize rural economies with Scope 3 GHG reduction premiums.

Self-ballasted solar farming modules (SFMs) power containerized ammonia plants so commodity farmers can make carbon-free fuel and fertilizer on-farm. With price premiums earned from food companies committed to reducing Scope 3 GHG emissions, farmers will revitalize rural economies. At a staging area, crews assemble SFMs from prefabricated parts before towing them to the field. Galvanized steel tub girders, which arrive nested on flatbed trailers to minimize transportation costs, form ground-agnostic chassis that can be repowered in 30 years.

1MW SOLAR FARM ON 3.5 ACRES SERVING A 1,000 TO 2,000 ACRE GRAIN FARM



17.7kW SFM (50' L x 18' W x 12' H)

RESULTS

With installed SFM costs of \$2.30/W, farmers in the Corn Belt can earn IRRs up to 95% over 30 years by leveraging Inflation Reduction Act incentives. By owning a second means of production (energy), farmers will stabilize one-third of their variable non-land costs.

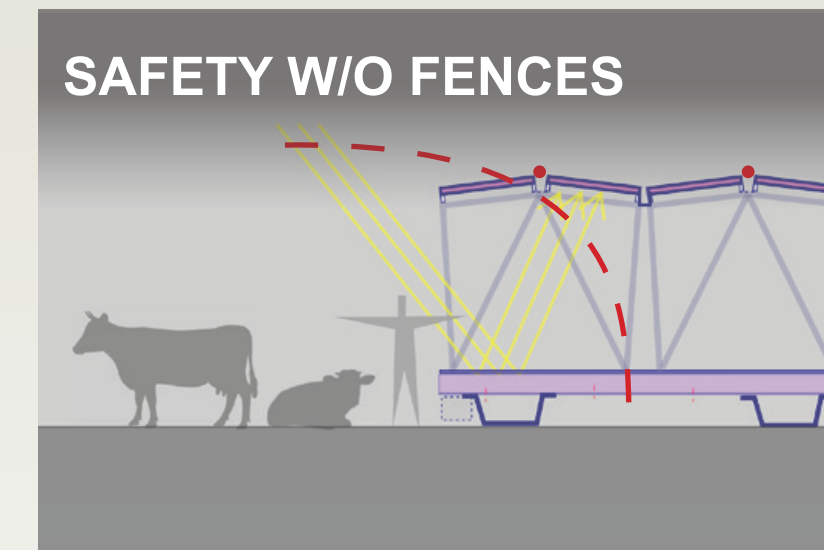
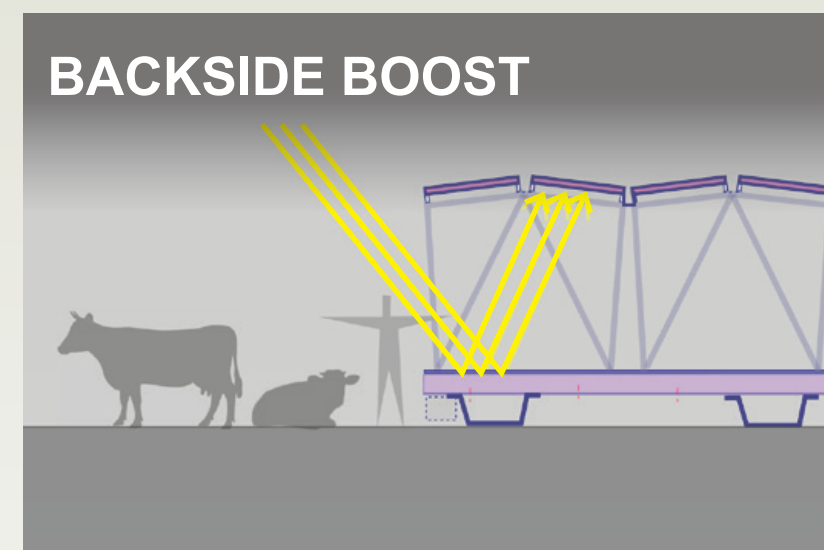
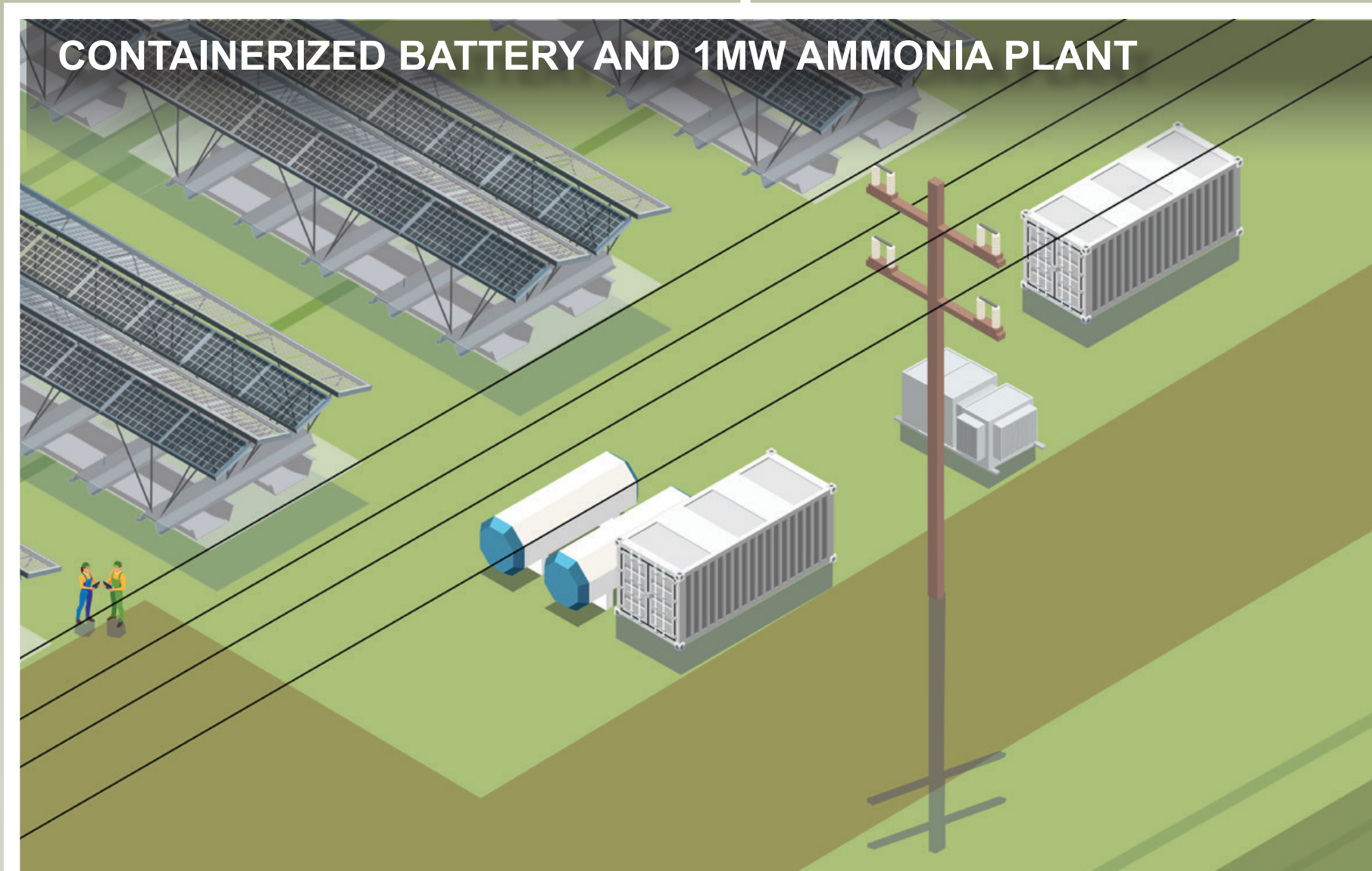
IRA tax credits can fund up to 50% of the cost of solar, the ammonia plant, and the grid interconnection. Farmers can then transition their fleet and grain dryers to run on electricity or ammonia to maximize the price premiums from companies committed to reducing their Scope 3 GHG emissions. By 2035, two US grain majors must purchase the equivalent of over one billion bushels of carbon-free corn every year, suggesting premiums of \$200 to \$250 per acre of corn. Auditors can easily verify avoided carbon. Carbon-reduced grain buyers only need a chain of custody, not separate bins.

OUTCOME

A system of SFMs, batteries, and clean fuel & fertilizer plants on farms allows:

- Rural economies to benefit from Scope 3 GHG premiums
- Electric co-ops to dispatch farm batteries to decarbonize their grids, reduce demand costs, and defer feeder upgrades
- Rural communities to create local jobs and improve resilience
- EPCs to increase throughput with labor-saving prefabrication
- The DOE to achieve Energy Transition priorities (see chart below)

Modular prefab solar offers an alternative to farmers leasing land from solar developers to grow specialty crops or graze sheep under the PV panels. Energy dollars stay local when farmers own the assets.



No incumbent solar technology today is farmer friendly. SFMs simplify solar by obviating surveys, testing, foundations, and moving parts. With cabling running safely in the gable ridges 12 feet off the ground, SFMs obviate perimeter fencing. A 1MW solar farm on 3.5 acres, constructed in two weeks, will produce all the energy, fuel, and fertilizer required to operate a 1,000-acre to 2,000-acre grain farm. During winter, heat from backside production boosted by a fabric reflector will melt snow. Unlike available racking, ranchers can deploy SFMs around cattle. Pre-engineered SFMs can also serve dairies, irrigation, brownfields, landfills, mineland, and disaster relief sites.

	TrackerSled	Developer Solar	Developer Wind
Reduce Time and Cost			
Lower Soft Costs			
Avoid Surveying	●	○	○
Modular Size to Fit			
Quickly Repowered	●	○	○
Prefabricated	●	○	○
No Decommissioning			
Low Life Cycle Costs	●	○	○
Product Not Project	●	○	○
Avoid Supply Bottlenecks			
Fast to Deploy	●	○	○
Roadside Assembly			
Universal Testing	●	○	○
Fast Farmer Payback			
Non-Exotic Parts	●	○	○
Avoids Clipping			
Creates Local Jobs	●	○	○
Energy Dollars Stay Local			
Flexes w/ Farm Operations	●	○	○
Democratizes Solar	●	○	○
Local Fabrication	●	○	○
Low Cost US Steel	●	○	○
Employs Rural Workforce			
Employment	●	○	○
Modernize Grid			
Distribution Scale	●	○	○
Avoids Transmission Costs	●	○	○
Forecasts Utility Upgrades			
Reduces Seasonal Peaks	●	○	○
Builds Rural Resilience			
Primes Microgrid	●	○	○
Increases Reliability	●	○	○
High Farmer Agency	●	○	○
Moderate Farmer Agency	○	○	○
Low Farmer Agency	○	○	○
High, Positive Impact	●	○	○
Moderate Impact	○	○	○
Low, Negative Impact	○	○	○