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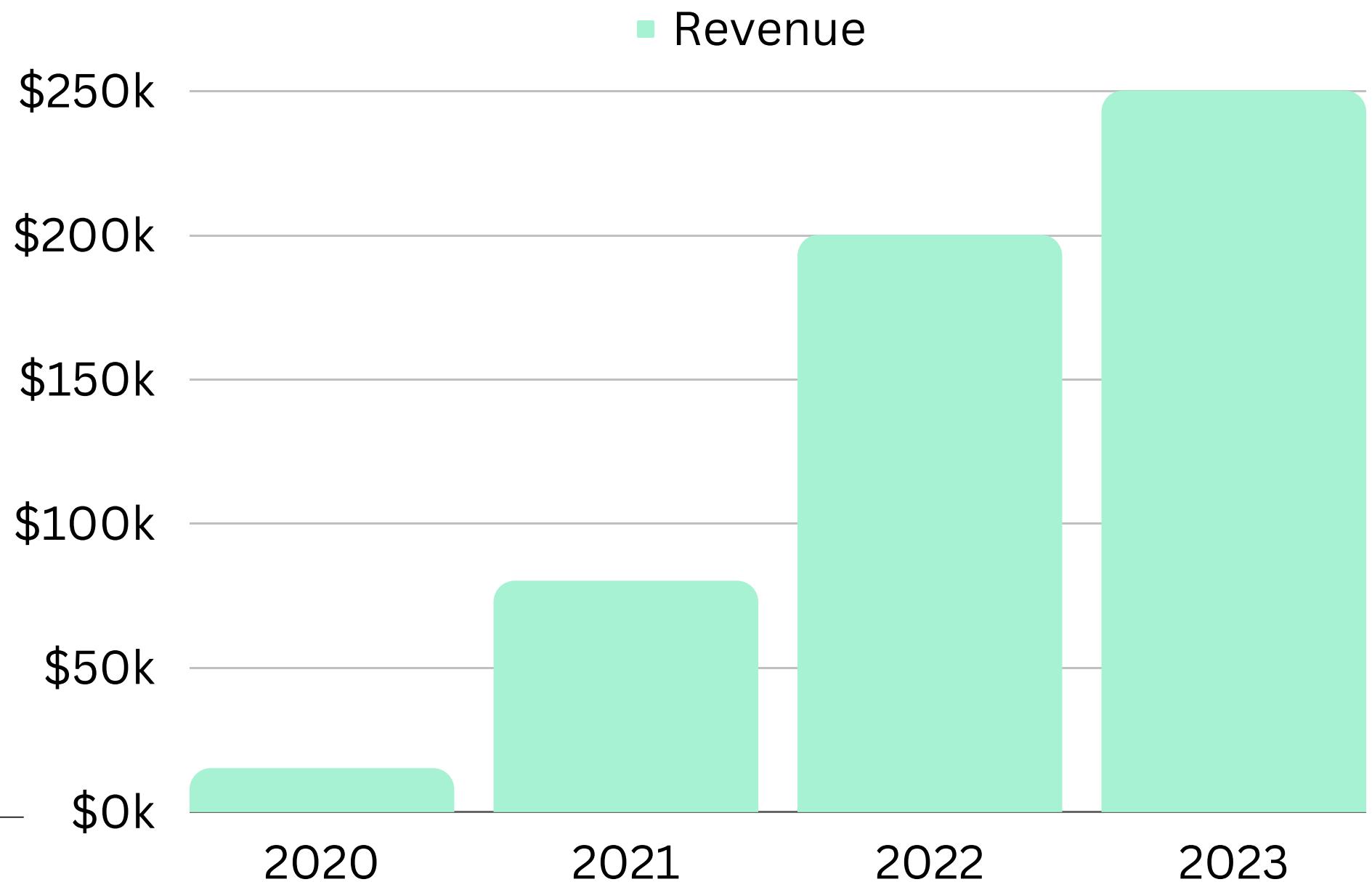
**GozanLink:**  
Less Coal, More **Tomatoes**



# What is Amudar.IO? →

Amudar.IO was founded by 2 PhDs from Inha University in 2020 to help farmers in fighting pest.

- More than **100 weather stations** installed and managed across Uzbekistan
- Clients include UNDP, WB, IFAD, Tashkent Municipality and 4 unis.
- Consists of 3 PhDs, 2 postgrads, 4 undergrads with bg in CS, EE, Agri.





# Pilot in Samarkand



In November 2021, went to **5 ha greenhouse** with a proposal  
Pest outbreak and plant development prediction



Ridiculed by the owner for living in la-la land!



Learned about the main problem  
**"High heating costs and emergency management"**



# Pilot in Samarkand



In **a month**, designed and deployed an ad-hoc solution



Collected **two months** worth data from  
4 indoor, 1 outdoor and 1 gas sensors



Discovered the key opportunity  
**"18% to 30% of gas is wasted due to inefficient  
control of the burner"**

# Energy Costs

- 1 ha gas cost per season = \$22,000
- 1 ha coal cost per season = \$37,000

Greenhouses in Central Asia:

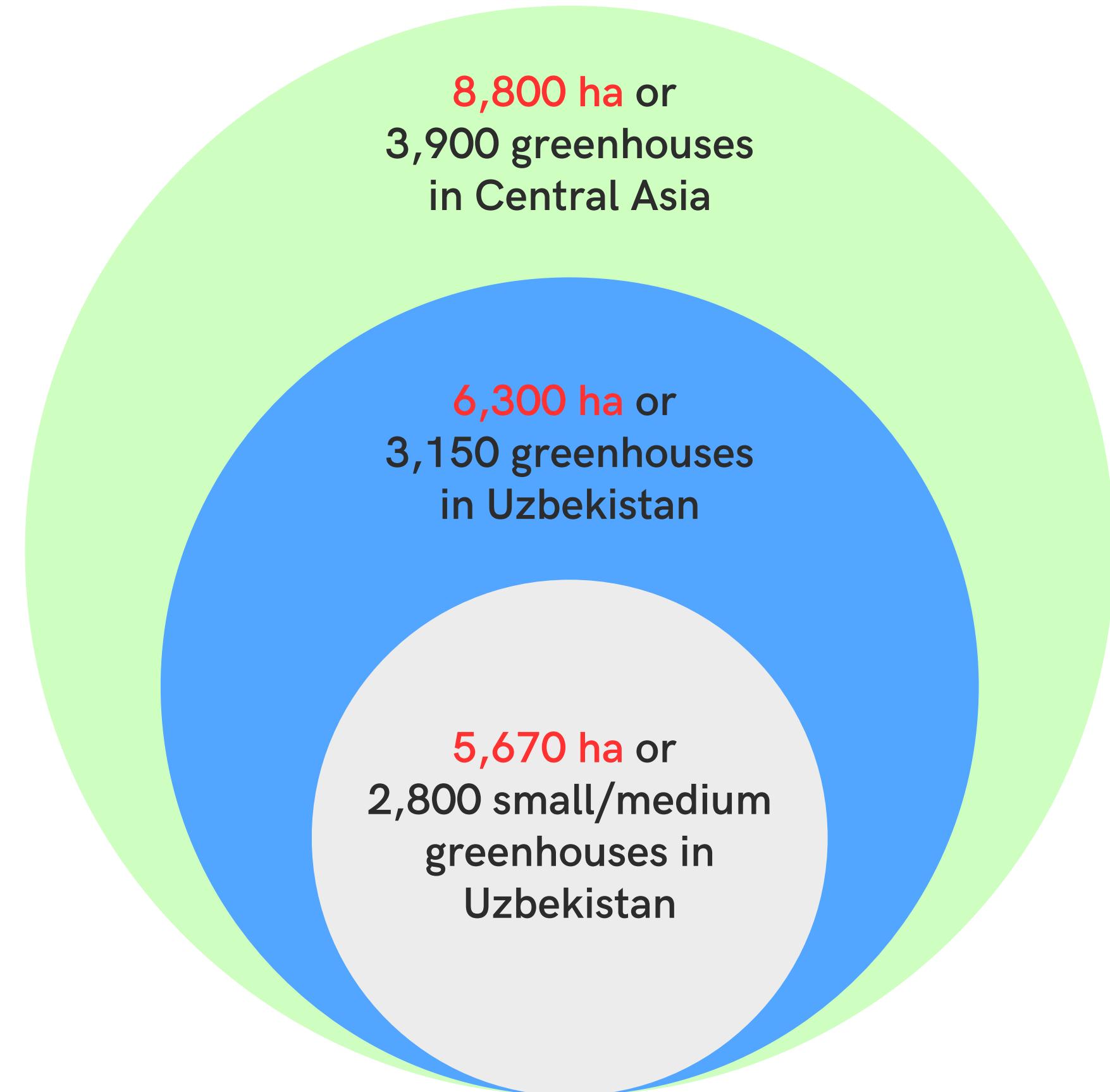
\$193 Million / \$325 Million

Greenhouses in Uzbekistan:

\$137 Million / \$233 Million

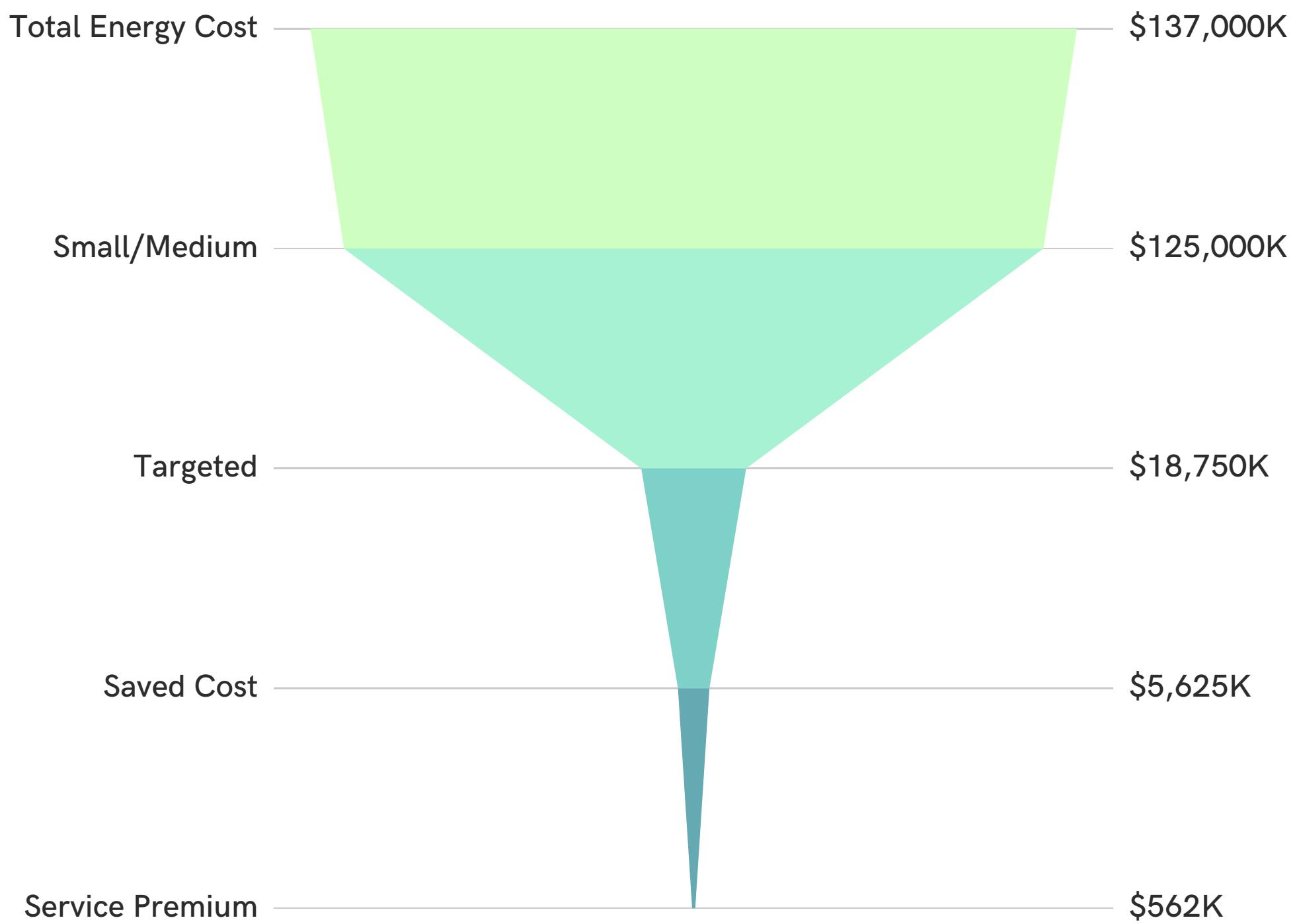
Small/Medium greenhouses in Uzbekistan:

\$125 Million / \$210 Million



# Market Size

- Target **15% of small/medium** greenhouses in Uzbekistan within next 4 years
- Save upto **30% of energy costs** for them
- Take **10% of saved costs** as service premium
- It makes up SOM – **\$562,000 / \$945,000**



# Competitors →

- 95% of small/medium greenhouses in Uzbekistan use products of **Chinese/Korean manufacturers**
- **No software** solution for users
- Practically impossible to maintain
- European manufacturers charge \$15k to \$25k for **unlimited software license**



# Our Solution

- Compute **sensible heat loss** for a given greenhouse using outdoor/indoor climate data
- Model the relationship between sensible heat loss and **fuel use**
- Minimize the **fuel overuse** using the obtained model
- Apply geo-precise weather forecast to generate an hourly **7-day schedule** for controlling the burner





# Measuring indoor climate

Our modular units can be used for setting up an ad-hoc sensor network with multiple nodes to measure air temperature, humidity and soil parameters in different areas of the greenhouse.



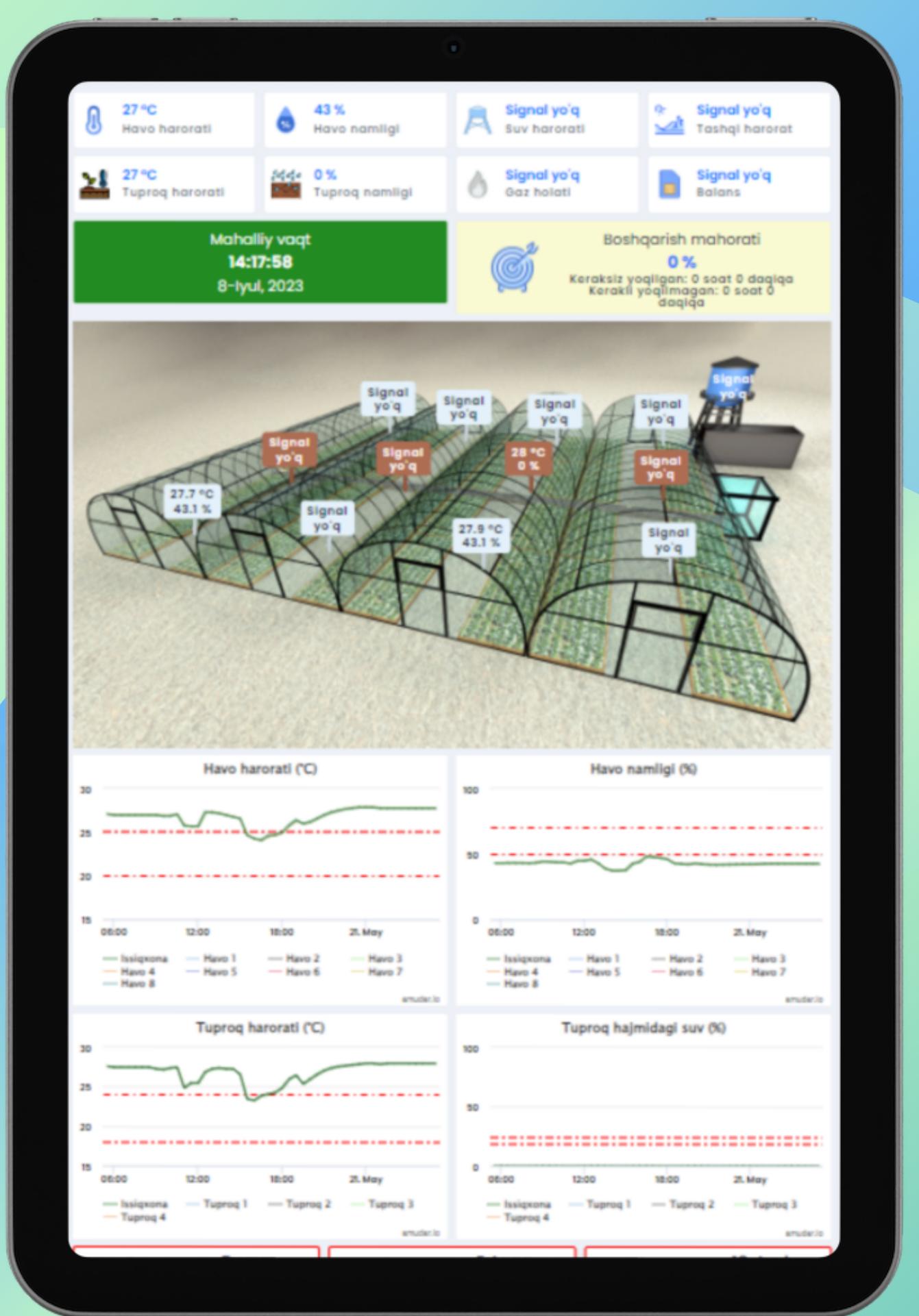
# Measuring outdoor climate

Our autonomous and solar-powered weather stations can be used for monitoring the outdoor air temperature, humidity, wind and solar radiation.

# Monitoring the greenhouse from mobile



Our mobile application provides all the necessary information about the greenhouse's current climate, recommends when to burn coal and shows a simple KPI for controlling the furnace. Also it notifies the user about emergencies and weather anomalies.



# Monitoring the greenhouse from on-site dashboard

Our on-site dashboard provides detailed charts on greenhouse climate and furnace use along with current temperature and humidity readings. It also displays KPIs for controlling the furnace.

# Revenue Model

	Basic Plan (One-off \$500, \$20/month)	Standard Plan (One-off \$4000, \$100/month)	Premium Plan (One-off \$4000, \$200/month)	Full Plan (One-off \$4000, \$500/month)
INDOOR CLIMATE MONITORING				
OUTDOOR CLIMATE MONITORING				
FURNACE MONITORING				
PLANT AND DISEASE MODELS				
AGRONOMIST CONSULTANCY				

# Sales Projections

	YEAR 1	YEAR 2	YEAR 3	YEAR 4
<b>Sales</b>	<b>2 x Standard 10 x Basic</b>	<b>1 x Premium 10 x Standard 50 x Basic</b>	<b>1 x Full 5 x Premium 50 x Standard 100 x Basic</b>	<b>5 x Full 10 x Premium 60 x Standard 150 x Basic</b>
<b>Total Revenue</b>	$\$ 10,400 + \$ 7,400 = \$ 17,800$	$\$ 6,400 + \$ 52,000 + \$ 37,000 = \$ 95,400$	$\$ 10,000 + \$ 32,000 + \$ 260,000 + \$ 74,000 = \$ 376,000$	$\$ 50,000 + \$ 64,000 + \$ 312,000 + \$ 111,000 = \$ 537,000$
<b>Total Cost</b>	(Product Development) <b>\$ 30,000</b>	$\$ 2,500 + \$ 25,000 + \$ 7,500 = \$ 35,000$	$\$ 16,000 + \$ 12,500 + \$ 125,000 + \$ 15,000 = \$ 168,500$	$\$ 32,000 + \$ 25,000 + \$ 150,000 + \$ 22,500 = \$ 229,500$
<b>Gross Income</b>	<b>- \$ 12,200</b>	<b>\$ 60,400</b>	<b>\$ 207,500</b>	<b>\$ 307,500</b>

# The Team →



**Sarvar Abdullaev**  
Lead Researcher,  
PhD in Computer Science



**Jasurbek Khodjaev**  
Chief Technical Officer,  
PhD in Communication Engineering



**Azizbek Marakhimov**  
Chief Executive Officer,  
PhD in Industrial Management

Thank you for your time!  
Reach out to us for questions.



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