



GEN3BIO

*Generating **revenue** from municipal wastewater*

# Definition

Gen3Bio transforms municipal wastewater by converting landfill expenses into profitable specialty chemicals

# It Begins with Algae

We maximize chemical recovery yields from algae via a proprietary enzyme blend that optimizes sugar, fat and protein extraction

Over prior technologies we...

- increase algae product yields **50%**
- reduce capital requirements up to **90%**
- reduce operating expenses up to **50%**

# Our Tangible Progress

- Base technology proven in the lab at various scales
- Basic 5 gallon and 15 gallon pilot plant designs completed
- Interest from facilities in six states for on-site pilot plant trials in Iowa, Illinois, Kansas, Michigan, Ohio, Utah.

# Opportunity

The EPA is targeting a  
municipal wastewater nutrient discharge reduction of

**95%**

# Algae is the Solution

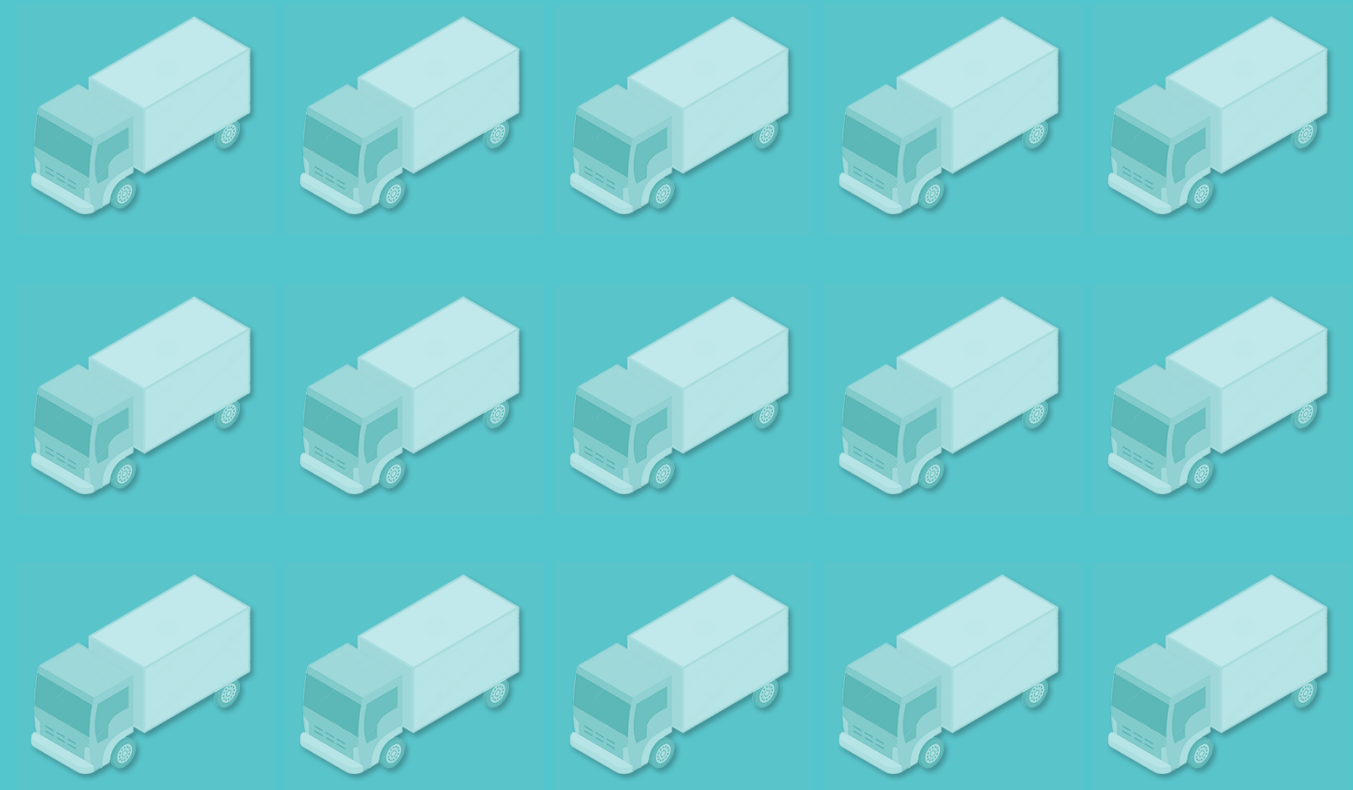
Wastewater nutrients provide a natural algae food source. Therefore, algae use reduces nutrient discharge. BUT, what do we do with all of this algae?

# The Challenge with the Solution

One large operator will need to dispose of 15 semi-trucks of algae per day, at an annual cost of

**\$5.5 Million**

\*not including operational costs

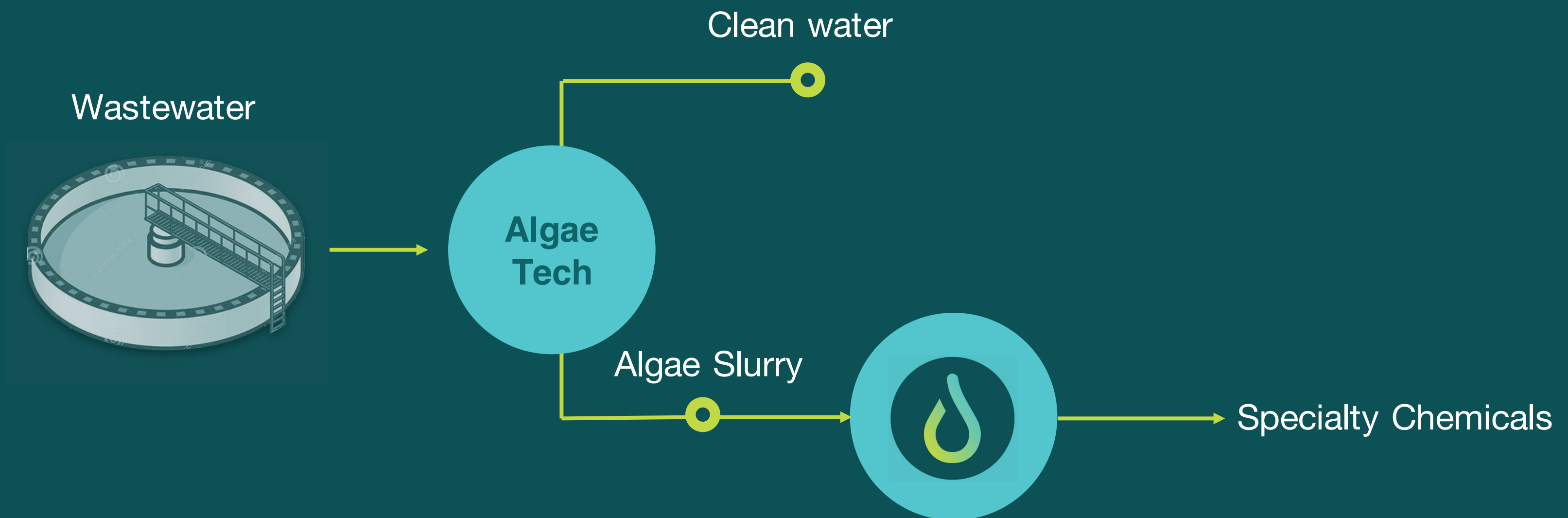


# Turning the Challenge into Cash

GEN3BIO enzyme technology converts that waste into products with the \$5.5M expense converting into a specialty chemical revenue of **\$200 MILLION**



# Here Does Gen3Bio Fit?

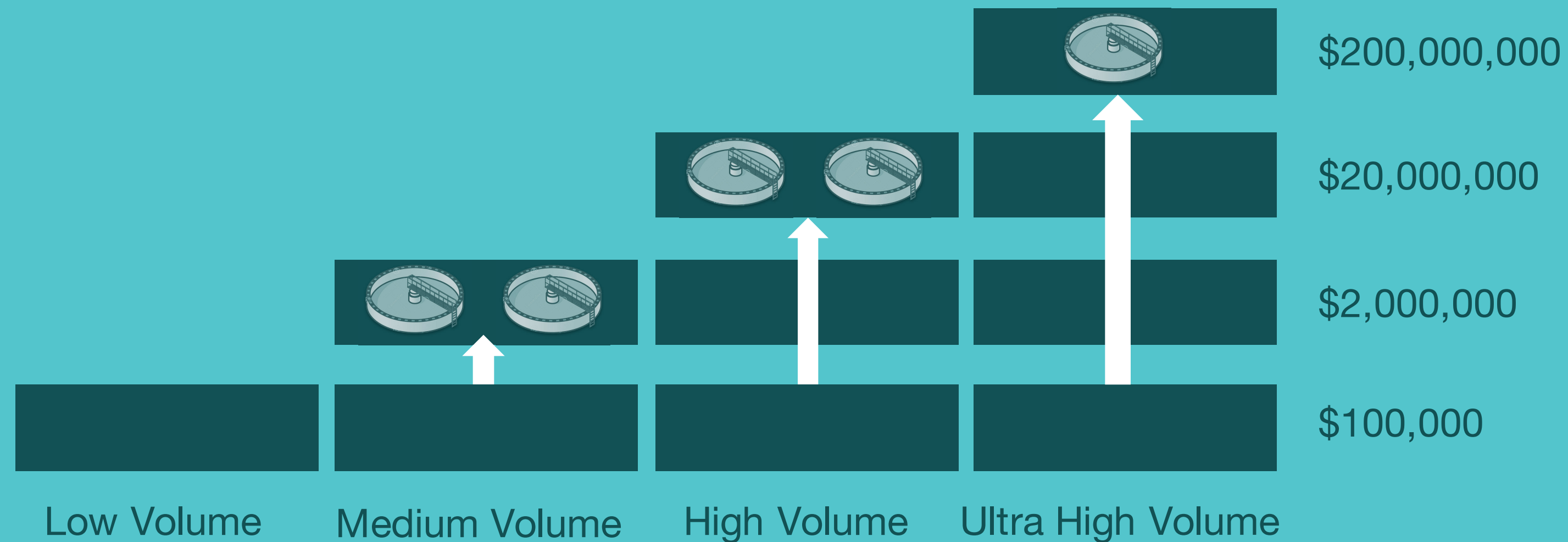


# Business Model

Own and operate plants at municipal wastewater treatment facilities with % of net product revenue provided back to clients.

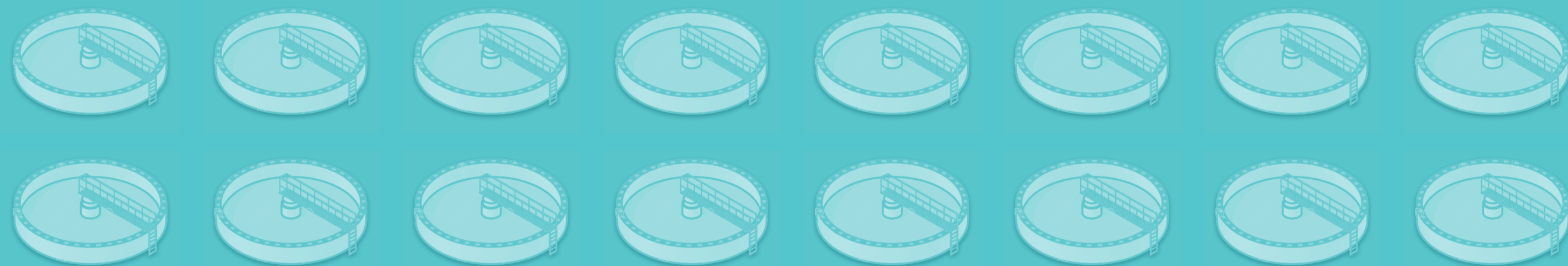
# WWTF Revenue Targets


## Annual Revenue Target



# The Scope

**There are over 16,000 wastewater treatment facilities in the United States alone.**



\*  = 1,000

# The Team



**Rick L. Johnson**  
Advanced Algae Systems  
Business & Marketing Advisor



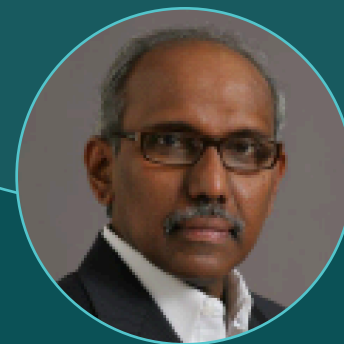
**George Onik**  
Algae Carbon Capture  
Technical & Marketing Advisor



**Dr. Kelvin T. Okamoto**  
CEO



**Prof. Sridar Viamajala**  
The University of Toledo  
Technical Advisor



**Prof. Sasidhar Varanasi**  
The University of Toledo  
Technical Advisor



**Dan Dawes**  
Purdue Foundry/AgriNovus Indiana  
Business Advisor

# Partners



Advanced  
Algae  
Systems



# In the News

**Waste360** | 9/15/17

*New Technology Turns Waste Algae into Biochemicals*

**Bio-Based World News** | 8/14/17

*Plans Underway to Scale up Tech that Transforms Microalgae into Bio-based Chemicals.*

**Algae Industry Magazine** | 7/24/17

*Improving Algal Extraction for Chemical Components*

**Purdue University Research Foundation News** | 7/19/17

*Technology Could Transform Microalgae into Bio-based Chemicals to Increase Biofeedstock,  
Reduce Landfill Waste*



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