

Connecting The Wires To Protect Our Precious Resource

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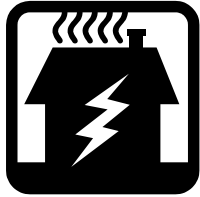
BUILDING A BETTER WORLD



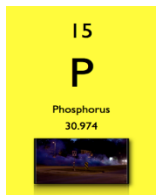
Wastewater Is A Valuable Resource



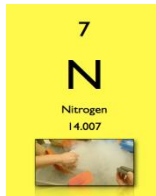
Energy - Heat



Energy - Power



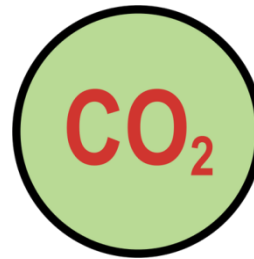
Phosphorus



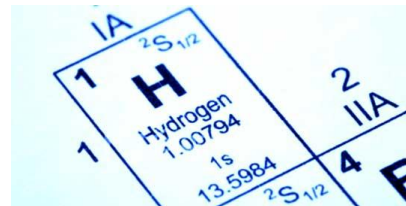
Nitrogen



Water

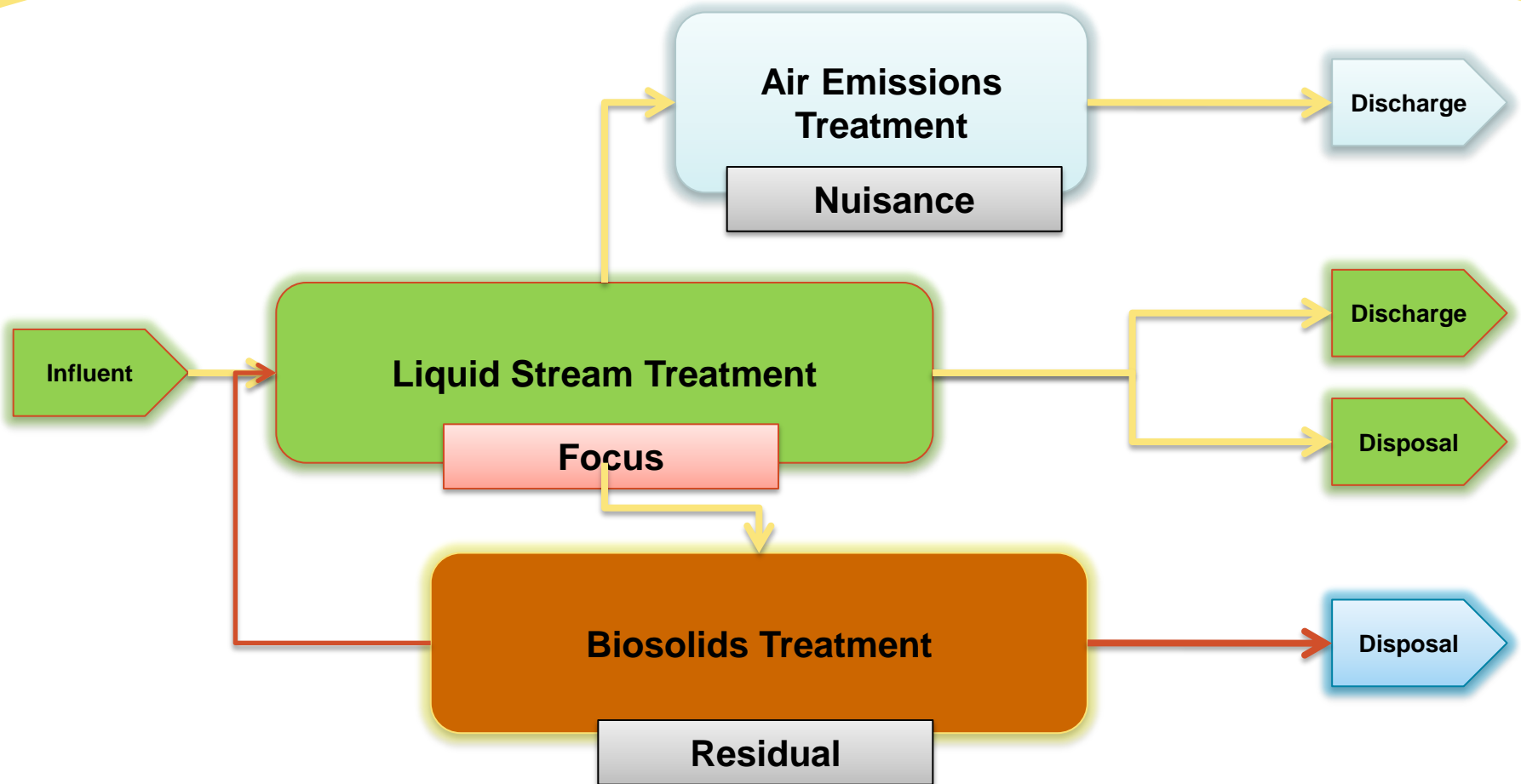


Carbon Dioxide

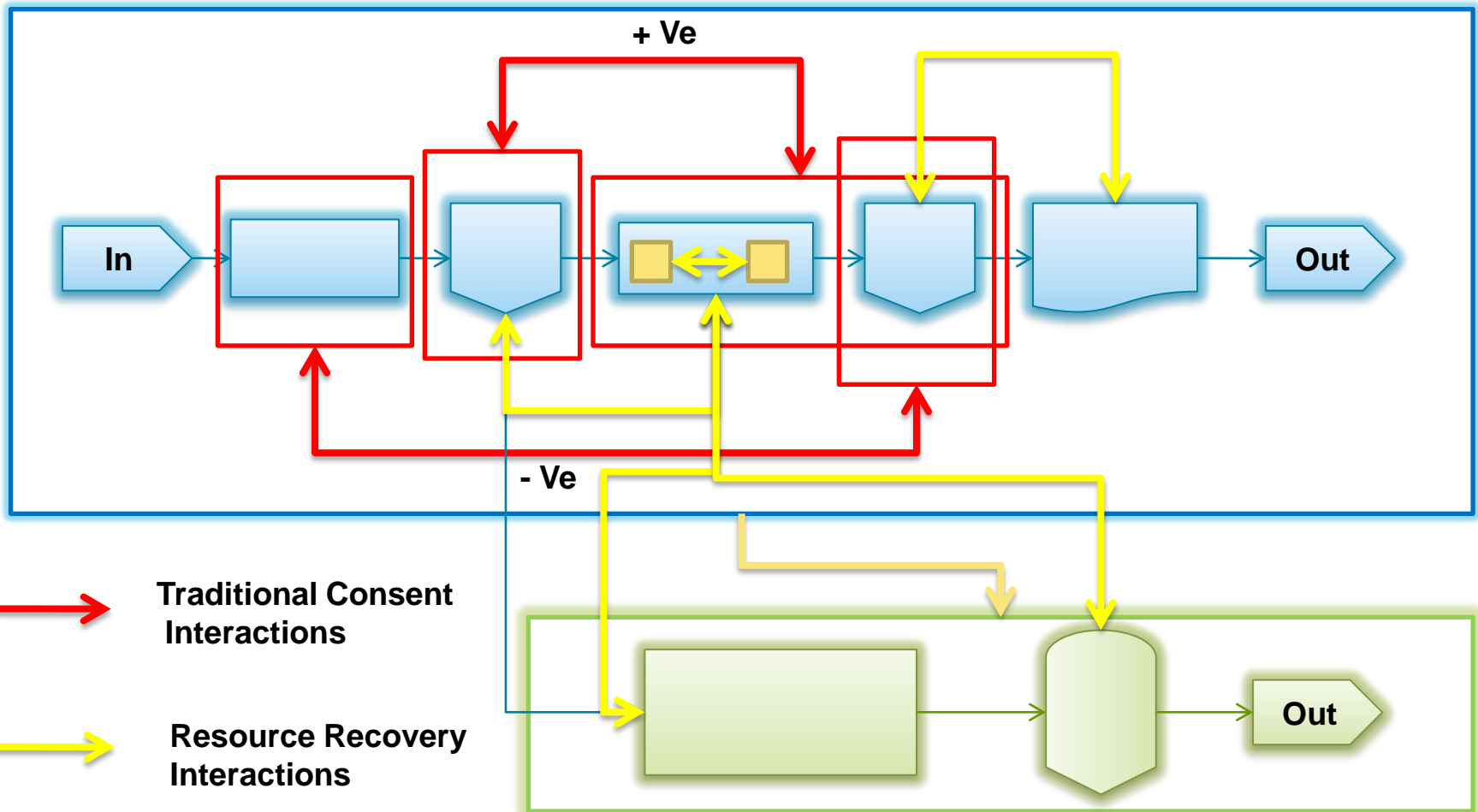


Hydrogen

What Wires Am I Talking About?

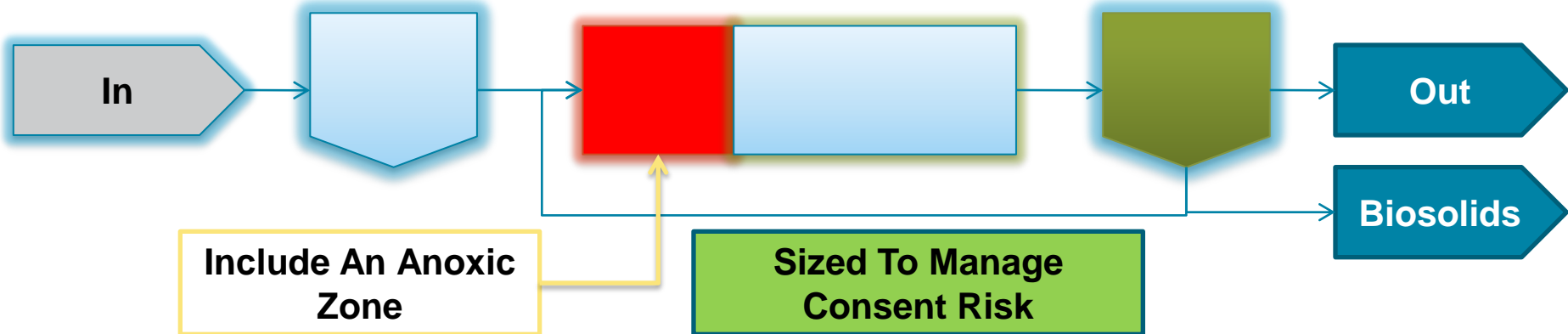


Complexities of Wastewater Treatment



Here's an example : Apply Regulation Only View

Legislation Driver : Ammonia Standard For WwTW Discharge

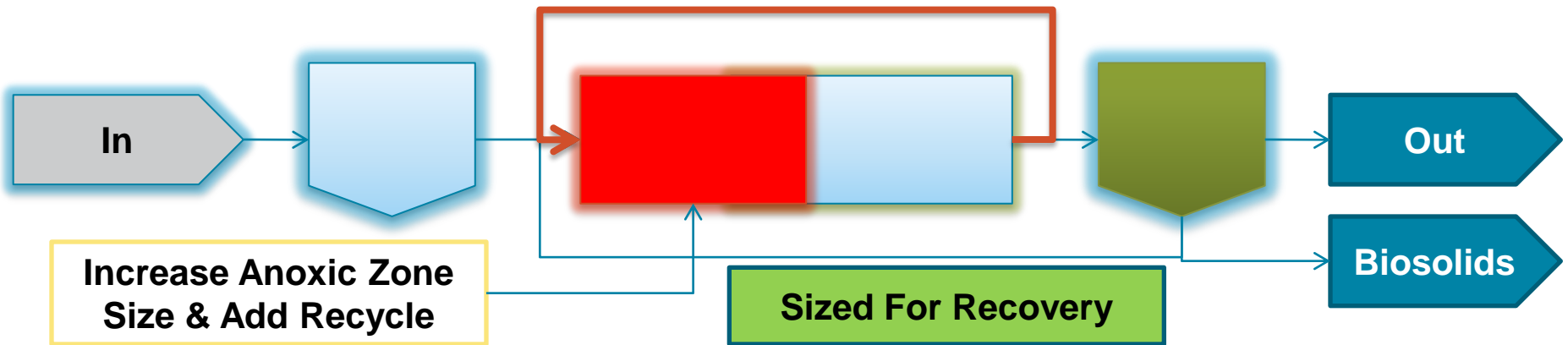


Element
Aeration Power
Anoxic Zone Mixing
Potential Nitrous Oxide Emissions

Impact (Power Consumption)
15 % Decrease
1 % Increase
% CO2 Footprint?

Here's an example : Applying Recovery View

Legislation Driver : Ammonia Standard For WwTW Discharge



Element	Impact	Delta
Aeration Power	36% Decrease	+ 21%
Anoxic Zone Mixing	2 % Increase	- 1 %
Potential Nitrous Oxide Emissions	% CO2 Footprint	?
Recycle Flow Power	1 % Increase	- 1%

Our Recovery Opportunities

Primary Chemical Dosing

Gasification

Influent Heat Mining

Algal Growth

Effluent Heat Mining

Hydrogen Production

Struvite Harvesting

Micro-bubbles

Bioactive Primary Tanks

Liquor Treatment

Real Time Control

Enhanced Disinfection

Thermal Hydrolysis

Going Forward

- Improve our understanding of the impact of resource recovery interactions.
- Apply this understanding over traditional evaluation processes.
- Become better informed to support the role of Wastewater Treatment (Resource Recovery) In Big Society.