You can’t understand sustainability until you understand The Food-Energy-Water Nexus.
I Started Thinking about Water in 2004 & 2005
“The world needs educating on this subject. The key statistic is, once again, that 75% of the world’s use of fresh water is in farming.”

Willem H. Buiter, Global Chief Economist, CitiGroup, Global Themes Strategy

Thirsty Cities — Urbanization to Drive Water Demand, July 20, 2011
"Food is ‘virtual water.’
One can obtain exposure to water through investments in agricultural commodities and/or producers of agricultural goods."
80% of American Lettuce comes from The Salinas Valley in California
Developing a common terminology
VERTICAL FARMING

Published in 1915

GILBERT ELLIS BAILEY, A.M., E.M., Ph.D.
PROF. OF GEOLOGY
UNIVERSITY OF SOUTHERN CALIFORNIA

THE DEEPER PLANT FOOD MIGHT JUST AS WELL BE IN EUROPE FOR ALL THE ATTENTION THAT IS USUALLY GIVEN IT
November 24, 2010 - May 4, 2011
20 Members

Mayor Daley
5 City Staff
U of I & IIT
Uncommon Ground
The Plant
City Micro Farms
WellSpring
SweetWater Organics
Aquaranch
Who is or wants to do this?

Are we going to defer to Milwaukee or Newark?
This is not Rocket Surgery

We build sophisticated buildings all the time
Why is it so much more productive?

Eliminate Time and Weather

Dis-intermediate the supply chain

Grow in a 3 Dimensional Envelope
The LED was invented at UIUC

Met Strategies identified LED technology as a significant growth sector in Jan 2012

The Chicago Region’s “Green” Economic Opportunities
An Examination of Chicago’s Cluster-Based Economic Growth Opportunities Arising from Changing Market Demand for Energy Efficient Products and Services

January 2012
(updated February 2012)

Prepared by
The jobs are in the components

“Plant factory grow lamp market forecast analysis indicates that the market in 2009 at $127 million dollars is anticipated to reach $3.8 billion worldwide by 2016.”
UrbanFEWZ Joint Venture Partner
What does CEA/Vertical Farming look like?
## Comparison to Major Asset Classes

<table>
<thead>
<tr>
<th>Asset/Index</th>
<th>Ave. Return</th>
<th>Standard Deviation</th>
<th>Standard Coefficient of Variation</th>
<th>Ave. Return</th>
<th>Standard Deviation</th>
<th>Standard Coefficient of Variation</th>
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<tbody>
<tr>
<td>Illinois</td>
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<tr>
<td>Farmland</td>
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<td>9.73%</td>
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<td>S&amp;P500</td>
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<td>2.817</td>
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<td>DowJones</td>
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<td>16.30%</td>
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<td>5.75%</td>
<td>19.28%</td>
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<td>CP3M</td>
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<td>0.514</td>
<td>4.15%</td>
<td>1.97%</td>
<td>0.474</td>
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<td>Baa</td>
<td>9.43%</td>
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<td>0.263</td>
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<td>Aaa</td>
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<td>6.85%</td>
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<td>M-REITS</td>
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<td>EAFE</td>
<td>6.93%</td>
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<td>25.24%</td>
<td>-20.01</td>
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<td>1.259</td>
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<td>4.01%</td>
<td>1.763</td>
</tr>
</tbody>
</table>

March 18, 2010 Presentation by Bruce J. Sherrick, University of Illinois, *The Performance of Farmland Investments*