

BIOGASDONERIGHT™

**FIRST REPORT AND RESULTS OF THE
INTERNATIONAL STUDY:**

THE U.S. EXPERIENCE & POTENTIAL

PRESENTED BY:

*PROFESSOR TOM RICHARD
PENN STATE UNIVERSITY, USA*

FEBRUARY 14, 2018

ROME, ITALY

Cellulosic biofuel production (2014-2016)

billion gallons, ethanol equivalent

0.20

US price for fossil natural gas: **\$11/MWh** (\$3/GJ)
US price for biomethane: **\$100 - \$200/MWh**
(based on RFS2 obligations & cellulosic RINs price)

0.16

0.12

0.08

0.04

0.00

2014

2015

2016

cellulosic ethanol

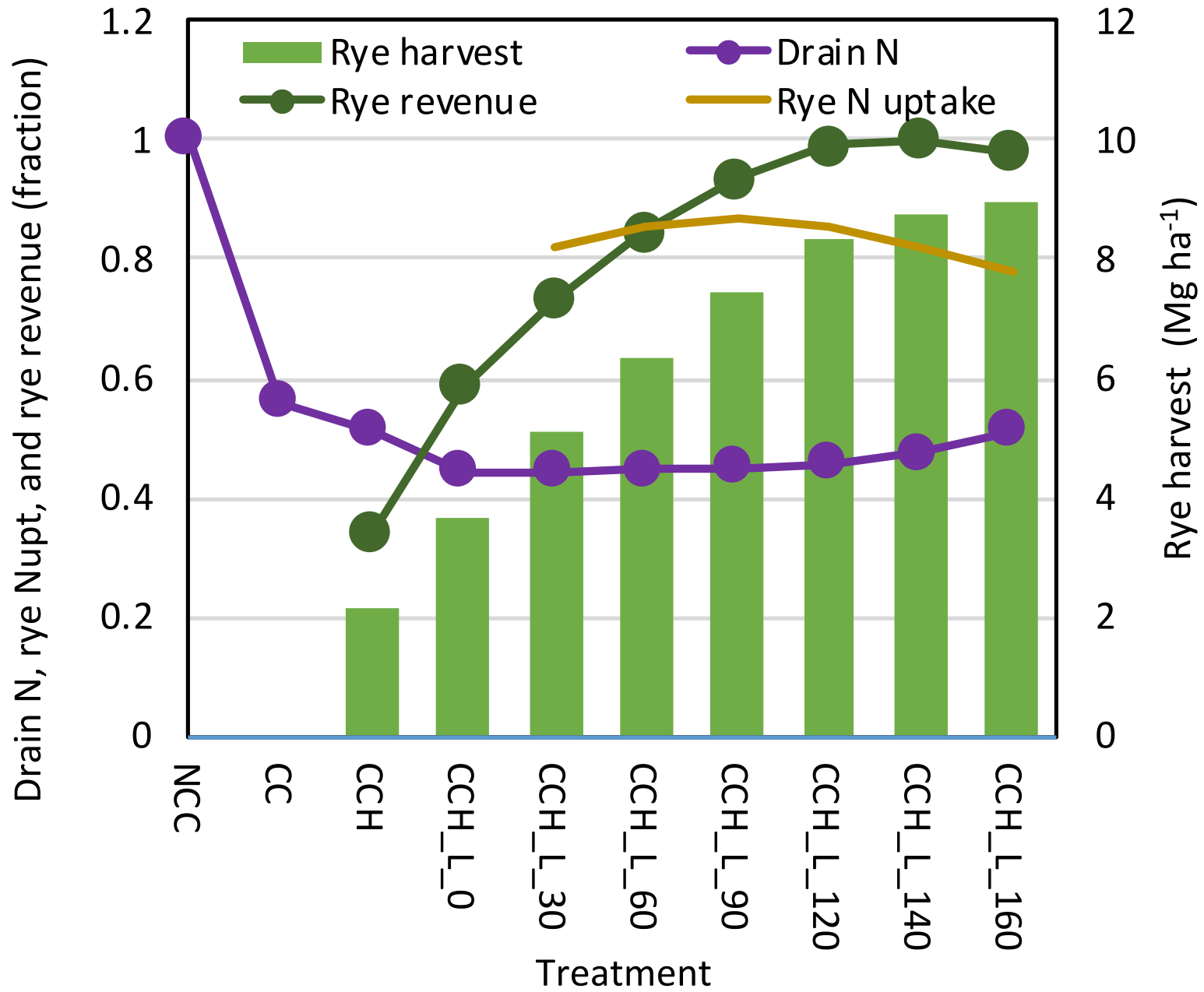
liquefied renewable natural gas

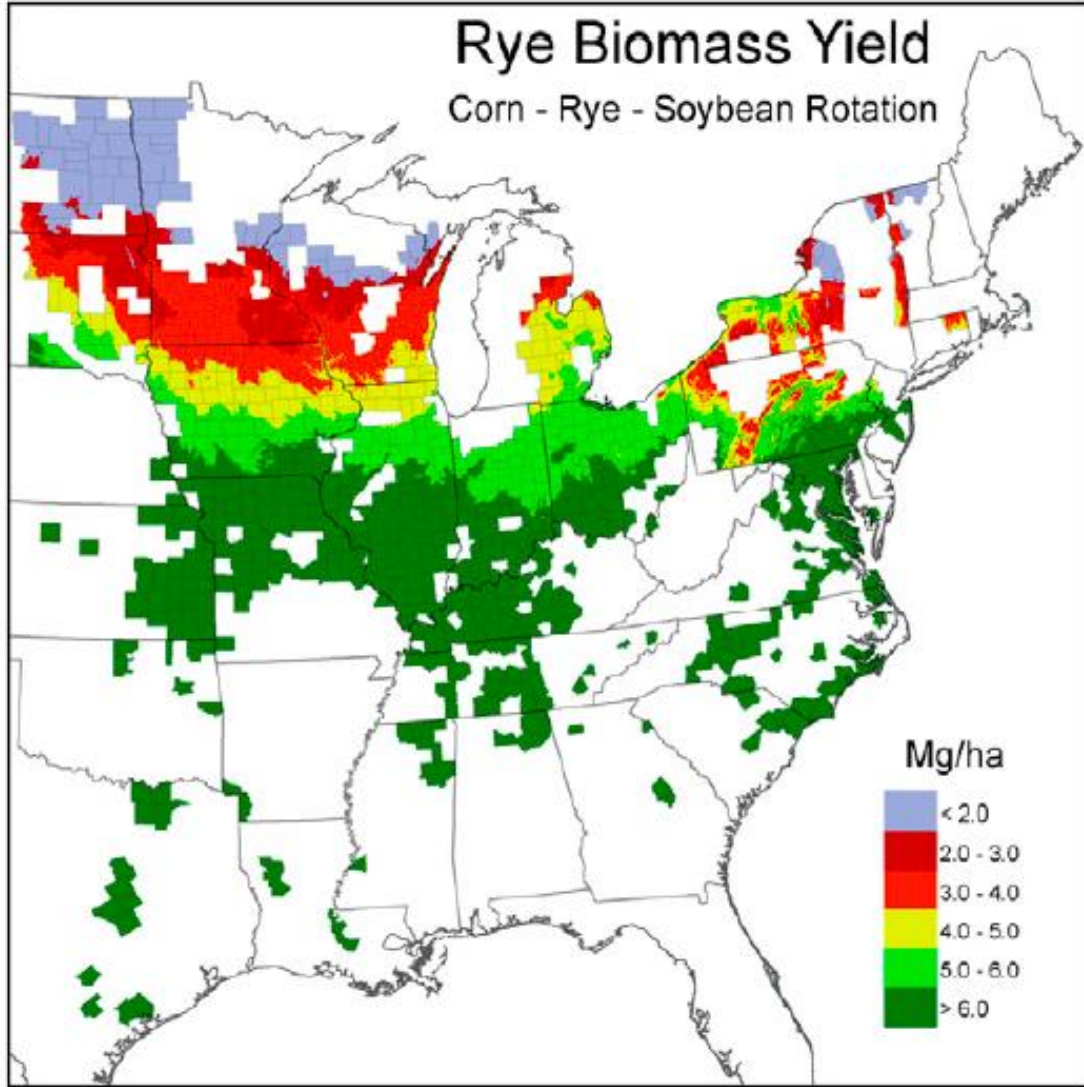
compressed renewable natural gas



Source: U.S. Energy Information Administration, based on [U.S. Environmental Protection Agency](#)







**Sequential Crops: 35 million ha (~1/3 of cropland);
>120 million Mg dry matter/year**

BiogasDoneRight™:

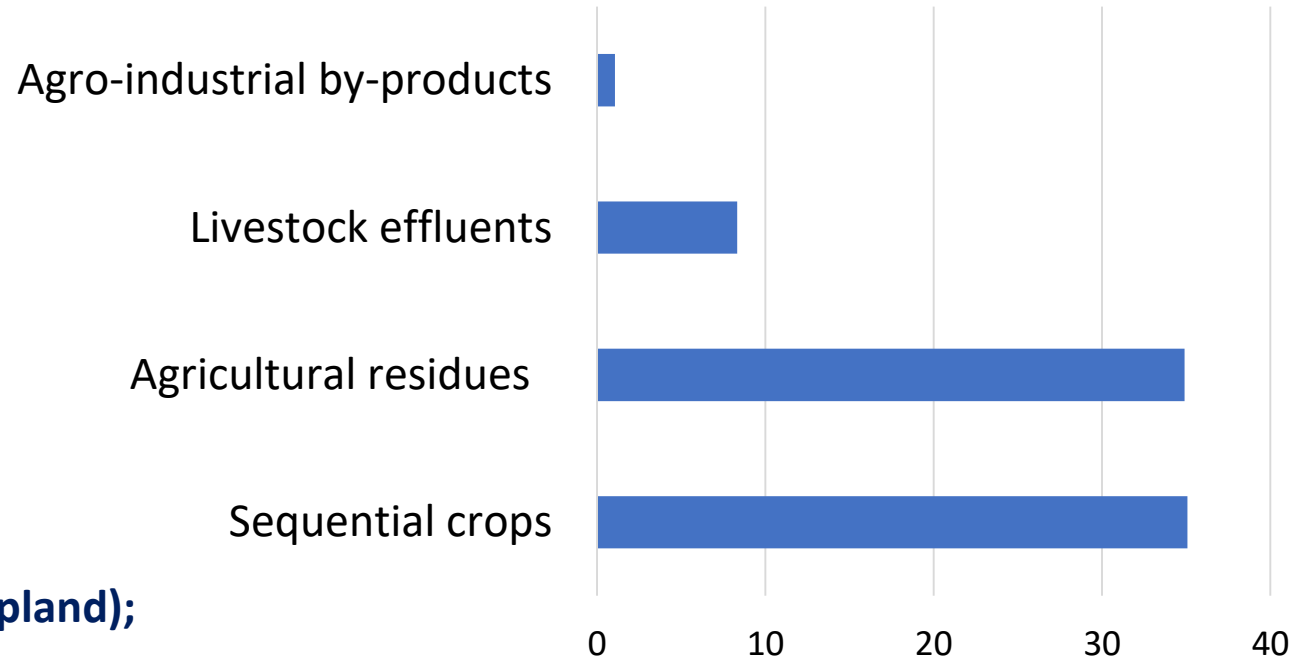
Potential for the United States

Current Fossil CH₄ (Natural Gas): **756 billion m³/year**

Bio-CH₄ (Natural Gas): **164 billion m³/year**

Fraction of current Natural Gas: **21.7%**

US – Bio-CH₄ from agriculture (billion m³)



THE INTERNATIONAL POTENTIAL OF BIOGASDONERIGHT™: *IS IT EXPORTABLE?*

BIOGASDONERIGHT™ IS POSSIBLE IN THE USA!

- United States *Dr. Tom Richard, Pennsylvania State University, USA*
 - ***Renewable Fuel Incentives*** are driving ***rapid growth***.
 - ***Sequential Cropping*** can provide ***water quality benefits***, beyond those of cover crops alone.
 - ***Biogas Potential in the US exceeds 20% of fossil natural gas***.