IOGEN CORPORATION

Cellulose Ethanol is ready to go

Biofuels for Transportation

Global Potential & Implications for Sustainable Agriculture, Energy, and Security in the 21st Century

June 7, 2006

Washington, D.C.

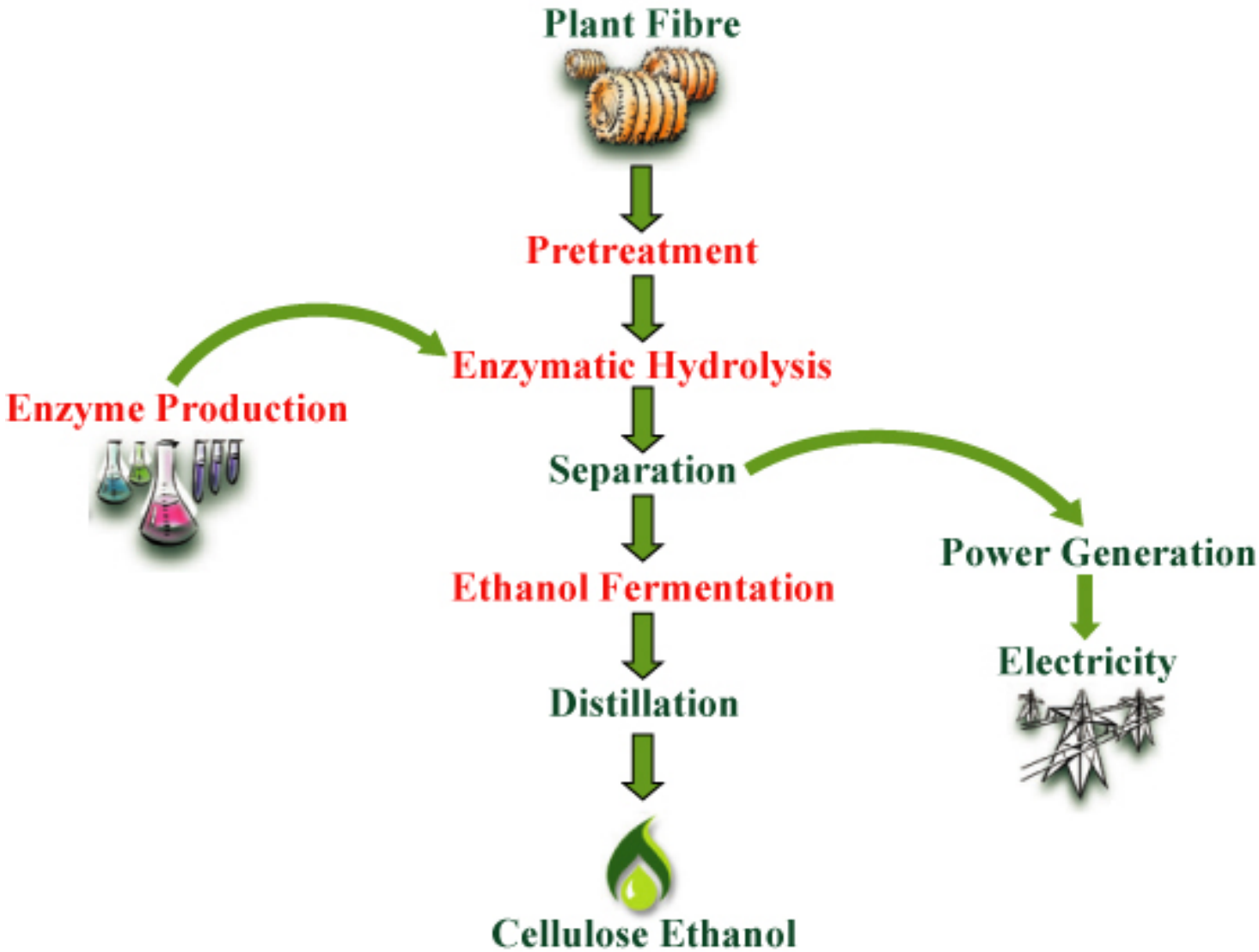
By Jeff Passmore, Executive Vice President
Iogen Corporation
Ottawa, Canada

Who is Iogen?

- Headquartered in Ottawa, Canada, Iogen Corporation is a leading industrial biotechnology company specializing in cellulose-based enzyme technology
- Iogen designed, owns and operates the world's first and largest cellulose ethanol demonstration facility making ethanol from biomass
- Active since late 1970s
- $190 million spent or committed to date
- 190 employees
- Partnerships

Iogen's cellulose ethanol demonstration facility

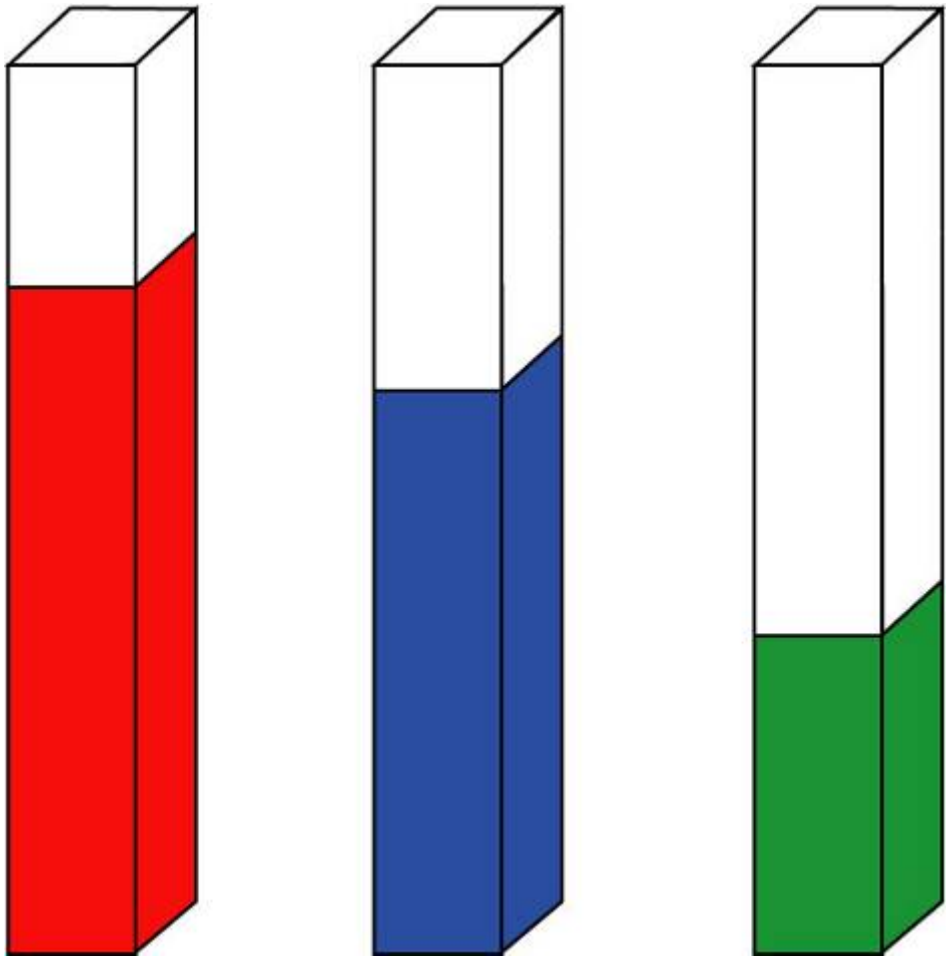
Iogen's cellulose ethanol process



Demonstration scale cellulose ethanol plant

Demonstration scale cellulose ethanol plant

Successful Commercialization of Emerging Technologies



Technology Financing Government

The road to commercialization:
Build stakeholder alliances
April 2004 - Cellulose ethanol launch

Demonstrating product use:
Vehicle trials Bonn, Germany - June 2004

Former Chancellor Schroeder visits Iogen display booth in Bonn

Luxury courtesy cars fuelled with cellulose ethanol

Demonstrating product use:
Cellulose ethanol fuels NRCan and AGCan Fleets Since Dec. 2004

Demonstrating cellulose ethanol use

9,000 mile road test of cellulose E85 GMC Yukon - Aug. 2004

Cellulose ethanol fuels G8 leaders' vehicles Gleneagles, Scotland - July 2005

Cellulose ethanol fuels flex fuel fleet at COP11, Montreal Nov. /Dec. 2005

Commercial plant rollout: Understand all site evaluation criteria

Assess commercial/country risk:

Feedstocks

- Type, availability, cost, ease of collection

Government Policy

- Tax situation, fuel mandates, financial incentives

Infrastructure Issues

- Water availability/cost, road network, rail, power and natural gas price

Investment Climate

- Tax rates, industrial development incentives, financing options

Ethanol & Co-Product Sales

- Off-take customers, refinery locations, market proximity

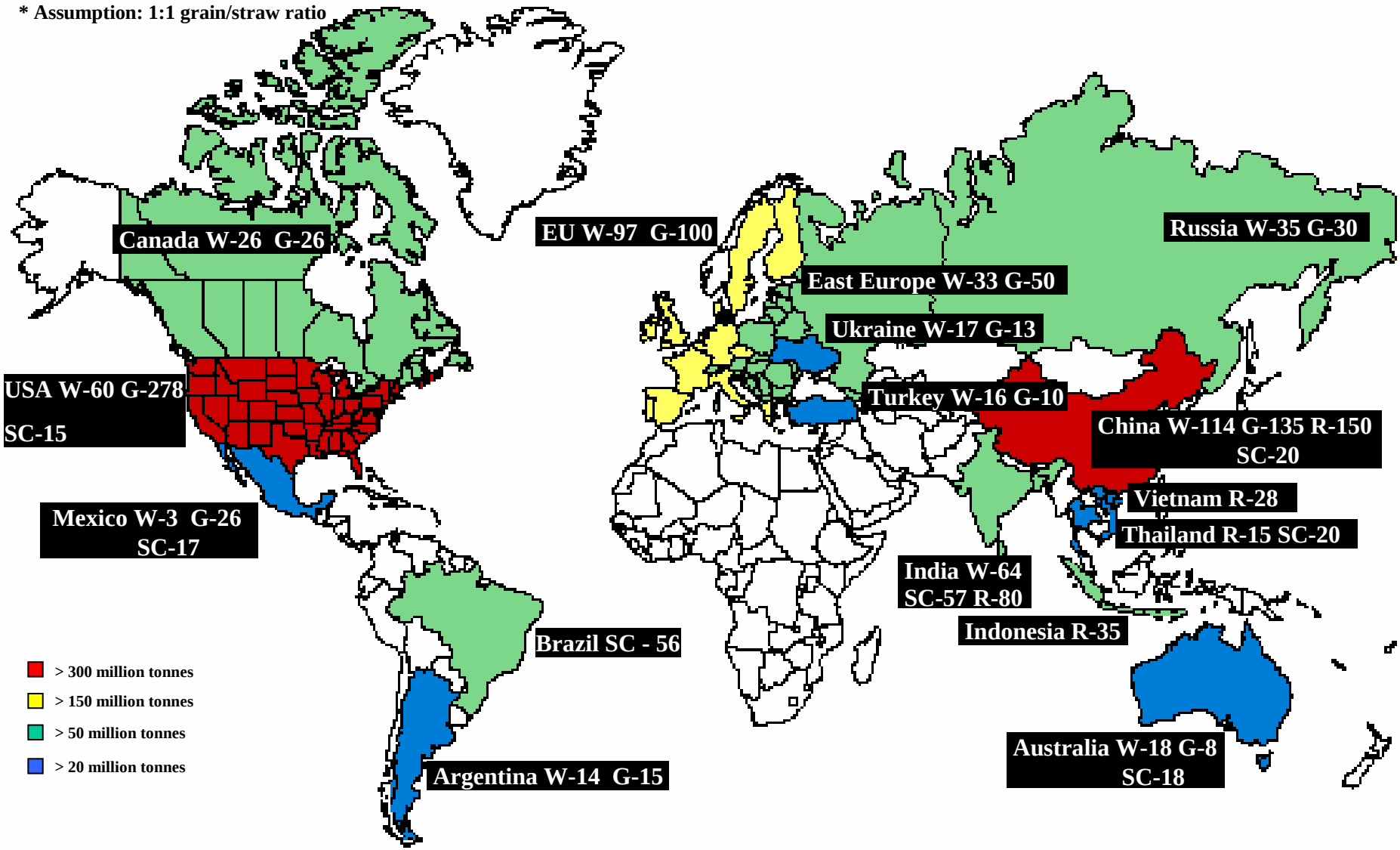
Iogen Cellulose Ethanol Plant

Preliminary Global Feedstock Availability Assessment

29 January 02

Total wheat, coarse grains (corn, barley, oats, rye, sorghum) and sugar cane bagasse production* highlights for 1996/1997 (metric tonnes) from USDA world agricultural supply estimates. Rice straw – country estimates.

*** Assumption: 1:1 grain/straw ratio**



Possible plant site locations: Germany

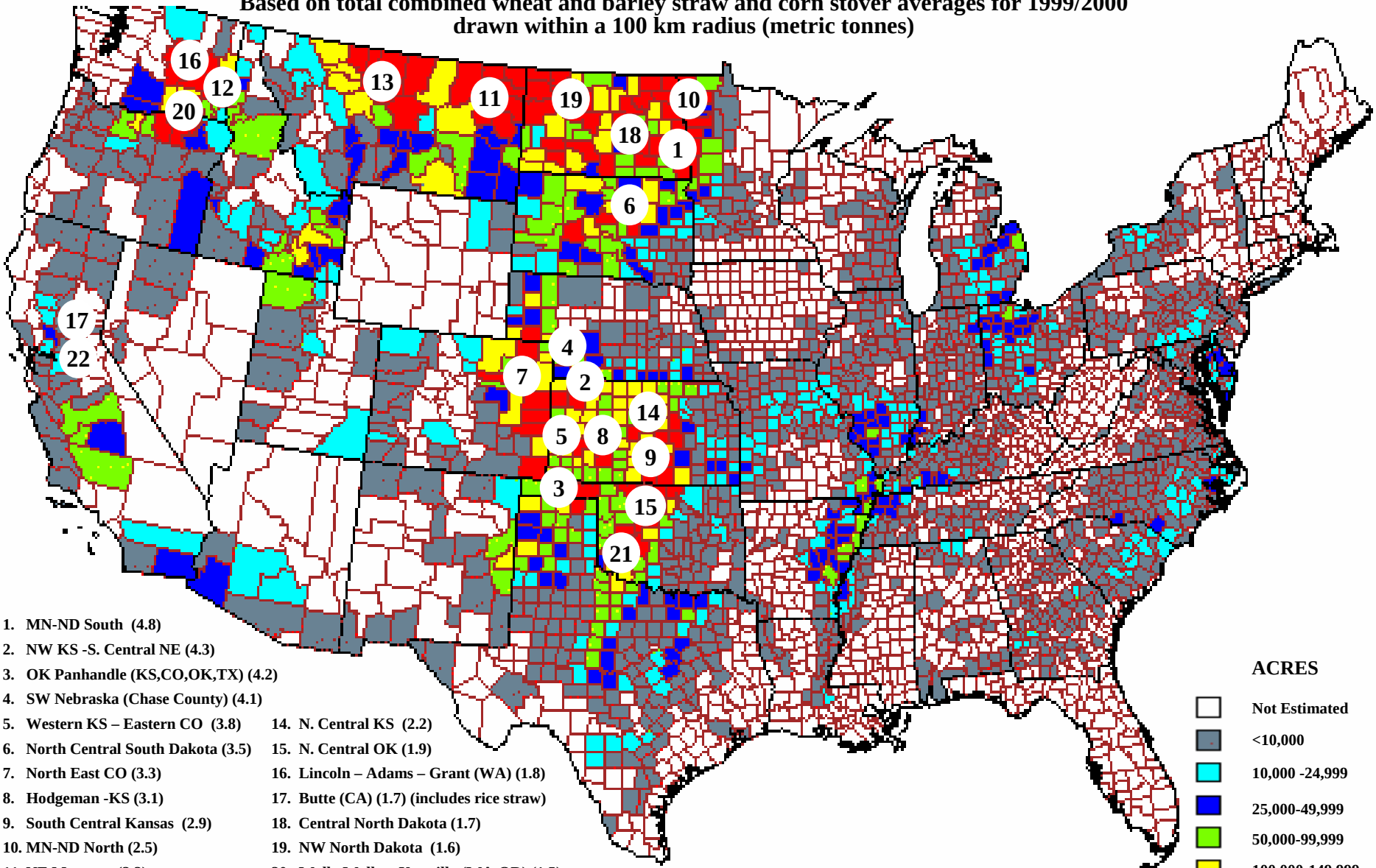
Legend

- Wheat Straw

Iogen Cellulose Ethanol Plant
Preliminary U.S. Feedstock Availability Assessment

29 January 02

Based on total combined wheat and barley straw and corn stover averages for 1999/2000 drawn within a 100 km radius (metric tonnes)



1. MN-ND South (4.8)
2. NW KS -S. Central NE (4.3)
3. OK Panhandle (KS,CO,OK,TX) (4.2)
4. SW Nebraska (Chase County) (4.1)
5. Western KS – Eastern CO (3.8)
6. North Central South Dakota (3.5)
7. North East CO (3.3)
8. Hodgeman -KS (3.1)
9. South Central Kansas (2.9)
10. MN-ND North (2.5)
11. NE Montana (2.2)
12. Whitman-Lata (WA-ID) (2.2)
13. North Central Montana (2.2)
14. N. Central KS (2.2)
15. N. Central OK (1.9)
16. Lincoln – Adams – Grant (WA) (1.8)
17. Butte (CA) (1.7) (includes rice straw)
18. Central North Dakota (1.7)
19. NW North Dakota (1.6)
20. Walla Walla – Umatilla (WA-OR) (1.5)
21. SW Oklahoma (1.2)
22. San Joaquin (CA) (.94) (includes rice straw)

ACRES

- Not Estimated
- <10,000
- 10,000 -24,999
- 25,000-49,999
- 50,000-99,999
- 100,000-149,999
- 150,000+

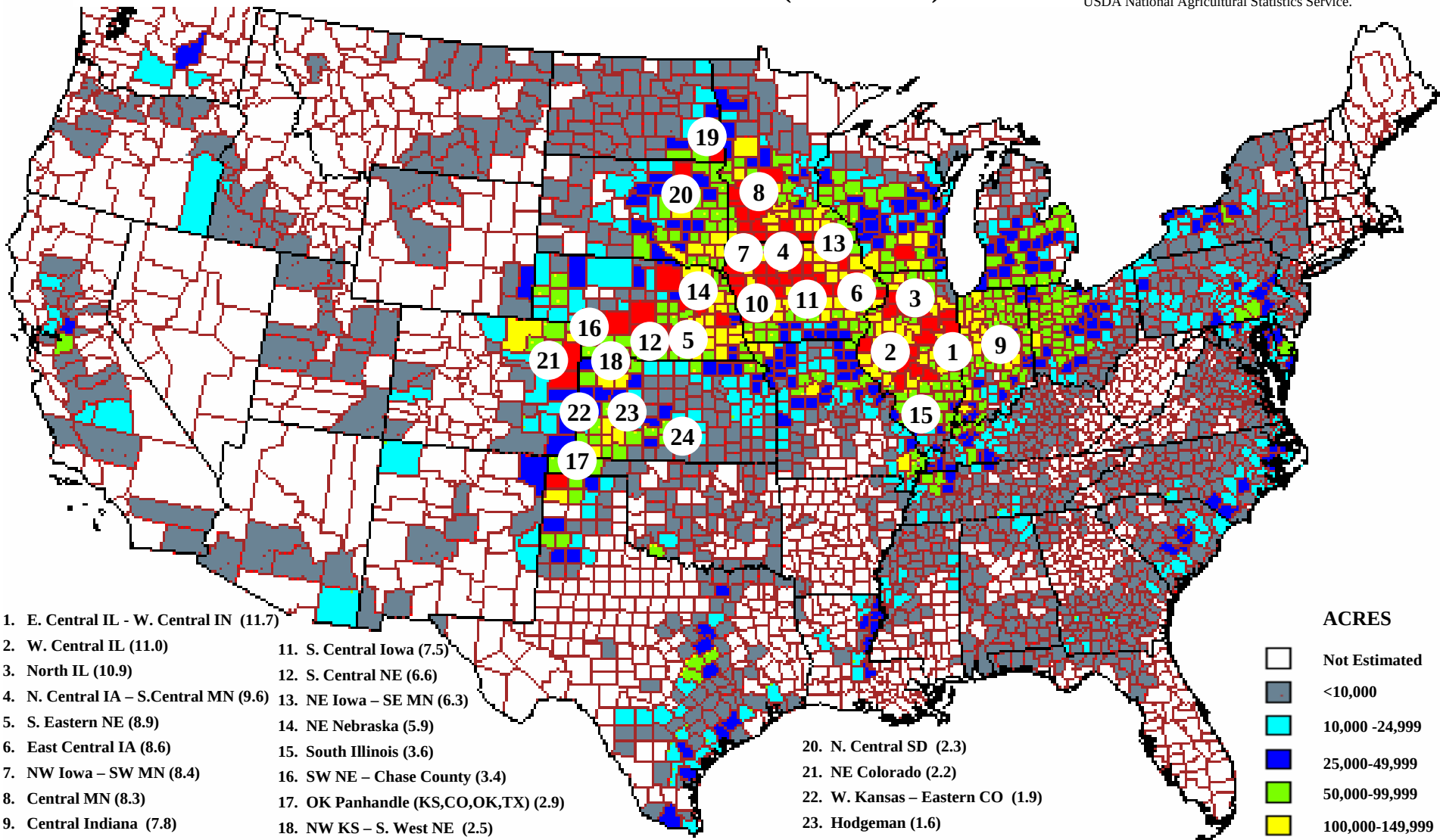
Reference: Superimposed on the USDA Map - All Wheat 1999 - Harvested Acres by County created by USDA National Agricultural Statistics Service.

29 January 02

Iogen Cellulose Ethanol Plant
Preliminary U.S. Feedstock Availability Assessment

Based on total corn stover averages for 1999/2000 drawn within a 100 km radius (metric tonnes)

Reference: Superimposed on the USDA Map - All Corn for Grain 1999 - Harvested Acres by County created by USDA National Agricultural Statistics Service.



1. E. Central IL - W. Central IN (11.7)
2. W. Central IL (11.0)
3. North IL (10.9)
4. N. Central IA – S.Central MN (9.6)
5. S. Eastern NE (8.9)
6. East Central IA (8.6)
7. NW Iowa – SW MN (8.4)
8. Central MN (8.3)
9. Central Indiana (7.8)
10. West Central Iowa (7.7)
11. S. Central Iowa (7.5)
12. S. Central NE (6.6)
13. NE Iowa – SE MN (6.3)
14. NE Nebraska (5.9)
15. South Illinois (3.6)
16. SW NE – Chase County (3.4)
17. OK Panhandle (KS,CO,OK,TX) (2.9)
18. NW KS – S. West NE (2.5)
19. MN-ND South (2.5)
20. N. Central SD (2.3)
21. NE Colorado (2.2)
22. W. Kansas – Eastern CO (1.9)
23. Hodgeman (1.6)
24. S. Central KS (.84)

ACRES

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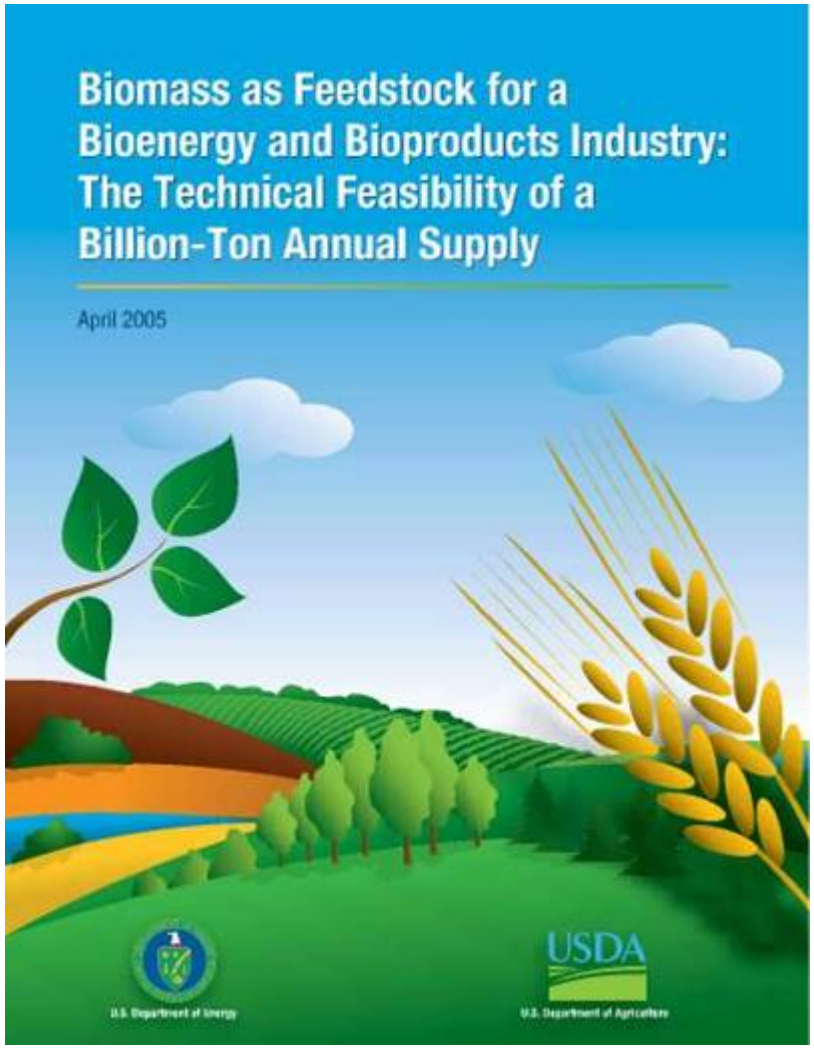
DOE & USDA: Cellulose ethanol could displace over 30% of U.S. present petroleum consumption



"The purpose of this report is to determine whether the land resources of the United States are capable of producing a sustainable supply of biomass sufficient to displace 30% of the country's present petroleum consumption (*i.e. 60 billion gallons per year*) … 1 billion dry tons of biomass feedstock per year.

The short answer to the question … is yes."

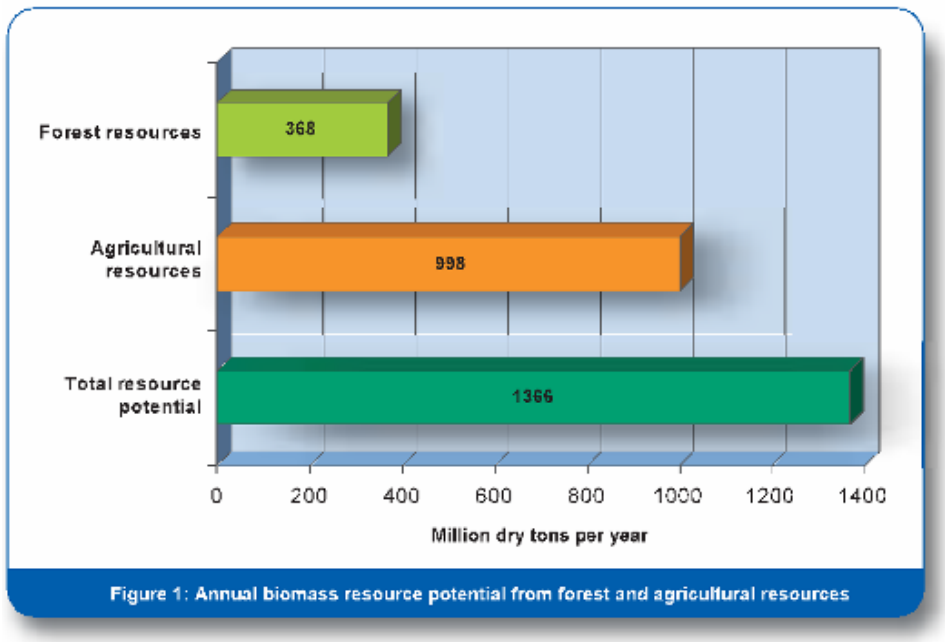


Figure 1: Annual biomass resource potential from forest and agricultural resources

Straw site modeling using Agriculture Canada GIS data

Why does first plant commercialization need government risk sharing?

Commercialization of New Technology:

The project goes beyond a lender's normal 'project finance' lending risk.

"Because the project involves substantial new technology that is unproven at this scale, normal project financing is not available to it without a third party guarantee."

- Philip Evershed, Managing Director Investment Banking, CIBC World Markets, March 2004

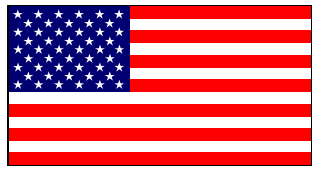
"It is highly unlikely that a financial institution(s) would provide an unsecured loan larger than the amount required in a line of credit to operate the plant…. There is low likelihood that a late-stage venture capital company or a syndicate could provide the financing…. No venture capital company could be found that invests in this technology at this stage."

- Consulting and Audit Canada, July, 2004

"The project should not involve new technology. The reliability of the process and the equipment to be used must be well established, If a new technology is involved, more than a lending risk will be involved, unless the project borrowings are guaranteed by a strong credit such as a government agency…. Projects to produce … energy from garbage, gasohol from feed grains or similar promising but untried processes cannot be financed as a project financing in the absence of a guarantee."

- Project Financing Sixth Edition, Nevitt & Fabozzi, Euromoney Publications, 1995

Cellulose ethanol commercialization: Site selection is about the best business case



- The Energy Policy Act of 2005
  - Includes U.S. gov't $250 million loan guarantee on each of the first four qualifying cellulose ethanol plants
- 2006 Presidential State of the Union Address
  - "America is addicted to oil… Producing ethanol from wood chips, stalks or switchgrass to replace oil imports from the Middle East"
- Energy Secretary Bodman Feb/'06 testimony
  - The loan guarantee program is "a very high priority"

Assure the government it is making a prudent decision

In order to minimize risk to the Government, risk sharing would be conditional upon the Government being satisfied that:

1. Iogen's Front End Engineering Development (FEED) has been completed and the expected Project Costs are acceptable;
2. The efficacy of Iogen's ethanol from cellulose technology has been adequately validated through operation of Iogen's demonstration plant;
3. The agreements in place for construction of the Project are acceptable;
4. The agreements in place for off-take of ethanol from the project are acceptable;
5. The agreements in place for procurement of straw feedstock for the project are acceptable;
6. Iogen and Iogen's Partners have the financial capacity to fund the equity portion of the Project;
7. The Project will generate sufficient cash flow to meet its proposed level of debt service with an acceptable safety margin;
8. The terms of the Project Loan are acceptable.

The commercialization decision

The business case involves:

- Ease of implementation in a given country
- Project return on investment