

Biofuels Issues in the 111th Congress

Biomass 2009: Fueling Our Future

Brent Yacobucci

Specialist in Energy and Environmental Policy
Congressional Research Service

About CRS

- Nonpartisan, analytical, research and reference arm of the Library of Congress
- Work directly for Members, Committees, and Staff on a confidential basis
- Goals of confidentiality, responsiveness, timeliness, and objectivity
- That having been said...
 - The opinions presented are not those of the United States Congress or of the Congressional Research Service

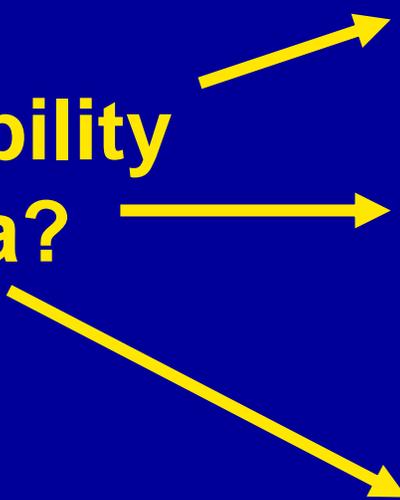
Key Actions in the 109th and 110th Congress

- Energy Policy Act of 2005
 - Established the Renewable Fuel Standard (RFS)
- Energy Independence and Security Act of 2007
 - Significantly expanded the RFS
 - Created carve-outs for advanced biofuels, cellulosic fuels, biomass-based diesel
 - Established greenhouse gas (GHG) lifecycle performance requirements for biofuels
- 2008 Farm Bill
 - Established tax credit for cellulosic fuels
 - Production incentive for cellulosic feedstocks

Key Biofuels Policy Areas for the 111th Congress

- “Blend Wall”
- Biofuels tax incentives
- Potential low-carbon fuel standard (LCFS)
- Cap-and-trade program for greenhouse gases

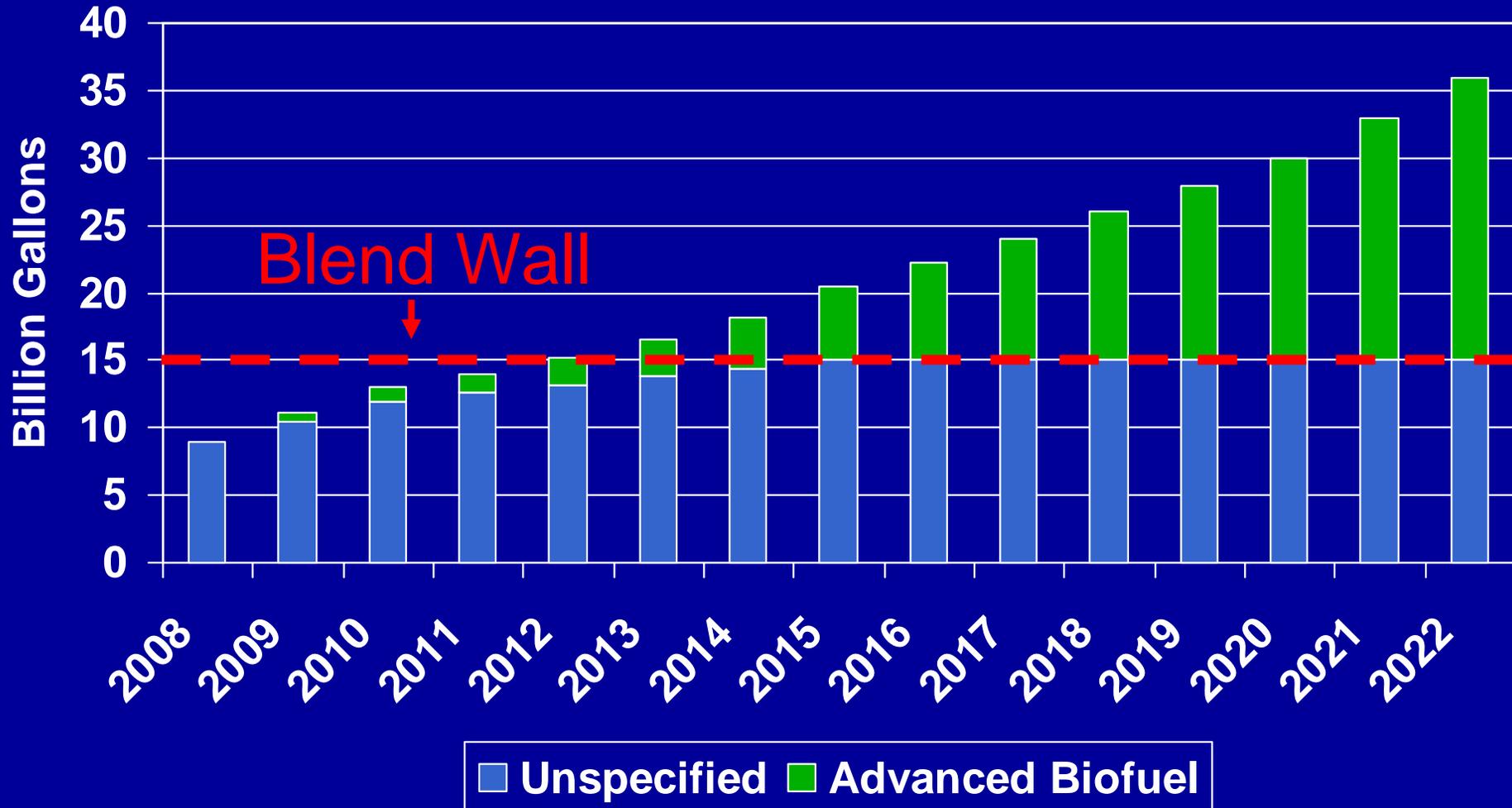
**Sustainability
Criteria?**



“Blend Wall”

- Ethanol in gasoline currently limited to 10% by volume
 - Clean Air Act limitations
 - Motor vehicle, pump manufacturer warranties
- E10 blend wall equivalent to roughly 15 billion gallons
 - Runs counter to biofuels policies promoting more and more ethanol
- To enable more biofuels, U.S. will need
 - Increased E85 capacity and flex fuel vehicles;
 - Revised blend wall to E20 or greater; and/or
 - Use of non-ethanol biofuels

Renewable Fuel Standard vs. the “Blend Wall”



Growth Energy Petition to EPA

- March 6: Growth Energy (on behalf of 52 ethanol producers) applies to EPA to raise gasoline ethanol limit to 15%
- Would extend Blend Wall to roughly 22 billion gallons
 - The Blend Wall would NOT be eliminated!
- EPA has 270 days to respond
 - December 1

Key Tax Incentives Set to Expire



- Credits are likely to be extended, but legislative vehicle is uncertain
- What stipulations could be attached to extension?
 - **Sustainability Criteria?**

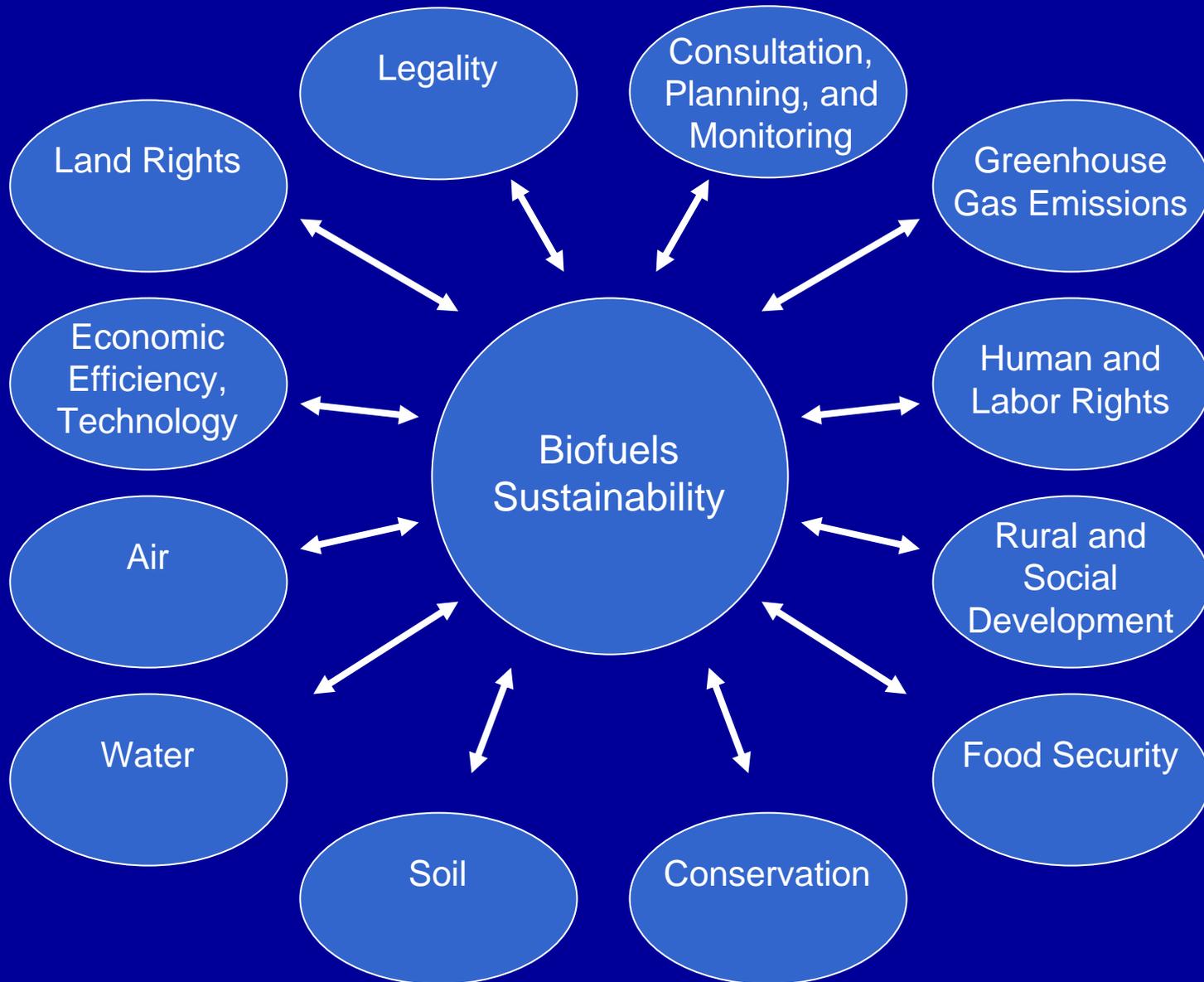
What is Sustainability?

- Brundtland Commission (World Commission on Environment and Development
 - the ability to meet “the needs of the present without compromising the ability of future generations to meet their own needs.”
- Three main components
 - economic, environmental, social

What is Sustainability?



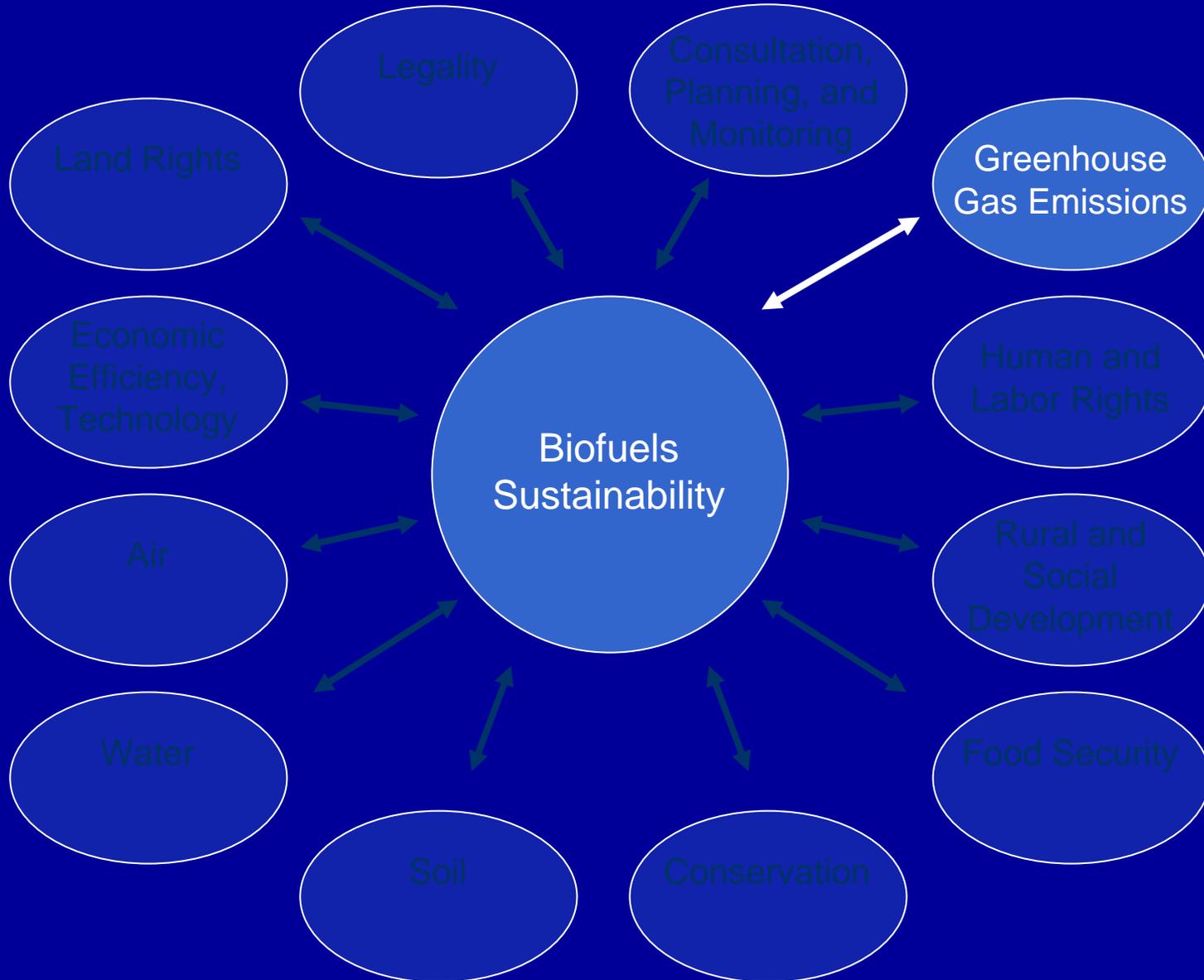
Roundtable On Sustainable Biofuels Draft Criteria



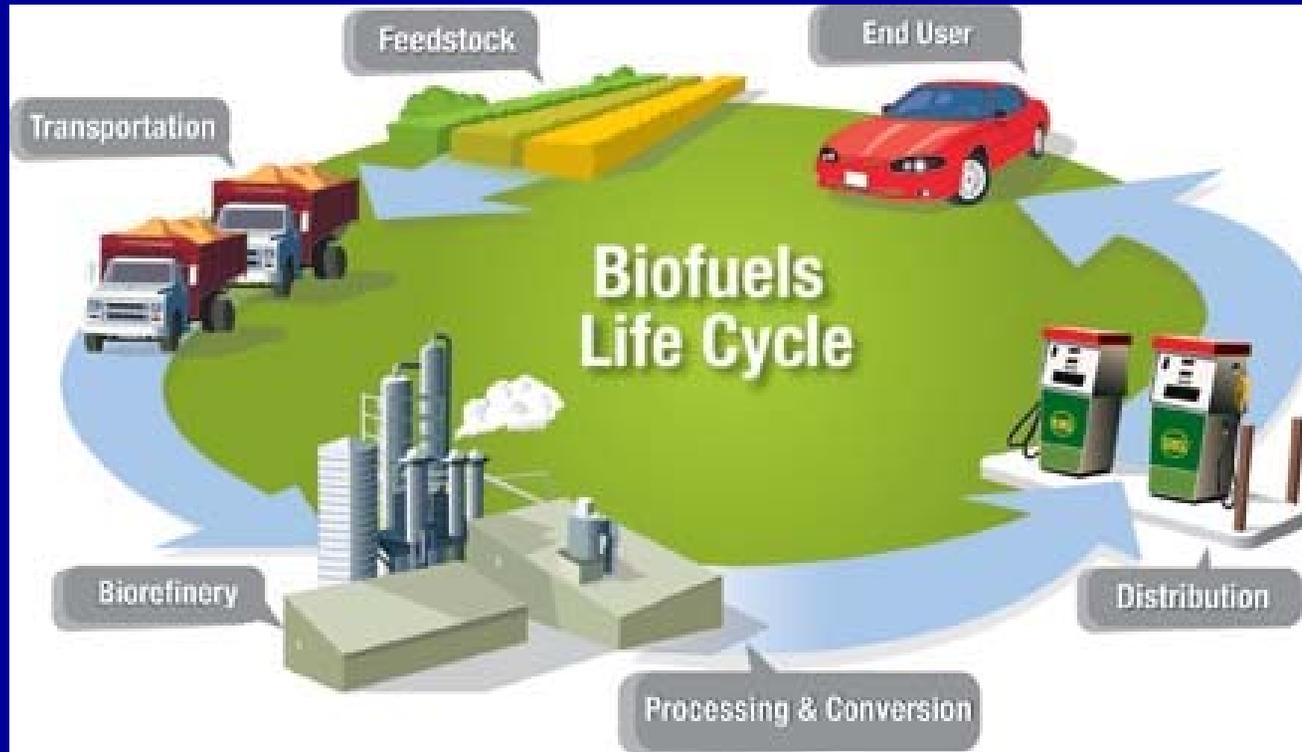
Growing Concerns About Sustainability of Biofuels

- Before 2007 Energy Bill, no sustainability criteria for federal biofuels incentives
 - Tax credits, RFS mandates, etc.
- Expanded RFS in 2007 Energy Bill is the first major federal policy that requires improved performance on greenhouse gases
 - Other sustainability criteria still not addressed

Renewable Fuel Standard Criteria Through 2022

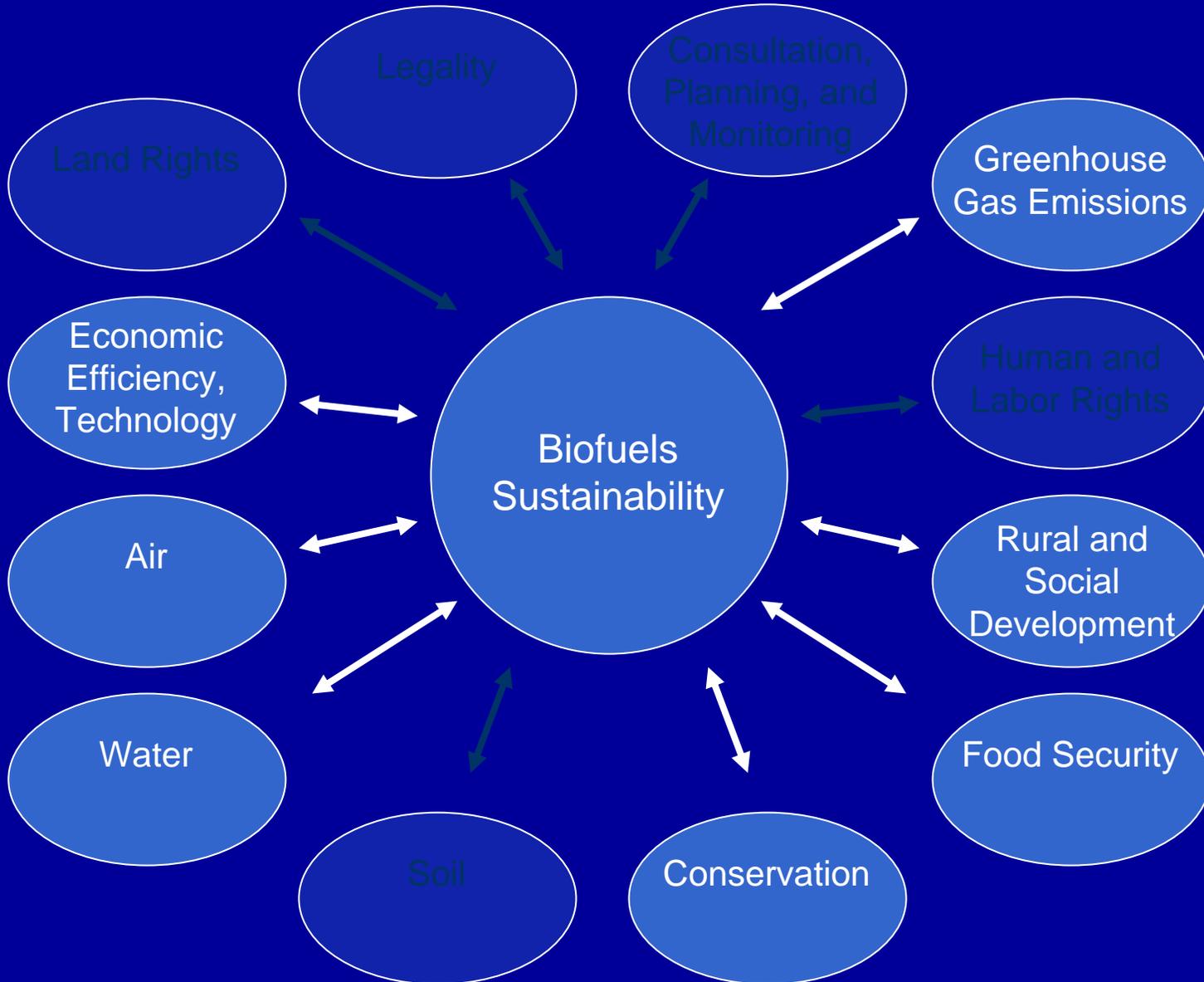


Biofuels Lifecycle



- Also includes direct and indirect land-use changes
 - Source: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy

Renewable Fuel Standard Criteria After 2022



Low-Carbon Fuel Standard

- Pursuant to Gov. Schwarzenegger's Executive Order and A.B. 32, California is working to establish a low-carbon fuel standard (LCFS)
 - 10% reduction in fuel carbon content by 2020 from baseline
 - i.e., in addition to current biofuel use
- There is interest in similar legislation at the federal level
 - Various proposals in the 110th Congress, including as part of the Lieberman-Warner climate bill

Determinations on Lifecycle Emissions Will Directly Affect Supply/Demand of Low-Carbon Fuel

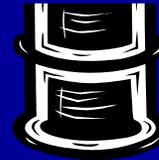
- Transport fuel consumption in 2025
 - Roughly 200 billion gallons per year
- 10% greenhouse gas reduction equivalent to displacing carbon in roughly 20 billion gallons of gasoline
- But most biofuels (esp. ethanol) have lower energy content than petroleum fuels

Low Carbon Fuel Standard (LCFS)

- Assuming a 90% lifecycle reduction from cellulosic ethanol, U.S. would need ~ 35 billion gallons by 2025
- Assuming only a 50% reduction, U.S. would need ~ 60 billion gallons



=



Equivalent energy: 1 gallon ethanol (corn or cellulosic) ~ 2/3 gallon gasoline



=



CO₂ Reduction: 1 gallon ethanol with 20% reduction ~ 1/8 gallon gasoline



=



CO₂ Reduction: 1 gallon ethanol with 90% reduction ~ 1/2 gallon gasoline

Cap-and-Trade Legislation

- Preferred approach of Obama Administration, key Members of Congress
- General approach of most 110th Congress proposals
 - But carbon tax may be gaining traction
- Could be a key opportunity for biofuels
 - But potential pitfalls (e.g., lifecycle assessment, competition for acreage) could limit biofuels' role

Thank You

byacobucci@crs.loc.gov