

THE FEDERAL RENEWABLE FUEL STANDARD ("RFS") PROGRAM: OPERATIONAL HIGHLIGHTS AND OUTLOOK

Andrew T. Braff
Attorney

October 10, 2007

2007 Biofuels Workshop and Trade Show Series – WESTERN Region



OVERVIEW

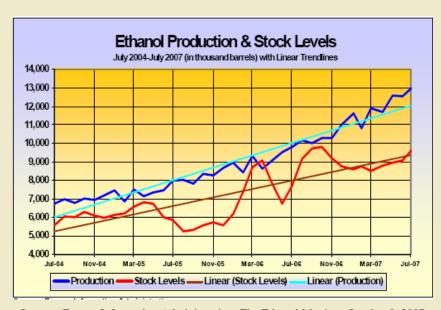
- Introduction to the RFS Program
- Who Must Meet the Renewable Fuel Standard and How?
- What Counts as Renewable Fuel?
- RINs The Currency of Compliance
- Registration, Recordkeeping and Reporting Requirements
- Why You Shouldn't Be Sleeping Now Enforcement and Penalty Provisions
- A Few Issues to Consider
- The Future (Maybe)
- Conclusions and Recommendations

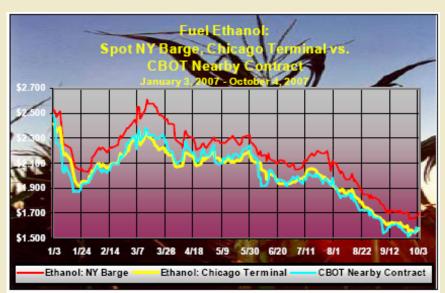


INTRODUCTION TO THE RFS PROGRAM

Introduction – Policy Drivers

- Spurs the development of the renewable fuels industry by creating a guaranteed market for investor certainty.
 - So successful that now there's an ethanol glut! \$0.80 per gallon drop since March, 2007.
 - Production facility construction so rapid that distribution infrastructure constrained.





Source: Energy Information Administration; The Ethanol Monitor, October 8, 2007

Source: The Ethanol Monitor, October 8, 2007

Introduction – Policy Drivers (Continued)

- Supports farmers and rural communities by expanding markets for agricultural commodities (Expected increases in net farm incomes of between \$2.6 and \$5.4 billion).
- Enhances energy security by decreasing dependence on foreign sources of petroleum and diversifying the energy portfolio (only really works if renewable fuel is produced domestically). Estimated to displace 3.9 billion gallons of petroleum by 2012.
- Reduces certain pollutants (CO ↓ 0.9%-2.5%; CO₂ ↓ 4-6% Benzene ↓ 1.8-4.0%+; BUT VOCs ↑ 4-5%; NOx ↑ 7%).
- Hedge against reduction in demand due to repeal of the oxygen content mandate in the Reformulated Gasoline Program created by the 1992 Clean Air Act Amendments.
- Encourages fleet conversion to Flex-Fueled Vehicles and utilization of FFV's full potential.
- Encourages technology development.



Introduction – Authority and Rulemaking

Authority

- § 1501 of Energy Policy Act 2005 (42 U.S.C. § 211(o))
- Required the EPA to "promulgate regulations to ensure that *gasoline* sold or introduced into commerce in the United States (contiguous 48 states), on an annual average basis, contains the applicable volume of *renewable fuel*."

EPA's Rulemaking [40 C.F.R. Part 80]

- Dec. 30, 2005 Direct Final Rule (2006 Requirement). No individual requirements. Industry collectively complied.
- ♦ Sept. 22, 2006 NOPR
- ♦ Nov. 12, 2006 Comments were due
- May 1, 2007 Final Rule Promulgated (72 Fed. Reg. 23,900)
- **♦ *SEPTEMBER 1, 2007 PROGRAM EFFECTIVE**

Annual Aggregate Volumes of Renewable Fuel Required Under by EPAct, § 1501		
Calendar Year	Billion gallons	
2006	4.0	
2007	4.7	
2008	5.4	
2009	6.1	
2010	6.8	
2011	7.4	
2012	7.5	

2013 and Beyond: Maintain 7.5 bgpy but a cellulosic requirement kicks in.

Current Capacity: 6.883 bgpy

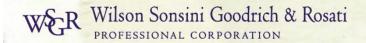
Under Construction: 6.772 bgpy

•Source: Renewable Fuels Association (September 28, 2007) (http://www.ethanolrfa.org/industry/locations/

Introduction – EPA Implementation + 1.3 Months

- The Good
 - Virtually 100% of all producers of renewable fuel registered*
 - EPA produced materials to assist producers but did not have to use them*
 - ☼ Relatively seamless transition on the producer side*
 - The rulemaking process was well orchestrated, meetings held both before the NOPR and after issuance of the Final Rule, and EPA has attempted to devise a process that will minimize the impact on or disruption of current business practices.
- The Bad
 - \$\text{\text{The "middlemen" (marketers, distributors, terminal operators) caught off-guard.}
 - \$\square\$ Some producers of renewable fuel are having to educate their customers.
 - Producers still contemplating the most efficient manner to comply. Technology gap and potential for mistakes.
- The Ugly
 - Potential liability for those that are slow on the uptake.
 - \$\bar{\text{Sues that EPA chose not to clarify. Uncertainty = risk.}}

^{*} Summary of Bob Dinneen's comments. RFA Annual Board Meeting, Wardman Park Hotel, Washington, D.C. October 3, 2007.

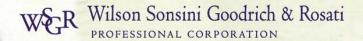


Introduction – What is the RFS?

- RFS is expressed as a percentage published in Federal Register by November 30 of each year by EPA
- Percentage is based on the EIA's estimate of the total volume of <u>non-renewable</u> gasoline that will be sold or introduced into commerce in the contiguous 48 states in the upcoming year and is calculated by EPA using a formula in 40 C.F.R. § 80.1105(d).
- EIA's estimate is adjusted to account for certain exemptions and opt-ins.
 - Exclude non-renewable gasoline volumes produced by small refineries and small refiners (13.5% adjustment)
 - Accounts for non-renewable gasoline volumes from other states and territories that choose to opt-in
- Percentage represents the portion of the EIA's upcoming year's gasoline estimate that must be renewable fuel in order to meet the required annual volumetric levels.
- The RFS % is used by obligated parties to determine their renewable volume obligation ("RVO") for the year.
- RFS For 2007: 4.02%



WHO MUST MEET THE RENEWABLE FUEL STANDARD AND HOW?



Who Must Meet the RFS and How – "Obligated Parties"

- **Obligated Parties** must show that the applicable volume of renewable fuel is used in gasoline within the 48 contiguous states.
 - ♦ Refiners of gasoline

 - ☼ Blenders that produce finished gasoline from combining blendstocks or adding blendstocks to unfinished gasoline (NOT a party that simply adds renewable fuel to gasoline)
- Gasoline [40 C.F.R. § 80.1107(c)]
 - Sasoline is specifically defined in 40 C.F.R. § 80.1107(c) to include reformulated gasoline, conventional gasoline, RBOB, CBOB, GTAB, etc.
 - Exclusions from *gasoline* include renewable fuel, gasoline produced by an obligated party for use in a non-contiguous state, gasoline produced by a small refinery/refiner, and blendstocks that haven't been blended to create finished gasoline.



Who Must Meet the RFS and How - "RVO"

- Satisfying Renewable Volume Obligation ("RVO")
 - An RVO serves to allocate responsibility among obligated parties for ensuring that the applicable volume of renewable fuel is blended into gasoline.
 - Seach obligated party must demonstrate that it has satisfied it's RVO for each compliance period [40 C.F.R. § 80.1106(c)]
 - If an obligated party fails to meet their RVO in any given compliance period, the deficit can be carried forward to the subsequent compliance period without resulting in liability; however, it is added to their RVO for the subsequent year. Can't carry a deficit two years in a row.
 - An obligated party satisfies its RVO by acquiring sufficient Renewable Identification Numbers ("RINs") [40 C.F.R. § 80.1127(a)]
- Calculating an Obligated Party's Renewable Volume Obligation ("RVO")
 - ♦ For 2007, obligated parties multiply the RFS percentage by the volume of non-renewable gasoline produced or imported prospectively from September 2007.
 - The same procedure is used for future compliance years (January 1-December 31).
 - ♥ RVO = (RFS% x Non-Renewable Gasoline Volume Produced/Imported) + Deficit from Previous Year [40 C.F.R. § 80.1107(a)]
 - Exceptions for otherwise obligated parties in certain regions (HI, AK, Territories), Small Refineries (<75,000 bpd in 2004) and Small Refiners (<1500 employees and with a corporate average crude oil capacity < 155,000 bpd).



Who Must Meet the RFS and How – Note on Exporters

- Exporters transferring renewable fuel out of the lower 48 are not obligated parties, but they have an RVO.
 - Like obligated parties, exporters must acquire sufficient Renewable Identification Numbers to offset the volume of renewable fuel (adjusted by its Equivalence Value) exported and remove these credits from circulation.



Who Must Meet the RFS and How – Regulated Parties

- 4 GENERAL GROUPS REGULATED UNDER RFS PROGRAM
 - ♦ Obligated Parties

 - ♦ Producers and Importers of Renewable Fuel
 - Any party who owns or intends to own RINs
- Regulated parties have various obligations:
 - Registration
 - Recordkeeping
 - Reporting
 - ♥ RIN generation
 - Nassignment
 - ♦ Obligations incident to RIN ownership and transfer
 - ♦ RIN separation

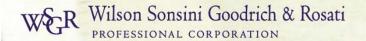


WHAT COUNTS AS RENEWABLE FUEL?



"Renewable Fuel" - Defined

- Feedstock Requirement + Motor Vehicle Fuel Requirement
 - Feedstock Requirement: Grain; starch; oilseeds; vegetable, animal, or fish materials (fats, greases, and oils); sugarcane; sugar beets; sugar components; tobacco; potatoes; other biomass; natural gas produced from a biogas (gas produced from decaying organic material)
 - Motor Vehicle Fuel Requirement: In order to be *renewable fuel* the fuel must be a *motor vehicle* fuel that is used to replace or reduce the quantity of fossil fuel present in a fuel mixture "used to fuel a motor vehicle" and is produced from the feedstocks listed above.
 - Motor Vehicle: The term motor vehicle is defined as "any self-propelled vehicle designed for transporting persons or property on a street or highway."
 - * Issue: What about marine vessels, trains and aircraft?
 - ❖ Boilers and Heaters: Fuel used in boilers or heaters does not qualify as a motor vehicle fuel.



"Renewable Fuel" - Defined (Cont.)

Specific Fuels that Qualify

- ♦ Cellulosic Biomass Ethanol
 - ❖ Lignocellulosic or hemicellulosic matter available on a renewable or recurring basis. Included are energy crops (e.g. poplar grown for that purpose), grasses, wood residues, agriculture residues, animal waste and other waste materials, and MSW
 - Ethanol produced at facilities where "animal wastes or other waste materials are digested or otherwise used onsite (e.g., direct combustion) to displace 90 percent or more of the fossil fuel combusted to produce thermal energy" integral to producing such ethanol. Waste heat piped over-the-fence also counts.
- Waste Derived Ethanol Ethanol produced from animal wastes, other wastes, or MSW
- ➡ Biodiesel: (i) registered under 40 C.F.R. part 79; (ii) meets ASTM D-675107; (iii) a mono-alkyl ester; (iv) intended for use in engines designed to run on
 conventional diesel fuel; and (v) derived from non-petroleum renewable
 resources
- ♦ Non-Ester Renewable Diesel
- ♥ Blending components derived from renewable fuel



"Renewable Fuel" - Not all are Equal

Equivalence Values

- Indicates how many gallons for compliance purposes can be claimed for every physical gallon of renewable fuel.
- Set by EV of 1.0 means that every physical gallon of that renewable fuel counts as 1.0 gallon for compliance purposes.
- Based on energy content of the fuel as compared against ethanol made from corn
- Encourages the production and use of some renewable fuels over others

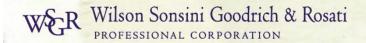
Authority

- EPAct specifies that each gallon of CBE and WDE are to be treated as 2.5 gallons of renewable fuel
- EPAct authorizes EPA to establish an "appropriate amount of credits" for biodiesel

Established Equivalence Values (Per Gallon)		
Ethanol (Denatured)	1.0	
Renewable Crude-Based Fuels	1.0	
Biogas (77,550 Btu = 1 gallon)	1.0	
Butanol	1.3	
Biodiesel (Mono-alkyl ester)	1.5	
Non-Ester Renewable Diesel	1.7	
Cellulosic Biomass Ethanol	2.5	
Waste-Derived Ethanol	2.5	



RENEWABLE IDENTIFICATION NUMBERS ("RINs"): THE CURRENCY OF COMPLIANCE



RINs and Compliance – Credit Trading Program Requirement

- EPAct required EPA to develop a credit trading program so that obligated parties can satisfy their obligations either through its own actions or through the purchase of credits from those who have over-complied.
- Provides flexibility to obligated parties to comply in a cost-effective manner.
- Allows renewable fuels that are <u>not</u> blended into gasoline to participate (e.g., biodiesel, non-ester renewable diesel, biogas).
- Renewable Identification Numbers ("RINs") serve as direct evidence of compliance and ultimately credits for overcompliance with the RFS Program.
- Allows the EPA to track renewable fuel volumes from production/importation to blending in gasoline (or diesel).
- Regulations governing the transfer and use of RINs to facilitate compliance by obligated parties.



RINs and Compliance – What is a RIN?

K YYYY CCCC FFFFF BBBBB RR D SSSSSSS EEEEEEEE

K =	Either 1 or 2. "1" means the RIN is and remains assigned to a volume of renewable fuel. K must be changed to a "2" by the party who validly separates the RIN from the volume.
Y =	Calendar year the batch of renewable fuel was produced or imported
C =	Registration number assigned to a producer or importer of renewable fuel
F=	Registration number assigned to a facility where a renewable fuel is produced/ imported
B =	Number assigned to a batch of renewable fuel by producer/importer at their discretion. A "batch" cannot exceed 99,999,999 gallons (accounting for equivalence value; higher than 1.0 EV renewable fuel batches can't be this big) or represent renewable fuel produced/imported in excess of 1 month. The same number cannot be used more than once in a calendar year.
R =	Number representing the Equivalence Value of the renewable fuel multiplied by 10
D=	Either "1" or "2". "1" means the renewable fuel meets the definition of "cellulosic biomass ethanol. "2" means the renewable fuel is <u>not</u> cellulosic biomass ethanol.
S =	For a "Batch RIN," this number is 00000001. For "Gallon RINs", it is a unique number representing one credit (not necessarily a physical gallon due to equivalence values)
E =	For a "Batch RIN," this number represents the last gallon in a batch. For "Gallon RINs," this number is the same as the number used for "SSSSSSS".



RINs and Compliance – Generation and Assignment

RIN Generation

- Producers and Importers of renewable fuel (including importers of gasoline containing renewable fuel) who produce 10,000 gpy or more <u>must generate</u>

 <u>RINs</u> for *every* batch of renewable fuel that is valid for compliance purposes.
- \$\psi\$ #RINs/Batch = Volume of the Batch (60 °F) x Equivalence Value

RIN Assignment

- The RINs generated by producers/importers **must be** <u>assigned</u> to every batch of renewable fuel that is valid for compliance purposes.
- RINs must be assigned when ownership of a volume of renewable fuel is transferred through the distribution system
- Solution Ownership of the RIN must be transferred along with the volume of renewable fuel transferred.
- "K" Code = "1"
- Exceptions: (1) Producer/Importer received an equivalent volume from a 3rd party without RINs; (2) A party who produces/imports CBE or WDE has the option to only assign 1.0 RIN for each physical gallon of CBE or WDE transferred.
- "K" Code = "2" for the 1.5 RIN/gallon remaining unassigned.

 Producer/Importer may sell the un-assigned RINs separately.



RINs and Compliance – RIN Distribution and Transfer Rules: Product Transfer Documents

- Requirement: Any transfer of ownership of assigned RINs must be documented on a PTD.
- **PTD Defined**: Any documentation or used to identify title. **NOTE**: Bills of lading often only transfer custody, so a separate document may be required.
- **2 Options**. RINs must be documented either on the PTD used to transfer ownership of the renewable fuel <u>OR</u> a separate PTD transferred to the same party on the same day (must include a spreadsheet of all gallon-RINs transferred).
- If No RINs Transferred: If no RINs are being transferred (e.g., no RINs were received by current transferee, transferee had a right to separate, etc.), then PTD must state "No RINs Transferred"
- Other Requirements: See 40 C.F.R. 80.1153 for other requirements.



RINs and Compliance – RIN Distribution and Transfer Rules: RIN Fungibility and Monthly Calculation

- Rules apply to the "Middlemen" (e.g., Marketers and Distributors)
- Rule for Transfer of Assigned RINs: Any party that is not authorized to separate
 assigned RINs from a volume of renewable fuel cannot transfer ownership of that
 RIN without simultaneously transferring an equivalent volume of fuel represented by
 the RIN.
- Rules for Transferring RINs with Renewable Fuel
 - ♦ Old Transfer Rule: Under NOPR, RINs assigned to a specific batch had to stay with the batch. Increased complexity when it came to batch mergers and splits.
 - New Rule Monthly Calculation: A party may transfer a volume of renewable fuel without assigned RINs or with a different number of assigned RINs than were received with the volume, as long as the number of assigned gallon-RINs held by the party at the end of the quarter is no higher than the number of gallons it owns at the end of the quarter.
 - Solution Prevent Last-Day Deluge: In order to prevent short-term hoarding, the maximum number of assigned gallon-RINs that can be transferred with a volume is 2.5 RINs per gallon.



RINs and Compliance – RIN Separation

- Purpose of RIN Separation: Allows the RIN to be used for compliance purposes, banked for compliance in the following year, or traded/sold to any party.
- **Obligated Parties**: Obligated parties <u>must</u> separate RINs if they own that volume.
- Exporters: Exporters <u>must</u> separate upon export of the associated volume.
- **Producers/Importers (Limited):** Producers/Importers <u>may</u> separate RINs if it designates it as "motor vehicle fuel" and it is in fact used as such. Tracking required.
 - Allows RINs associated with "neat" fuels to be used for compliance.
 - Producers/Importers of CBE and WDE can separate a portion of the 2.5 RINs it assigned up to 1.5 RINs
- Blenders: Blenders of renewable fuel <u>must</u> separate assigned RINs upon blending with gasoline or diesel to produce a motor vehicle fuel.
 - <u>Biodiesel Limitation</u>: RINs assigned to Biodiesel (NOTE: Not Renewable Diesel) can only be separated by a producer, importer or blender if the Biodiesel has been blended into diesel fuel *at a concentration of B80 or less*.
 - Exception to Limitation Designation and Use as Motor Vehicle Fuel: The 80% Rule does not prevent producers/importers from separating RINs if the fuel is designated as "motor vehicle fuel" and it is used as such. Tracking required.



RINs and Compliance – RIN Separation

Other Rules Governing RIN Separation

- ♦ Party separating RIN must change the "K" Code from "1" to "2"
- ♦ Can't appear on transfer documentation.
- ♥ PTDs would state "No RIN Transferred"

Boilers and Heaters

- An otherwise "Renewable Fuel" loses its definition as such if it is used in a boiler or heater.
- ♥ RINs become invalid
- ♦ Obligated parties using the once "renewable fuel" in boilers or heaters <u>must retire</u> any associated RINs that it had separated upon ownership. (**Note that the regulations say nothing about downstream users)
- The RINs have become "invalid" because the RINs do not represent "renewable fuel" as it has been defined.
- **♦** Seems to restrict this rule to use by obligated parties.
- Would use of the fuel in this manner by a downstream consumer would serve to render the RINs invalid? If so, this is problematic.
- Section = Proof of consumption as a motor vehicle fuel.



RINs and Compliance – Using RINs for Compliance

- RINs may be used by obligated parties for satisfying their RVO in the year they were generated or in the subsequent calendar year
- LIMIT: 20% of an obligated party's RVO.
- An obligated party may carry over a deficit to the subsequent compliance period
- Compliance Periods

 - \$\infty\$ For 2008 and subsequent years, the compliance period is the calendar year.



REGISTRATION, RECORDKEEPING AND REPORTING REQUIREMENTS



Registration Requirements

- Who Must Register
 - ♦ Obligated Parties and Exporters [40 C.F.R. § 80.1150(a)]
 - ♦ Importers and Producers of renewable fuel [40 C.F.R. § 80.1150(b)]
 - Any party who owns or intends to own RINs [40 C.F.R. § 80.1150(c)] (e.g., marketers, blenders, terminal operators, jobbers, brokers, etc.)
- Registration and receipt of company and facility IDs must occur prior to engaging in any activities regarding RINs
- Entities already registered under other programs (e.g., RFG Program, Anti-Dumping Program, etc.) need not re-register.
- No need to re-register, as the registrations never expire. Must notify EPA of any changes.
- Register at: http://www.epa.gov/otag/regs/fuels/fuelsregistration.htm



Recordkeeping Requirements

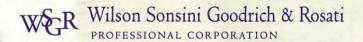
- Records that Must be Kept Obligated Parties and Exporters
 - Product Transfer Documents
 - Copies of all reports submitted to EPA
 - Records related to each RIN transaction (including a list of RINs owned, purchased, sold, retired or expired; the parties involved; and date of the transfer)
 - Records relating to the use of RINs for compliance (by facility) (including method used to calculate RVO and a list of RINs to demonstrate compliance).

Records that Must be Kept – Producers and Importers

- Product Transfer Documents
- Copies of all reports submitted to EPA
- Records related to the generation and assignment of RINs for each facility (including batch volumes and numbers, RIN numbers assigned, bathes qualifying as CBE, date of production/import, and lab tests)
- Records related to each RIN transaction (see above)
- Records relating to the production/importation of any volume of renewable fuel that is designated as "motor vehicle fuel" and the use of such fuel as motor vehicle fuel (to prove right of producer/importer to separate RINs).

Special Rules for CBE and WDE Producers

- Records relating to the amount of (1) waste-derived fuel used to produce on-site thermal energy and/or (2) fossil fuel associated with the use of off-site waste heat in order to prove displacement of 90% of the fossil fuel required to produce ethanol.
- Amount/type of feedstocks used in producing CBE
- Plot plan and process flow diagram for plants producing CBE and WDE
- Records relating to the independent 3rd party verification required under § 80.1155 for CBE and WDE producers to ensure the facility can and is producing such fuel.



Recordkeeping Requirements

- Records that Must be Kept Other Parties Owning RINs
 - Product Transfer Documents
 - ♦ Copies of all reports submitted to the EPA
 - ♦ Records related to each RIN transaction.
- All records must be kept for a period of 5 years from the date of creation, except records relating to RIN transactions must be kept for 5 years from the date of the transaction.
- Records must be produced upon request.



REPORTING REQUIREMENTS (Table from 72 Fed. Reg. 23,947) (Consult 40 C.F.R. 80.1152 for additional requirements!!)

	(Table from 72 Fed. Reg. 23,947) (Consult 40 C.F.R. 80.1152 for additional requirements!!)			
Report	Obligated Parties	Exporters of RF	Prod./Importers of RF	Others Owning RINS
Annual Compliance Demo. Report	Calculation of RVO List of RINs used for compliance Calculation of deficit carryover	Calculation of RVO List of RINs used for compliance Calculation of deficit carryover	No Report	No Report
Quarterly RIN Generation Report	No Report	No Report	Volume of each batch produced or imported RINs generated for each batch Volume of denaturant and applicable EV of each batch	No Report
RIN Transaction Report	Separate Report for each transaction: •RIN purchase •RIN sale •Expired RIN •Retired RIN	Separate Report for each transaction: •RIN purchase •RIN sale •Expired RIN •Retired RIN	Separate Report for each transaction: •RIN purchase •RIN sale •Expired RIN •Retired RIN	Separate Report for each transaction: •RIN purchase •RIN sale •Expired RIN •Retired RIN
Quarterly Gallon-RIN Activity Report	•# gallon-RINs owned at start of quarter •# gallon-RINs purchased •# gallon-RINs sold •# gallon-RINs retired •# gallon-RINs expired (4 th quarter only) •# gallon-RINs at end of quarter •Volume (gallons) of RF owned at end of quarter	 # gallon-RINs owned at start of quarter # gallon-RINs purchased # gallon-RINs sold # gallon-RINs retired # gallon-RINs expired (4th quarter only) # gallon-RINs at end of quarter Volume (gallons) of RF owned at end of quarter 	•# gallon-RINs owned at start of quarter •# gallon-RINs purchased •# gallon-RINs sold •# gallon-RINs retired •# gallon-RINs expired (4th quarter only) •# gallon-RINs at the end of quarter •Volume (gallons) of RF owned at end of quarter	•# gallon-RINs owned at start of quarter •# gallon-RINs purchased •# gallon-RINs sold •# gallon-RINs retired •# gallon-RINs expired (4th quarter only) •# gallon-RINs at end of quarter •Volume (gallons) of RF owned at end of quarter



Reporting Requirements (Cont.)

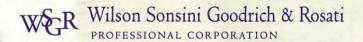
- Quarterly Reports
 - RIN Generation Report for (Producers and Importers of renewable fuel)
 - Gallon-RIN Activity Report for <u>all</u> regulated parties

- Annual Compliance Demonstration Reports
 - ♦ Obligated Parties and Exporters
 - Report covering September –
 December, 2007, compliance
 period due February 28, 2008
 BUT a list of RINs used for
 compliance is due May 31, 2008
 - Report covering 2008 compliance period and subsequent years due on February 28 of the year covering the compliance year.

Quarterly Reporting Schedule (2007)		
Quarter Covered by Report	Due Date for Report	
September 2007	November 30, 2007	
October-December	February 28	

Quarterly Reporting Schedule (2008 and Beyond)		
Quarter Covered by Report	Due Date for Report	
January – March	May 31	
April-June	August 31	
June-September	November 30	
October-December	February 28	

80 C.F.R. § 80.1152(d) (Quarterly); 80 C.F.R. § 80.1152(a)(1); (a)(x) (Annual)



Reporting Requirements (Cont.)

- Reports are to be submitted on forms and following procedures prescribed by the EPA
 - See Guidance Documents, Report Instructions and Report Templates at http://www.epa.gov/otaq/regs/fuels/rfsforms.htm
 - Still "Pending" documents
- All reports must be signed and certified as meeting all the applicable requirements set forth in 40 C.F.R. 80.1152 by the owner of the RINs or the responsible corporate officer ("RCO") of the RIN owner.
- Submit Reports via EPA's Central Data Exchange ("CDX")
 - Encrypted
 - Accepts virtually all commercial spreadsheet programs and comma delimited text
 - ♦ Mark information as "Confidential and Proprietary". This will ensure treatment of such information as "Confidential Business Information" under 40 C.F.R. Part 2.
 - Owner/RCO or delegates (up to 5) must register for CDX (separate from the Company/Facility registration). Also requires a digital signature agreement.
 - More Information: http://www.epa.gov/otaq/regs/fuels/cdxinfo.htm



Reporting Requirements (Cont.)

Spilled Renewable Fuel

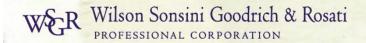
- Owner of renewable fuel with assigned RINs must retire gallon RINs = to volume spilled x EV.
- ♦ Must include as "retired RINs" on the party's quarterly report to EPA.

Attest Engagements

- Audit of the documentation forming aspects of all 4 reports (Annual Compliance Demonstration Report; Quarterly RIN Generation Report; RIN Transaction Report; Quarterly Gallon-RIN Activity Report)
- All regulated parties must engage a third party CPA or certified internal auditor to perform the Attest Engagement
- ♥ Due Date
 - ♦ For 2007: May 31, 2009 (not a typo! The report for 2007 may be submitted with the 2008 report)
 - \$\infty\$ For 2008: May 31, 2009
 - \$\infty\$ For 2009: May 31, 2010
 - ♦ You get the idea...

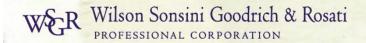


WHY YOU SHOULDN'T BE SLEEPING NOW: ENFORCEMENT AND PENALTY PROVISIONS



Prohibited Acts

- Renewable Fuel Producers/Importers No person shall produce a renewable fuel without assigning RIN Value / RIN #
- Generation/Transfer Violations
 - \$\text{Improper generation of a RIN (e.g., generating a RIN for a volume not produced)}
 - Creating or transferring an invalid RIN (e.g., duplicate, not standardized to 60°, expired, incorrect EV, doesn't represent "renewable fuel", etc")
 - Transferring a RIN not properly identified with its 38-digit code
 - Transferring an assigned RIN without also transferring an appropriate volume of renewable fuel
- RIN Use Violations
 - ♦ Fail to acquire sufficient RINs/use invalid RINs to meet RVO (obligated parties/exporters
 - Use RIN for compliance, or separate and transfer a validly generated RIN where the obligated party uses the renewable fuel volume in a heater/boiler.
- Retention Violation Party retains more assigned gallon-RINs in a month than renewable fuel volumes transferred.
- Causing a Violation Party causes another person to commit a prohibited act.



Who is Liable for Violations?

- Those committing Prohibited Acts
- Those violating any other provision of Subpart K
 - Registration, Recordkeeping and Reporting Requirements
 - ♦ Those who fail to follow the PTD rules
 - Extra requirements for cellulosic biomass ethanol or waste derived ethanol producer (e.g., independent 3rd party review by a professional chemical engineer of records/written verification of facility's capability and actual production of CBE or WDE, not submitting verification by Feb. 28 of following year, retaining the records, etc.)
 - ♦ Parents liable for subs for violation of Subpart K
 - \$\bigsip\$ Each partner of a JV is jointly and severally liable for violations of Subpart K.



Penalties – BIG DEAL

- Penalty: Any person liable for committing a "prohibited act" or for failing to comply with Subpart K is subject to a civil penalty of up to \$32,500 for every day of each such violation + the economic benefit derived from such violation.
- **Obligated Parties/Exporters:** Obligated parties and exporters failing to meet their RVO (**remember deficit carryover**) during any averaging period is subject to a separate day of violation for each day in the averaging period.
- Violations of Subpart K: Those violating Subpart K is also liable for a separate day of violation for each day such a requirement remains unfulfilled.



A FEW ISSUES TO CONSIDER



Issue #1 – Cellulosic Biomass Ethanol "Straw Man"

- Many producers are excited about the 90% offset rule
 - RULE: Ethanol produced at facilities where "animal wastes or other waste materials are digested or otherwise used onsite (e.g., direct combustion) to displace 90 percent or more of the fossil fuel combusted to produce thermal energy" integral to producing such ethanol is counted as "cellulosic biomass ethanol". Waste heat piped over-the-fence also counts.
- **Benefit:** Can potentially sell for more \$\$, as 2.5 RINs makes it easier for an obligated party to comply with its RVO with less actual volume
- **Potential Additional Benefit:** Chairman Baccus' Markup on Oct. 4. "Small fossil-free alcohol producer credit" (not "free", actually 90% displacement). Additional 25-cent-pergallon tax credit for producers of ethanol up to 60mmgy.



Issue #1 – Cellulosic Biomass Ethanol "Straw Man" (Cont.)

- Issue: The regulation does not specify whether displacement is on a per-batch basis or
 if the facility must meet this displacement threshold over the entire year.
 - Preamble: Producer is to "calculate the amount of energy (in BTUs) associated with the waste-derived fuels (including the fossil fuel equivalent waste heat), and divide by the number of total energy in BTUs used to produce ethanol in a given year." [72 Fed.Reg. 23,917].
 - \$\Displays \text{EPA intended to discuss the situation of producers who miss the 90 percent threshold, but cross-referenced a section of the Preamble that doesn't exist.
 - ☼ Did producer commit a "prohibited act" in generating RINs with a 2.5 EV with the expectation that the facility will meet this standard but doesn't?
- **Violations:** (1) Assigned improper RIN value [80.1160(a)]; (2) Created and transferred an invalid RIN (based on an incorrect EV) [80.1160(b)(2)]; (3) Likely caused another person to commit a violation [80.1160(e)].
- **Penalty:** Civil penalties may apply of up to \$32,500 for every day of each such violation plus the amount of economic benefit (or savings) received as a result of engaging in the prohibited act.



Issue #2 – Marine Vessels, Trains, Aircraft

- Not "Renewable Fuel" by Definition (not a "motor vehicle" not a "self propelled vehicle designed for transporting persons or property on a street or highway)
- Unfortunately No "Safe Harbor" Created in the actual regulation
 - Producers of renewable fuel <u>must generate</u> RINs unless they produce less than 10,000 gallons of renewable fuel per year. 80.1126(d)(1).
 - Producers of renewable fuel "<u>must assign</u> all RINs generated to volumes of renewable fuel" when ownership of the RIN is transferred along with the transfer of ownership of the volume of renewable fuel. 80.1126(e)(1)-(2). The only exception is the excess 1.5 RIN generated relating to CBE and WDE. 80.1126(e)(4).
 - Producers of renewable fuel "<u>must transfer</u> ownership of a number of gallon-RINs with a K code of 1 whenever it transfers ownership of a volume of renewable fuel." 80.1128. Only exceptions are if producer is a "small volume producer", the producer received an equivalent volume of renewable fuel from another party without accompanying RINs, or in the case of the excess 1.5 RINs for CBE and WDE.
- **ISSUE:** If used in a marine vessel, train, aircraft, etc., does the fuel lose its status as "renewable fuel"? Is it an "invalid RIN" that could subject the producer to liability?
- **EPA Stance:** EPA considers a fuel to be a "motor vehicle fuel" and to be a "fuel mixture used to operate a motor vehicle," based on its *potential* for use in a motor vehicle.
- BUT: Does this mean the EPA would look the other way in a producer-consumer transaction where it is very evident that the fuel will be used in a boat?



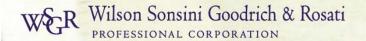
Issue #3 – Consumers as Regulated Parties?

- Scenario: Producer sells B-99 to a marketer who sells the B-99 directly to the end user for use in a fleet of trucks. Producer must assign the RINs to the volume being transferred and transfer the RINs to the marketer. The marketer must transfer the RINs to the end-user, because 40 C.F.R. § 80.1129 does not permit separation under these circumstances. The end user is not an obligated party, an exporter, and hasn't blended the B99 into diesel. The producer was not able to separate the RIN because of the "80% Rule" [40 C.F.R. § 80.1129(a)(5)] and may have chosen not to separate under § 80.1129(a)(5) because of the burden tracking the fuel to ensure that is in fact used as motor vehicle fuel. The end user therefore becomes the owner of the attached RINS.
- Issue 1: Must the consumer register, keep records and report since they will own RINs?
- **Issue 2**: Are the RINs stranded? No provisions for retiring the RINs, or separating them for the purpose of sale to an obligated party for compliance.



Issue #4 – Producer Also Marketer and RIN Transfer Rules

- Producer Rule Inflexible: Producers of renewable fuel <u>must pass</u> ownership of RINs associated with and assigned to the volume of renewable fuel when such renewable fuel is sold.
- Marketer/Middleman Rule Flexible: A marketer or other "middleman" may transfer a volume of renewable fuel without assigned RINs or with a different number of assigned RINs than were received with the volume, as long as the number of assigned gallon-RINs held by the party at the end of the quarter is no higher than the number of gallons it owns at the end of the quarter.
- Issue: If a Producer also acts as a marketer, which rule do they follow?
- Answer: Producers who are also marketers of their own renewable fuel <u>AND</u> the renewable fuel of other producers may use the more flexible rule attributable to marketers and other middlemen [40 C.F.R. 80.1128(a)(5)
- Attribution: This question was posed to the EPA by Jim Redding, Aventine Renewable Energy. EPA's response was distributed at the RFA Annual Board Meeting, Wardman Park Hotel, Washington, D.C. October 3, 2007.



Note on Exporters

- Exporters of renewable fuel out of the lower 48 are not obligated parties, but they
 have an RVO.
 - Like obligated parties, exporters must acquire sufficient Renewable Identification Numbers to offset the volume of renewable fuel (adjusted by its Equivalence Value) exported and remove these credits from circulation.
 - \$\to\$ Ensures associated RINs can't be used for compliance.
 - To "export" means "to transfer". Implications for supply/offtake contracts. Which party is doing the "transferring"? A foreign purchaser taking title of the renewable fuel in the U.S. would become an "exporter" and subject to being regulated as such)

Burdens

- Registration, recordkeeping and reporting
- \$\text{If renewable fuel does not come with RINs, Exporter need to purchase them.}
- Producers of renewable fuel may be exporters in certain circumstances.
 - Must still generate and assign RINs (as a producer) and then separate and use the RINs to cover the RVO (as the exporter)
 - Double recordkeeping duties.



THE FUTURE (MAYBE)



The Future (Maybe) – House and Senate Energy Bills

- Senate H.R. 6 (Reid Amendment)
 - \$\to\$ Passed on June 21, 2007 (vote of 65-27)
 - ♦ H.R. 6 originally passed by House in January 2007 as the "Ending Subsidies for Big Oil Act of 2007"
 - Primarily the text of S. 1419, which cobbled together 4 bills
 - ♦ Energy Savings Act (S. 1321)
 - ♦ Public Buildings Cost Reduction Act (S. 992)
 - ⋄ Ten-in-Ten Fuel Economy Act (S. 357)
 - ♦ Energy Diplomacy and Security Act (S. 193)

House - H.R. 3221 and H.R. 2776

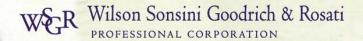
- H.R. 3221 passed on August 4, 2007 (vote of 241 to 172) and contains everything but the tax package
- ♣ H.R. 2776, the "Renewable Energy and Energy Conservation Tax Act of 2007", passed the same day (vote of 221 to 189) and was appended to H.R. 3221 as "Division B".



The Future (Maybe) – House and Senate Energy Bills

Issue 1 – Massively Different Bills

Major Differences Between Energy Bills			
	H.R. 6	H.R. 3221	
Length	464 pages	1,004 pages	
Tax Package (PTC, VEETC, Biodiesel)	7		
Expanded RFS	©	8	
CAFE Standards	()		
National RPS	(F		
Offshore Oil & Gas Lease Royalties		F	
Repeal of Oil and Gas Tax Incentives		F	



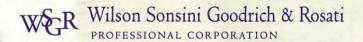
The Future (Maybe) - House and Senate Energy Bills

Two Primary Issues

- ♦ Renewable Portfolio Standard:
 - S.Amend. 1537 to the Reid Amendment (S.Amend. 1502) was ruled nongermane after no action was taken on it prior to the cloture vote on the Reid Amendment.
- ♦ CAFE Standard and the "Chairman Dingell Factor"
 - ♦ Reason the RFS wasn't included in the House Bill.
 - ♦ Democrat from Michigan (read: "Auto Manufacturer's MVP")
 - ♥ Wanted leverage for CAFE debate in conference.
 - He will be a key conferee as Chairman of the House Energy & Commerce Committee

More Information on the Differences Between Bills

- CRS Report: "Biofuels Provisions in H.R. 3221 and H.R. 6: A Side-by-Side Comparison" (RL 34136), August 21, 2007, available at http://www.nationalaglawcenter.org/assets/crs/RL34136.pdf
- ♦ CRS Report: "Omnibus Energy Efficiency and Renewable Energy Legislation: A Side-by-Side Comparison of Major Provisions in House-Passed H.R. 3221 with Senate-Passed H.R. 6" (RL34135), September 4, 2007, available at http://www.opencrs.com/rpts/RL34135_20070904.pdf



The Future (Maybe) – Status of Legislation

- Issue 2 That Pesky Constitution and Congressional Rules
 - Constitutionally-mandated Congressional rules require both chambers to pass the same measure prior to going to conference.
 - ☼ Either the House must take up the Senate-revised H.R. 6 and pass it or the Senate must take up H.R. 3221 and pass it. Then the conference can be held to resolve remaining differences.
 - \$\to\$ Getting the 60 votes in the Senate.
 - ♦ Tax package proposed by Chairman Baccus (S.Amdt. 1704)
 - Disagreement (and potential veto threat) regarding revenue offsets shouldered by oil companies.
 - ♦ Motion for cloture failed (vote of 57-36).
 - \$\to\$ 60 votes necessary to end debate and vote in Senate.
 - ♦ Concern over Presidential Veto
 - Does nothing to increase domestic oil and gas supplies.
 - Increase energy prices due to oil and gas royalty provisions and repeal of tax deductions
 - \$\infty\$ 35 mpg CAFE hard target.
 - RFS Program should include fossil-based alternative fuels.



The Future (Maybe) – Status of Legislation

Issue 3 – Congressional Politics

- Senate Energy and National Resources and House Energy and Commerce Committee staff "walk-thorough".
 - SOP staff had not received information regarding the procedure for merging the bills, so minority staff were not participating.

Appointing conferees

- Senate Majority Leader Reid hoped to appoint conferees last week prior to the Columbus Day recess. Reconvene on Oct. 15.
- Bicameral Deal between Democrat leadership to avoid a conference if GOP leadership objects to a conference.
- Sen. McConnell has expressed opposition to appointing conferees, but Sen. Lott, the Minority Whip, stated last week that he is unaware of any effort to block a conference.

♦ Concern about appointing conferees

- Opens the door to motions to instruct conferees, which may result in new provisions being added.
- \$\to\$ Avoid by pre-conferencing the major issues.

Chances?

- Conference possibly by mid-November?
- Still have to get Appropriations bills passed
- ♥ Election



The Future (Maybe) – Expanded RFS

Annual Volumetric Requirements (in billions of gallons)				
Year	Advanced Biofuel Portion	Total Annual Volume	Current RFS	
2008	0.0	8.5	5.4	
2009	0.0	10.5	6.1	
2010	0.0	12.0	6.8	
2011	0.0	12.6	7.4	
2012	0.0	13.2	7.5	
2013	0.250*	13.8	≥ 7.5 + 0.250 CBE	
2014	0.250*	14.4	≥ 7.5 + 0.250 CBE	
2015	0.250*	15.0	≥ 7.5 + 0.250 CBE	
2016	3.0	18.0	≥ 7.5 + 0.250 CBE	
2017	6.0	21.0	≥ 7.5 + 0.250 CBE	
2018	9.0	24.0	≥ 7.5 + 0.250 CBE	
2019	12.0	27.0	≥ 7.5 + 0.250 CBE	
2020	15.0	30.0	≥ 7.5 + 0.250 CBE	
2021	18.0	33.0	≥ 7.5 + 0.250 CBE	
2022	21.0	36.0	≥ 7.5 + 0.250 CBE	
* Cellulosic Biomass Ethanol requirement under current RFS Program				

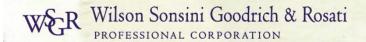


The Future (Maybe) – Expanded RFS – Biofuel Dichotomy

- Conventional Biofuel Ethanol derived from corn starch
- Advanced Biofuel Any fuel derived from renewable biomass except corn starch. It
 includes the following but meeting the definition of renewable biomass is key:
 - ☼ Cellulosic Biomass Ethanol (cellulose, hemicellulose or lignin)
 - \$\text{ Ethanol derived from sugar or starch except corn starch.}
 - Ethanol derived from waste materials (crop residues, vegetative waste, animal waste, yard waste)
 - Diesel equivalent fuel derived from renewable biomass (including vegetable oil and animal fat)
 - Biogas from converting organic matter from *renewable biomass*.
 - Butanol or other alcohols derived from organic matter from renewable biomass
 - Any other fuel (other than ethanol) derived from cellulosic biomass

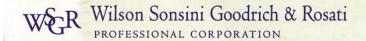
Renewable Biomass

- (1) Essentially <u>waste</u> material or precommercial thinnings that will not be used for "higher value products" that are removed from <u>public lands</u> to reduce fire hazards or insect infestation, the removal of which complies with land management plans and rules relating to old growth and large tree retention under the Healthy Forests Restoration Act; <u>OR</u>
- (2) Any <u>organic matter</u> available on a renewable or recurring basis from <u>non-Federal land</u> (Indian trust lands are treated as "non-Federal").
 - Renewable Plant Material (e.g., feed grains; ag. commodities; plants and trees; and ALGAE)
 - Waste Material (e.g., crop residue; vegetative and wood waste/residues; animal waste and byproducts including fats, oils, greases, and manure); and food waste and yard waste)



The Future (Maybe) – Expanded RFS – Other Items

- Regulations: Regulations must be promulgated within 1 year of enactment to ensure that motor vehicle fuel and home heating oil sold or introduced or introduced into commerce in the U.S. contains the applicable volume of renewable fuel on an annual average basis.
 - Must incorporate current program structure to the "maximum extent practicable"
 - ♦ This includes the credit (RIN) program
- Renewable Fuel: Motor vehicle fuel or home heating fuel that is used to replace or reduce the quantity of fossil fuel present in a fuel or fuel mixture to operate a motor vehicle or furnace. Definition specifically includes both conventional biofuel AND advanced biofuel.
 - Allows a large swath of renewable fuel (e.g., biodiesel) to be used in boilers and still qualify. Eliminates this issue of potential liability for producers and other regulated parties.
 - Still no clarification on use in a marine vessel, train, airplane, or other selfpropelled vehicle
 - Seliminates the ambiguity about "neat" biofuels, as EPAct focused on fuel mixture.

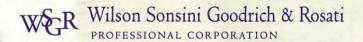


The Future (Maybe) – Expanded RFS – Other Items Cont.

- Facilities using "Renewable Energy" to Displace 90% of Fossil Fuels in the Production of Renewable Fuel
 - Regulation must provide extra credit under the credit program to facilities that use renewable energy to displace <u>more</u> than 90% of the fossil fuel normally used in the production of renewable fuel.
 - Credit not to exceed the equivalent of 1.5 gallons for each gallon produced in such facility.
 - \$\infty\$ Effectively expands the current provision in **2 ways**:
 - Urrent provision only applies to ethanol produced at such facilities. Biodiesel and other renewable fuels produced as such facilities would qualify.
 - Urrent provision limits the method by which fossil fuels are offset to the use of waste materials that are either digested or otherwise used. The proposed language is not limited to waste or method of producing the energy. Biodiesel burned in a boiler would qualify.

20% GHG Reduction

- The regulation must ensure that facilities producing renewable fuels and commencing operations after enactment achieve at least a 20% reduction in lifecycle GHG emissions compared to gasoline.
- ♦ Includes facilities producing conventional biofuels
- ➡ IF YOU ARE HAVE FACILITIES IN THE PLANNING OR EVEN CONSTRUCTION PHASE, WATCH THIS BILL CLOSELY.



The Future (Maybe) – Expanded RFS – Other Items Cont.

Equivalence Values

- Advanced Biofuels are to be assigned equivalence values based on energy content relative to ethanol for purposes of satisfying the volume requirements.
- 4 1 gallon of Cellulosic Biomass Ethanol is considered equal to 2.5 gallons of renewable fuel from 2008 through 2015.

Waivers

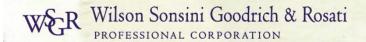
- \$\RS\$ requirement can be waived in whole or in part based on application by a state
- Must show "severe harm" to economy or environment or that "extreme and unusual circumstances exist preventing adequate supply

Liability for Violations of the Regulation

Reduced from the current maximum **daily** civil penalty of \$32,500 to \$25,000 + economic benefit resulting from violation.



CONCLUSIONS AND RECOMMENDATIONS



Conclusions and Recommendations

Never Assume Your Transactions Comply

- In any given situation, a producer can simultaneously be acting as an exporter or a marketer.
- Different registration, recordkeeping and reporting provisions may apply depending on the specific facts and circumstances of the transaction.
- If ambiguities arise, seek prior clarification from the EPA or legal counsel to assess the risk of a particular transaction.

Have Robust Measures in Effect

- ♦ Technology to avoid or limit the possibility of generating invalid RINs
- Dedicated personnel charged with ensuring compliance. A couple mistakes may pay for their salary.

Do Not Wait to Address Potential Violations

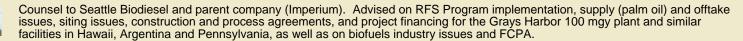
- Current maximum daily civil penalty of \$32,500 + economic benefit resulting from violation.
- Address Issues in Offtake Contracts to Limit Risk and Requirements
 - \$\text{\text{\text{bissues of title.}} Commercial terms may help allocate who will be an "exporter".
 - Indemnification for causing violation.
- Call the RFS Helpline at (202) 343-9755



WSGR Representative Clients







Advised US Geothermal on various development issues, including equity financing, debt financing (PTC monetization), construction

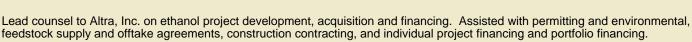
and engineering agreements, drilling agreements, water rights, environmental permitting and related matters for the Raft River





development.

























Lead counsel to Calgren Renewables—a biofuels development company focused on California with three projects in planning. Advised on project development including cogeneration and power supply issues, construction and engineering agreements, senior and subdebt financing and related equity issues.

Lead permitting counsel to Orion Energy, LLC (now acquired by BP Alternative Energy) on 450 MW Biglow Canyon wind energy project in Sherman County, Oregon.

Represented Aequitas Capital Management in acquisition of existing wind project in Riverside County, California and back-to-back sale of project to BP Alternative Energy

Represented Nexgen Biofuels, LLC in diligence on, and leveraged acquisition of, ethanol development projects in midwest and southern U.S.

Finance and development counsel to HBS BioEnergy, a developer of large biofuel production projects (ethanol, biodiesel, biodigestion) in California, the Midwest, and Mid-Atlantic regions.

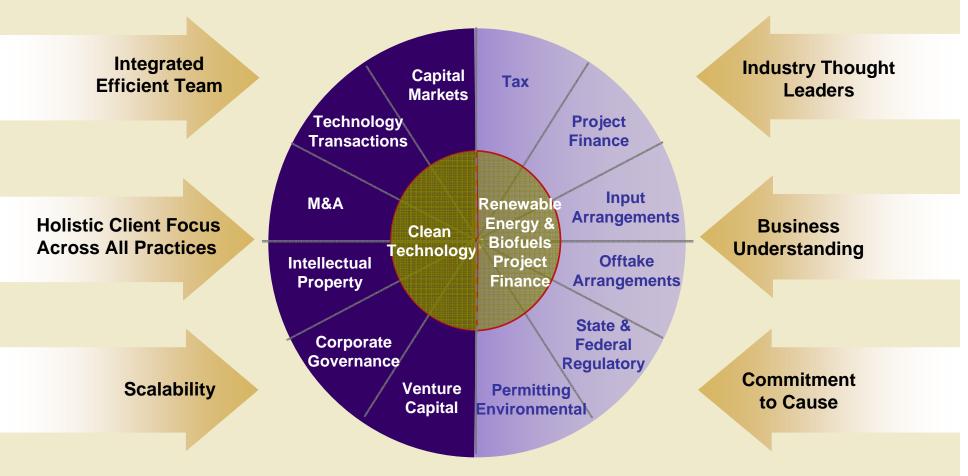
Represent XL Dairy, a developer of a cutting edge biodigestion facility, on numerous development and finance matters, including intellectual property protection, feedstock and offtake contracting, early stage development financing, and project finance.

Counsel to the Interstate Renewable Energy Counsel (IREC), a non-profit organization that has been dedicated to moving renewable energy resources into the marketplace. IREC pursues the adoption of uniform net metering and interconnection standards for smallerscale renewable energy systems. For this effort, IREC has retained WSGR to appear at state utility commission workgroups and rulemakings in the western United States to assure that systems under ten megawatts can be connected to the utility grid and fairly compensated.

Counsel to JX Crystals Inc. on financing and general corporate matters. JX Crystals Inc. pioneered various aspects of high concentration photovoltaic systems under military and NASA contracts in the 1990s. The company has recently installed a 100 kW linear focus concentrator system in Shanghai and is under contract to install 300 kW more.



Our integrated clean tech and renewable energy practice uniquely meets all of the financing needs of our venture-backed clean tech client base





Andrew T. Braff Clean Technology & Renewable Energy, Project Finance



CONTACT: 701 Fifth Avenue Suite 5100 Seattle, WA 98104 Phone | 206-883-2500 Fax | 206-883-2699 abraff@wsgr.com

Andrew Braff is an associate in the Seattle office at Wilson Sonsini Goodrich & Rosati, where his practice focuses on renewable energy project development. His experience includes drafting and reviewing engineering, procurement, and construction agreements, operation and maintenance agreements, energy supply agreements, and equipment supply agreements for the wind, solar, biomass, and biofuels industries. Andrew also has advised on federal and state legislative and regulatory process, including the Environmental Protection Agency's implementation of the federal Renewable Fuel Standard mandated by the Energy Policy Act and various state renewable portfolio standards.

Andrew previously served as an extern for Justice Mary E. Fairhurst of the Washington State Supreme Court and as director for policy and public affairs for California State Assemblyman, now State Senator, Mark Wyland. In addition, he served as a legislative assistant to Congressman George R. Nethercutt, Jr. in Washington, D.C.

EDUCATION:

- J.D., University of Washington School of Law, 2006
 External Affairs Editor, Shidler Journal for Law, Commerce & Technology; Berman Environmental Law Clinic
- B.A., Whitman College, 2000
 With Honors; Magna Cum Laude; Phi Beta Kappa; Recipient, Chester C. Maxey Politics Award

ASSOCIATIONS AND MEMBERSHIPS:

- Member, Energy Bar Association
- Member, Washington State Bar Association
- Member, American Bar Association

SELECT PUBLICATIONS:

- "RFS Rulemaking: EPA Proposes Implementation of Renewable Fuels Standard," Biofuels Journal, 2006
- "The Spy Act: Ditching Damages as an Element of Liability for On-Line Conduct between Private Parties," 2 Shidler Journal of Law, Commerce & Technology 17, 2006
- "Defining Spyware: Necessary or Dangerous," 2 Shidler Journal of Law, Commerce & Technology, 2005
- Co-author with The Honorable Mary E. Fairhurst, "William O. Douglas: The Gadfly of Washington," 40 Gonzaga Law Review 259, 2005

ADMISSIONS:

State Bar of Washington