

Green Certification for the Transportation Sector: Evaluation of a Pilot Certification Program for the Motorcoach Industry

Program Packet for Field Test Participants

March 2009

Over the next two years, researchers at the University of Vermont will be working with motorcoach operators and industry organizations to develop, test, and evaluate standards and protocols for a Green Coach Certification program. The pages that follow have been prepared as a guide for operators participating in the 18 month field testing of the Green Coach concept. During this field testing, researchers will work with operators to test and refine a set of draft certification criteria and produce a final set of standards and protocols for a green motorcoach certification program. The pages that follow are broken into distinct sections that provide information covering a broad range of topics, including the history of the project, the projects goals and objectives, criteria for participation in the pilot phase of the program, and the roles and responsibilities of both operators and researchers during the pilot phase of the program. If you have any questions, comments or suggestions please contact David Kestenbaum at the University of Vermont Extension. David can be reached at (802) 656-9141 or David.Kestenbaum@uvm.edu.



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Project Rationale: Why Motorcoaches and Why Green Certification?

Increasing the use of alternative-fuel technologies and multimodal transportation systems are, at present, national priorities for the United States Department of Transportation (US-DOT, 2006). These priority areas are viewed by many as important steps toward reducing our nation's reliance on foreign oil and decreasing greenhouse gas emissions.

Operating in rural, urban and suburban settings, the motorcoach industry reported carrying 631 million passengers in 2005 and consumed approximately 413 million gallons of fuel. These numbers indicate motorcoaches carried more passengers in 2005 than either the airline industry or Amtrak and commuter rail combined. In addition to being the most utilized form of mass transportation, motorcoaches may also be the most fuel efficient, averaging about 150 passenger miles per gallon (Nathan Associates, 2007). Although the motorcoach industry provides a popular and efficient form of transportation, private automobiles still dominate the American landscape.

During scoping sessions conducted by the University of Vermont, anecdotal evidence suggested that most consumers do not make a strong connection between motorcoach travel and sustainable transportation. Research conducted elsewhere concludes that public perception of mass transit options must be improved in order for travelers to view them as legitimate, practical and more environmentally sustainable options than the automobile (Lumsdon, 2006).

Representatives of the motorcoach industry are justifiably proud of their ability to provide consumers with one of the most accessible and efficient modes of mass transportation. Although it is perhaps the greenest form of mass transportation, the motorcoach industry is estimated to consume more than 400 million gallons of petroleum fuel each year. What is encouraging to many motorcoach operators is that, for relatively little effort, they can reduce their environmental impacts and capture positive attention from the press and potential consumers.

The idea behind this research is to better understand if a pilot certification program can help the motorcoach industry's reputation as an environmentally-friendly mode of transportation that can move travelers from place to place while reducing consumption of petroleum fuels and minimizing greenhouse gas emissions. Such a program may help the motorcoach industry capitalize on its track record as an environmentally-friendly form of mass transportation and assist individual operators with:

- Learning more about the use of alternative fuels and green technologies.
- Creating marketing incentives for companies willing to use alternative fuels, demonstrate high fuel economy, and adopt green technologies.

- Capitalizing on increasing demand for environmentally-friendly products including modes of travel.

Typically, factors such as quality, customer service, price, convenience and personal security are the greatest influences on consumers choosing among various modes of transportation. However, as “greening” trends have manifested into new sets of consumer values, industries such as food production, home building and home appliances have responded with green certification programs. Examples include the United States Department of Agriculture's (USDA's) National Organic Program, the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating System, and the U.S. Environmental Protection Agency's (EPA's) Energy Star program. Understanding if a green motorcoach certification program can be as successful for the motorcoach industry as environmentally-friendly branding and certification programs have been for other sectors is a valuable research question. We will also examine if motorcoach operators may be able to garner significant positive attention from the press and improve the public's perception of motorcoach travel by participating in a green certification program.

Research Project Overview and Timeline

In August 2007 researchers at the University of Vermont began working on a four-year study of sustainable transportation and ecolabeling with a focus on motorcoach travel. The project's primary goal is to help identify standards that promote a high level of environmental sustainability in travel. Specific research objectives include:

- Assessing the impacts of a pilot green certification program on the attitudes and behaviors of motorcoach operators.
- Studying the impacts of a pilot green certification program on consumer interest and demand for motorcoach travel.

UVM researchers are following a 36 month timeline and work plan to achieve the aforementioned goals and objectives (Appendix A contains a copy of this timeline). Much of the work by researchers will be guided by a planning framework for developing certification programs and standards. The framework presented below, which was originally formulated by the International Social and Environmental Accreditation and Labeling Alliance (ISEAL), will be used for this process. Figure 1 provides a schematic of the ISEAL process.

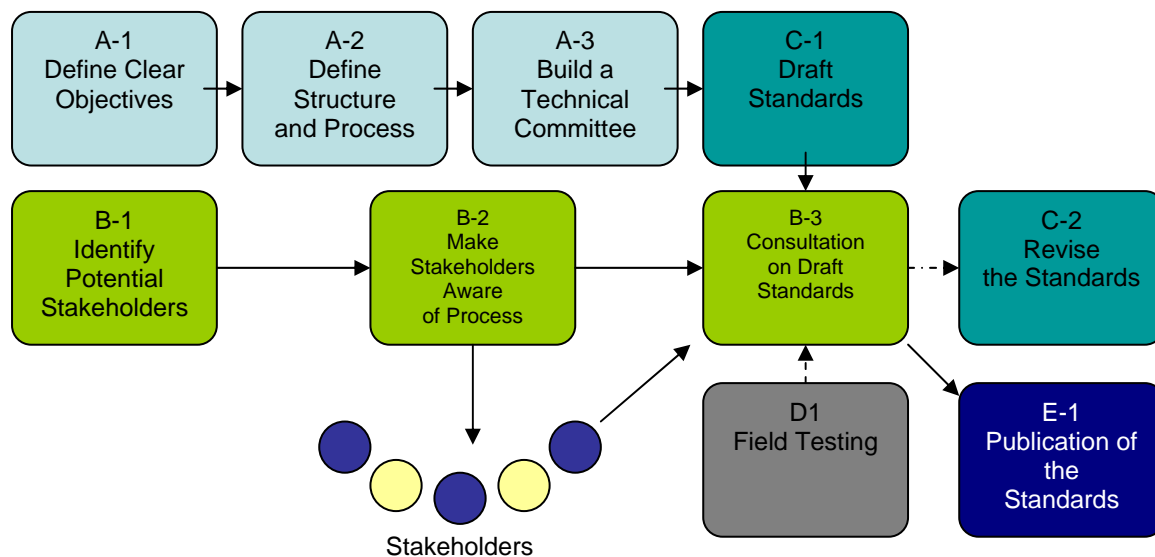


Figure 1. ISEAL Standard Setting Process (adapted from Mallet, 2007)

As of the start of the field testing phase of this project, UVM researchers have:

- Defined clear objectives for the standard (step A-1),
- Defined structures and processes for the certification program (step A-2),

- c) Built a technical committee initially comprised of researchers from the University of Vermont) (step A-3)),
- d) Identified potential stakeholders to contribute to and participate in the research project (step B-1),
- e) Made stakeholders aware of the process and program (step B-2),
- f) Drafted standards for the program (step C-1), and
- g) Invited Operators to participate in an 18 month field test of the pilot certification program draft standard (step D-1).

During this field-testing period, researchers will work with you, the participating operator, to collect data that will inform the evaluation of draft standards. In addition, researchers will conduct a survey of consumers to better understand demand for green modes of transportation, such as motorcoaches.

After the 18 month field test has concluded, the final segment of this process will be to revisit steps B-3 and C-2. This work involves redrafting the standards with stakeholders and operators who have participated in the pilot certification program. After completion of steps B-3 and C-2, the technical committee will publish a final set of standards and protocols for a Green Coach Certification program, as illustrated by step E-1 in Figure 1.

Once the final standards are published, the stakeholders and technical committee will identify a governing structure for maintaining the program and taking the next steps to support the industry's green house gas reduction initiative. It is hoped that either an existing or newly formed organization will administer the Green Coach Certification program for the motorcoach industry.

Draft Standards being used during the 18 Month Field Test

The pilot Green Coach Certification program is based on the principles of transparency and voluntary participation. The program, as it moves forward, will be designed to evolve in sophistication over time. During the field testing period, operators are eligible for a pilot Green Coach Certification label/recognition for any motorcoach complying with at least one of the following:

- Meeting or exceeding the industry average of 148 passenger miles per gallon.
- Running an EPA 2007 compliant engine.
- Running an EPA 2010 compliant engine.
- Offsetting carbon emissions by 80 percent through an endorsed carbon-trading program.
- Running on an alternative fuel such as a blend of Biodiesel.
- Having a strict, documented, and verifiable energy conservation and recycling program.
- Incorporating other emerging environmental technologies as prescribed by the GCC.

The GCC program is aimed at providing operators with the opportunity to increase their already high level of environmental stewardship by creating options for improved efficiency and reduced emissions. While each option is independent of the others, they can be combined to provide even greater benefit and market appeal. Creating almost 85 unique labeling opportunities (Appendix C contains a list of these combinations). Compliance with the options below may be undertaken on a per-vehicle basis or an entire operational fleet may be certified. The section below provides greater detail regarding each of the criteria listed above.

Criteria One - Achieving 148 passenger miles per gallon:

Motorcoach operators will be obligated to provide information certifying that they achieve or exceed the industry average of 148 passenger miles per gallon.

Information provided must include:

1. Number of passengers transported annually by the vehicle(s) or fleet to be certified
2. Number of gallons of fuel used by the vehicle(s) or fleet to be certified
3. Number of miles traveled by the vehicle(s) or fleet to be certified
4. Vehicle Identification Number (VIN) of vehicle(s) to be certified
5. Letter signed by owner/operator certifying that the information supplied is accurate and complete.

Criteria Two - 2007 EPA compliant engine:

A 2007 model year engine that is EPA compliant at the time of vehicle purchase. A copy of the purchase information confirming the power plant as EPA compliant for 2007 will be reviewed by the research team.

Information provided must include:

1. Copy of receipt of purchase confirming 2007 EPA compliant engine for the vehicle(s) to be certified
2. Vehicle Identification Number (VIN) of vehicle(s) to be certified

Criteria Three - 2010 EPA compliant engine:

A 2010 model year engine that is EPA compliant at the time of vehicle purchase. A copy of the purchase information confirming the power plant as EPA compliant for 2010 will be reviewed by the research team.

Information provided must include:

1. Copy of receipt of purchase confirming 2010 EPA compliant engine for the vehicle(s) to be certified
2. Vehicle Identification Number (VIN) of vehicle(s) to be certified

Criteria Four - Purchase of Carbon Offset:

Motorcoach operators will be obligated to supply documentation confirming their compliance with the purchase of carbon offsets in quantities sufficient to offset a minimum of 80 percent of the vehicle(s) or fleet carbon emissions.

Information provided must include:

1. Copy of original receipt confirming purchase of offsets equal to 80 percent of carbon emissions. Purchased offsets should be certified under one of the following programs: The Kyoto Protocols CDM or JI, the Voluntary Carbon Standard (VCS), Voluntary Emissions Reduction Plus (VER+), the Gold Standard for Voluntary Emission Reductions (VERs), the California Climate Action Reserve, the Carbon Fix Standard, the Chicago Climate Exchange Offset Program, the Climate Community and Biodiversity Standards, Greenhouse Gas Friendly, ISO 14064, Social Carbon, and the Voluntary Carbon Offset Standard. If a company wishes to use offsets, but would like to make use of offsets that are not certified under one of the programs mentioned above, the operator can contact representatives of the GCC research team to explore the use of such offsets.
2. Total number of gallons of fuel consumed by the vehicle(s) or fleet to be certified.
3. This program will conform to the EPA standard for conversion of one gallon of diesel fuel and the amount of CO₂ released in the process: CO₂ emissions from a gallon of diesel = 2,778 grams x 0.99 x (44/12) = 10,084 grams = 10.1 kg/gallon = 22.2 pounds/gallon (EPA, 2008). As much

debate still exists as to the actual emissions savings incurred by use of biodiesel as a substitute for petroleum diesel, the precautionary principle will be used in this instance, and when biodiesel is used, the same conversion rate will be applied as was applied with the use of petroleum diesel.

4. Vehicle Identification Number (VIN) of vehicle(s) to be certified
5. Letter signed by owner/operator certifying that the information supplied is accurate and complete.

Criteria Five A – B5 blend or higher of biodiesel:

Motorcoach operators will be obligated to confirm compliance by supplying documentation of the purchase of B5 in sufficient quantities to supply the vehicle(s) or fleet for a minimum of 80 percent of operational time.

Note that some engine manufacturers may void an engine warranty if engine damage occurs that can be directly attributed to use of biodiesel above a certain blend. Different manufacturers have different standards for alternative fuel use and should be consulted before choosing this option.

Information provided must include:

1. Miles driven annually by the vehicle(s) or fleet to be certified
2. Number of gallons of B5 purchased annually, copy of original receipt(s)
3. Number of gallons used by the vehicle(s) or fleet to be certified
4. Average miles per gallon for the vehicle(s) or fleet
5. Vehicle Identification Number of vehicle(s) to be certified
6. Letter signed by owner/operator certifying that the information supplied is accurate and complete.

Criteria Five B – B20 blend or higher of biodiesel:

Motorcoach operators will be obligated to confirm compliance by supplying documentation of the purchase of B20 in sufficient quantities to supply the vehicle(s) or fleet for a minimum of 80 percent of operational time.

Note that some engine manufacturers may void an engine warranty if engine damage occurs that can be directly attributed to use of biodiesel above a certain blend. Different manufacturers have different standards for alternative fuel use and should be consulted before choosing this option.

Information provided must include:

1. Miles driven annually by the vehicle(s) or fleet to be certified
2. Number of gallons of B20 purchased annually, copy of original receipt(s)
3. Number of gallons used by the vehicle(s) or fleet to be certified
4. Average miles per gallon for the vehicle(s) or fleet
5. Vehicle Identification Number of vehicle(s) to be certified

6. Letter signed by owner/operator certifying that the information supplied is accurate and complete.

Criteria Five C – B100 blend of biodiesel:

Motorcoach operators will be obligated to confirm compliance by supplying documentation of the purchase of B100 in sufficient quantities to supply the vehicle(s) or fleet for a minimum of 80 percent of operational time.

Note that some engine manufacturers may void an engine warranty if engine damage occurs that can be directly attributed to use of biodiesel above a certain blend. Different manufacturers have different standards for alternative fuel use and should be consulted before choosing this option.

Information provided must include:

1. Miles driven annually by the vehicle(s) or fleet to be certified
2. Number of gallons of B20 purchased annually, copy of original receipt(s)
3. Number of gallons used by the vehicle(s) or fleet to be certified
4. Average miles per gallon for the vehicle(s) or fleet
5. Vehicle Identification Number of vehicle(s) to be certified
6. Letter signed by owner/operator certifying that the information supplied is accurate and complete.

Criteria Six – Energy conservation and recycling programs

Companies that implement strict, aggressive and verifiable anti-idling, recycling, and energy reduction programs will meet this criterion.

Information provided must include:

1. A description of the company's anti-idling policy, methods for monitoring and an auditable method for verifying driver compliance with this policy.
2. A description of the company's energy reduction and recycling programs, that takes place both on site and while traveling. Documentation that verifies compliance with this policy.

Criteria Seven – Incorporating other emerging environmental technologies as prescribed by the GCC

This is a placeholder category that has been designed to accommodate emerging technologies that have clear, significant and verifiable methods for helping reduce the environmental impacts of travel. If additional criteria are approved and identified, program participants will be notified.

Green Coach Certification Field Test Registration Process and Protocols

“Certificates” will be awarded to companies for each coach they operate or manufacture that makes use of the specific GCC eligibility criteria that they choose to follow. For example: a motorcoach company with 10 coaches has its entire fleet running on a biodiesel blend, and two of those coaches are also 2007 EPA compliant; this operator would receive eight single-leaf certificates for the use of biodiesel, plus two double-leaf certificates for the 2007 EPA compliant coaches that also use biodiesel.

Like the American Automobile Association’s (AAA’s) diamond rating system that rewards hotels for different levels of service, the pilot GCC also seeks to distinguish operators that comply with various eligibility criteria. Under this model, an operator could earn one “leaf” for each of the eligibility methods being used on a particular motorcoach.

For example, an operator running a 1974 model motorcoach and either offsetting its carbon emissions or using a B20 blend of biodiesel would be eligible to earn either of the one-leaf certifications illustrated in Figure 2. (Note that all logos are currently in draft form.)



Figure 2. Single Leaf Certification Labels for Carbon Offsets and Biodiesel

If this same operator began running the same 1974 model motorcoach on biodiesel and also began offsetting carbon emissions, the operator would qualify under two of the eligibility criteria listed earlier. In this situation, the operator could earn the following certification, which recognizes both criteria (Figure 3).

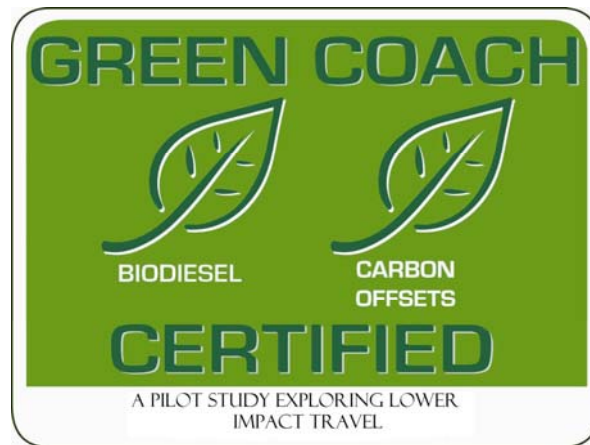


Figure 3. Double Leaf Certification Labels for Combined Use of Offsets and Biodiesel

Another example would be an operator running a new 2007 EPA compliant ultra-low sulfur engine with a particulate filter . This operator would be eligible for the certification illustrated in Figure 4.

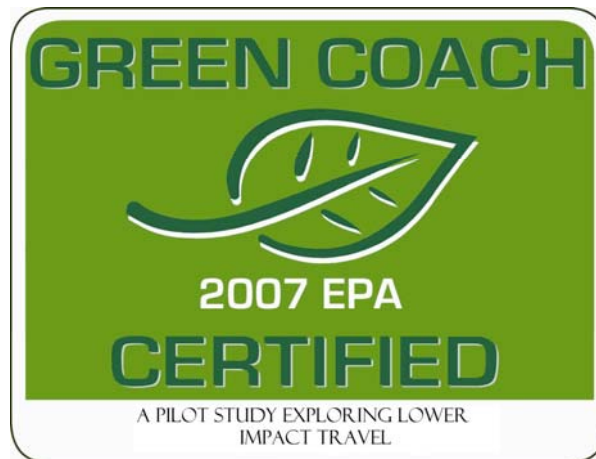


Figure 4. Single Leaf Certification Label for 2007 EPA Compliant Engines

If, in the future, the operator of the 2007 EPA compliant model also began running on biodiesel and offsetting carbon emissions (Figure 5).

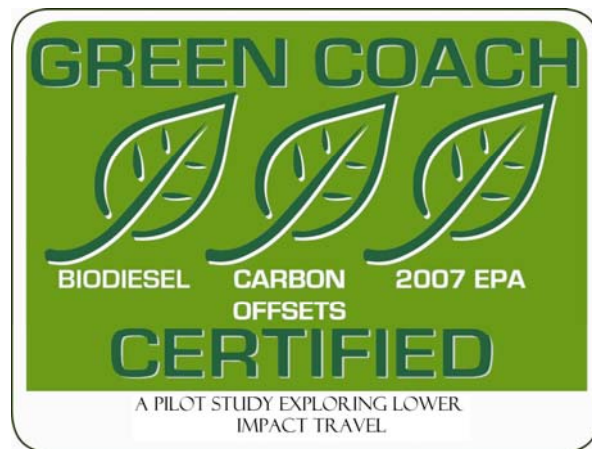


Figure 5. Triple Leaf Certification Label for use of Biodiesel, Carbon Offsets, and 2007 EPA Compliant Engines

Offering several categories of certification will provide incentives for the use of readily available and low-cost opportunities to become more environmentally-friendly and participate in the Green Coach Certification program.

As part of step C-1 of the ISEAL standard setting process, motorcoach operators will be eligible to receive a pilot GCC logo for their business after completing a series of information exchanges with UVM's GCC research team. These will follow a general order and process which is outlined below:

Step One:

A face-to-face or telephone meeting will occur between a representative of the operator and UVM's GCC research team. During this conversation representatives from UVM will provide an overview of the research initiative and review the general expectations that the company should have of the research team and the research team will have of the company. During this conversation, guidance will also be provided to help operators begin the preparation of materials for the following steps.

Step Two:

The operator will provide written documentation to UVM's GCC research team regarding the criteria that the operator hopes to be recognized under during the field testing phase of this program. This documentation will serve as a record of compliance, hence these materials will also contain a detailed record of a) steps an operator is taking to meet the selected criteria and b) how these steps will be tracked for by the company for the purpose of reporting back to UVM researchers.

Step Three:

Representatives from UVM's GCC research team will review the operator's materials to ensure they are complete. If sufficient documentation is provided, representatives from UVM will hold an in person or follow-up meeting via telephone with a representative of the operator to explain which criteria have been met. If these materials are not complete, the operator will be asked to provide additional, clarifying information. If this information is not provided in a timely fashion, the operator may be unable to participate in the field testing phase of this research initiative.

Step Four:

A memorandum of understanding (MOU) between UVM researchers and the operator will be prepared and signed. This MOU will include details referring to the following stipulations:

- Protocols for use of the GCC logo by the company.
- Participation in interviews and surveys being conducted as part of this study.
- Voluntary relinquishment of the GCC logo and materials for business promotion if an operator ceases to comply with standards.

Step Five:

Electronic copies of the GCC pilot certification label(s) will be sent to the operator for the operator to use appropriately under the previously established guidelines.

Monitoring and Verification Procedures and Rationale for this Approach

Certification programs around the world operate in a variety of ways. Some programs offer participants certifications to mark the successful completion of an educational program. Other certification programs require mandatory compliance with an established set of rules. These mandatory programs may involve inspections, policing strategies and penalty structures. Still other certification programs are less formalized and may have no systems in place to regulate or verify compliance. These less formalized programs rely on voluntary adherence to established sets of principles.

A potential downfall for programs that lack strong regulatory structures is that their legitimacy can be jeopardized under certain conditions. The validity of an entire certification program can be put at risk when the public or other program participants learn about a non-compliant participant operating unchecked. One could imagine compliant participants leaving a certification program if they suspected that non-compliant participants were receiving the same level of recognition they worked hard to achieve. At the other end of the spectrum, highly regulated programs that employ substantial policing can be overbearing for participants and expensive to administer. These types of certification programs can become intrusive and may not be accepted by participants because of their complexity and difficulty to manage.

To create protocols that could be effectively administered by UVM researchers during the field testing period (note: UVM is not a third party verification/certification body), acceptable to the motorcoach industry, and valid in the eyes of the public, representatives have proposed that for the purposes of the test period, the combination of educational outreach provided by the project staff, the MOU (as described above) and survey mechanisms will provide a reasonable, legitimate and non-intrusive form of verification for the motorcoach industry. This system should be effective as the number of participating producers will be low, personal contact will exist between each operator and the researchers, and the length of the field testing period is short.

If the program moves beyond the UVM-based field testing phase, an enhanced compliance and review procedure will most likely be developed, as part of step E-1 (see Figure 1). These enhanced protocols should complement existing protocols with a carefully designed review and inspection process. The verification procedures to be used during field testing will contain a number of checks and balances to draw on the strengths of both educational and regulatory certification programs.

Use of the Green Coach Certification (GCC) Logo

Similar to the way manufacturers and sales agents make use of the EPA Energy Star logo to help sell products such as televisions and refrigerators, operators receiving a GCC will be encouraged to make full use of their certification logo to promote sales. The GCC should be used to help individual businesses compete in the marketplace and create awareness of the environmental benefits of traveling by motorcoach. Program participants who receive a GCC will have permission to place the GCC logo prominently in all advertising including on the sides of buses, in telephone book advertisements, in brochures, on billboards, and on web sites.

Next Steps

Following the 18 month field testing phase, researchers will deliver a full report outlining the impacts of Green Certification on consumer interest and demand for motorcoach travel. In addition, this program will identify standards and outline the components necessary for a permanent and formalized Green Motorcoach Certification program. It is hoped such a program will, in the long term, help the motorcoach industry create greater awareness of the role it can play to increase the efficiency and sustainability of our country's transportation system.

If you, your company or organization would like to learn more and/or get involved, please contact David Kestenbaum at the University of Vermont Extension. David can be reached at (802) 656-9141 or David.Kestenbaum@uvm.edu.

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Appendix A: Timeline for UVM Research Process

Work plan Overview:

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
August 1, 2008 – July 31, 2009												
Begin development of environmental certification standards. This process will be guided primarily by the ISEAL standard setting process.												
Define objectives related to the development of certification standards (per ISEAL process).												
Identify stakeholders that can contribute to the standard setting process (per ISEAL process).												
Draft pilot certification standards (per ISEAL process).												
Engage stakeholders and then revise the draft certification standards (per ISEAL process).												
Recruit a minimum of five motorcoach companies to participate in a pilot program. These companies will comply with the draft certification standards (per ISEAL process).												
Collect baseline primary and secondary data from companies participating in the pilot program. Conduct interviews and review literature including industry reports and company documents.												
Participating motorcoach companies will comply with certification standards during an 18 month field test.												
Develop survey to gauge consumer interest and demand related to certified motorcoaches .												
August 1, 2009 – July 31, 2010												
Continue 18 month field-test where participating motorcoach companies comply with standards.												
Continue gathering primary and secondary data from companies participating in the field test.												
Conduct a survey of consumers to (continue to next page)												

gauge interest and demand for certified motorcoaches.													
August 1, 2010 – July 31st 2011	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	
Participating motorcoach companies will comply with certification standards during an 18 month field test.													
Organize a forum with stakeholders and participating motorcoach operators to gather feedback and revise the draft standards (per ISEAL process).													
Complete data collection and analysis.													
Prepare final report and publish research results including standards for the certification of “Green” motorcoach operators.													

Appendix B: Standardized Application Materials, Samples for Discussion

Sample letter:

I, _____, owner and operator of _____, hereby certify that the information provided is accurate and correct for the vehicle(s) or fleet that is to be certified as “green” as part of the of the Green Coach Certification pilot research program. I have attached all the necessary information and documentation as provided under the compliance review guidelines

The following vehicle(s) are to be recognized for meeting the following criteria:

DOT NUMBER	VIN NUMBER	Criteria Numbers (1,2,3,4,5):
XXXXXXXXXX	XXXXXXXXXX	1,2
XXXXXXXXXX	XXXXXXXXXX	1
XXXXXXXXXX	XXXXXXXXXX	1,4,5

Sincerely,

Signature

Date

Printed Name

Sample Form to Guide Documentation of for Fleet or Individual Vehicle(s) Certification

Vehicle DOT number	Miles Driven Annually	Number of Gallons of Fuel Used	Type of Fuel Consumed	Average MPG	AVG Passenger/MPG

Appendix C: Possible GCC Criteria Arrays

Single Leaf:

- 1) *Passenger Miles*
- 2) *EPA 2007*
- 3) *EPA 2010*
- 4) *Offsets*
- 5) *Biodiesel B5*
- 6) *Biodiesel B20*
- 7) *Biodiesel B100*
- 8) *Idling, Recycling, and Energy Reduction*

Double Leaf Combinations:

- 9) *Passenger Miles, EPA 2007*
- 10) *Passenger Miles, EPA 2010*
- 11) *Passenger Miles, Offsets*
- 12) *Passenger Miles, Biodiesel B5*
- 13) *Passenger Miles, Biodiesel B20*
- 14) *Passenger Miles, Biodiesel B100*
- 15) *Passenger Miles, Idling, Recycling, and Energy Reduction*
- 16) *EPA 2007, Offsets*
- 17) *EPA 2007, Biodiesel B5*
- 18) *EPA 2007, Biodiesel B20*
- 19) *EPA 2007, Biodiesel B100*
- 20) *EPA 2007, Idling, Recycling, and Energy Reduction*
- 21) *EPA 2010, Offsets*
- 22) *EPA 2010, Biodiesel B5*
- 23) *EPA 2010, Biodiesel B20*
- 24) *EPA 2010, Biodiesel B100*
- 25) *EPA 2010, Idling, Recycling and Energy Reduction*
- 26) *Offsets, Biodiesel B5*
- 27) *Offsets, Biodiesel B20*
- 28) *Offsets, Biodiesel B100*
- 29) *Biodiesel, Idling, Recycling, and Energy Reductions*
- 30) *Biodiesel B5, Idling, Recycling and Energy Reductions*
- 31) *Biodiesel B20, Idling Recycling and Energy Reductions*
- 32) *Biodiesel B100, Idling Recycling and Energy Reductions*

Triple Leaf Combinations:

- 33) *Passenger Miles, EPA 2007, Offsets*
- 34) *Passenger Miles, EPA 2007, Biodiesel B5*
- 35) *Passenger Miles, EPA 2007, Biodiesel B20*
- 36) *Passenger Miles, EPA 2007, Biodiesel B100*
- 37) *Passenger Miles, EPA 2007, Idling, Recycling and Energy Reductions*
- 38) *Passenger Miles, EPA 2010, Offsets*
- 39) *Passenger Miles, EPA 2010, Biodiesel B5*
- 40) *Passenger Miles, EPA 2010, Biodiesel B20*
- 41) *Passenger Miles, EPA 2010, Biodiesel B100*
- 42) *Passenger Miles, EPA 2010, Idling, Recycling and Energy Reductions*
- 43) *Passenger Miles, Offsets, Biodiesel B5*
- 44) *Passenger Miles, Offsets, Biodiesel B20*
- 45) *Passenger Miles, Offsets, Biodiesel B100*
- 46) *Passenger Miles, Offsets, Idling, Recycling, and Energy Reductions*
- 47) *Passenger Miles, Biodiesel B5, Idling, Recycling, and Energy Reductions*
- 48) *Passenger Miles, Biodiesel B20, Idling, Recycling, and Energy Reductions*
- 49) *Passenger Miles, Biodiesel B100, Idling, Recycling and Energy Reductions*
- 50) *EPA 2007, Offsets, Biodiesel B5*
- 51) *EPA 2007, Offsets, Biodiesel B20*
- 52) *EPA 2007, Offsets, Biodiesel B100*
- 53) *EPA 2007, Offsets, Idling, Recycling and Energy Reductions*
- 54) *EPA 2007, Biodiesel B5, Idling, Recycling and Energy Reductions*
- 55) *EPA 2007, Biodiesel B20, Idling, Recycling and Energy Reductions*
- 56) *EPA 2007, Biodiesel B20, Idling, Recycling and Energy Reductions*
- 57) *EPA 2010, Offsets, Biodiesel B5*
- 58) *EPA 2010, Offsets, Biodiesel B20*
- 59) *EPA 2010, Offsets, Biodiesel B100*
- 60) *EPA 2010, Offsets, Idling, Recycling and Energy Reductions*
- 61) *EPA 2010, Biodiesel B5, Idling, Recycling and Energy Reductions*
- 62) *EPA 2010, Biodiesel B20, Idling, Recycling and Energy Reductions*
- 63) *EPA 2010, Biodiesel B20, Idling, Recycling and Energy Reductions*
- 64) *Offsets, Biodiesel B5, Idling Recycling and Energy Reductions*
- 65) *Offsets, Biodiesel B20, Idling Recycling and Energy Reductions*
- 66) *Offsets, Biodiesel B100, Idling Recycling and Energy Reductions*

Quadruple Leaf Combinations:

- 67) *Passenger Miles, EPA 2007, Offsets, Biodiesel B5*
- 68) *Passenger Miles, EPA 2007, Offsets, Biodiesel B20*
- 69) *Passenger Miles, EPA 2007, Offsets, Biodiesel B100*
- 70) *Passenger Miles, EPA 2007, Offsets, Idling, Recycling, and Energy Reductions*
- 71) *Passenger Miles, EPA 2007, Biodiesel B5+, Idling, Recycling and Energy Reductions*
- 72) *Passenger Miles, EPA 2007, Biodiesel B20, Idling, Recycling and Energy Reductions*
- 73) *Passenger Miles, EPA 2007, Biodiesel B100, Idling, Recycling and Energy Reductions*
- 74) *EPA 2007, Offsets, Biodiesel B5, Idling, Recycling, and Energy Reductions*
- 75) *EPA 2007, Offsets, Biodiesel B20, Idling, Recycling, and Energy Reductions*
- 76) *EPA 2007, Offsets, Biodiesel B100, Idling, Recycling, and Energy Reductions*
- 77) *EPA 2010, Offsets, Biodiesel B5, Idling, Recycling, and Energy Reductions*
- 78) *EPA 2010, Offsets, Biodiesel B20, Idling, Recycling, and Energy Reductions*
- 79) *EPA 2010, Offsets, Biodiesel B100, Idling, Recycling, and Energy Reductions*

Quintuple Leaf Combinations:

- 80) *Passenger Miles, EPA 2007, Offsets, Biodiesel B5, Idling, Recycling, and Energy Reductions*
- 81) *Passenger Miles, EPA 2007, Offsets, Biodiesel B20, Idling, Recycling, and Energy Reductions*
- 82) *Passenger Miles, EPA 2007, Offsets, Biodiesel B100, Idling, Recycling, and Energy Reductions*
- 83) *Passenger Miles, EPA 2010, Offsets, Biodiesel B5, Idling, Recycling, and Energy Reductions*
- 84) *Passenger Miles, EPA 2010, Offsets, Biodiesel B20, Idling, Recycling, and Energy Reductions*
- 85) *Passenger Miles, EPA 2010, Offsets, Biodiesel B100, Idling, Recycling, and Energy Reductions*