THE OFFSET WORKSHOP:
OFFSETS FOR FUTURE FOREST STEWARDSHIP AND EDUCATION TOGETHER

FINAL REPORT

Appalachian Carbon Research Group
Research Institute for Energy, Environment, and Economics
Appalachian State University, Boone, North Carolina
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Executive Summary

On October 6th, 2017, the Research Institute for Environment, Energy, and Economics' (RIEEE) Appalachian Carbon Research Group (ACRG) hosted the Offsets for Future Forest Stewardship and Education Together (OFFSET) Workshop at Appalachian State University in Boone, North Carolina. The primary objective of the OFFSET Workshop was to disseminate information about California's forest offset protocol, and support learning and education about the mechanisms for participation in a forest offset project. The 47 workshop participants represented private landowners from the North Carolina High Country region (Alleghany, Ashe, Avery, Mitchell, Watauga, Wilkes, and Yancey Counties), land conservancies, forest industry, project developers, institutional investors, state agencies, academics, and Cherokee Nation representatives. Forest professionals attending the workshop were offered 6.5 Continuing Forestry Education (CFE) credits.

Workshop speakers included representatives from the Climate Action Reserve (CAR), Green Assets Inc., the Conservation Fund, and various other organizations involved in carbon offset projects. Speakers provided workshop attendees with insights into the experiences of carbon offset project developers, institutional investors, registry representatives, land trusts, and private landowners. As a part of the plenary discussion, workshop attendees were asked to respond to two surveys, gauging the importance and certainty of factors influencing offset project development. Respondents identified (a) incentives for small forest landowners, (b) verification costs, (c) political and regulatory uncertainty, (d) the increasing complexity of the protocol, and sustainable market demand for credits as the five most important factors influencing the development of offset projects. Additionally, respondents were asked to rate the importance of each factor in influencing participation in offset projects, as well as the degree of certainty in their responses. On average, respondents felt that the five identified factors were moderately important or very important in influencing forest owner participation.

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The OFFSET Workshop

On October 6th, 2017, Appalachian State University's Research Institute for Environment, Energy, and Economics (RIEEE) and the Appalachian Carbon Research Group (ACRG) hosted the OFFSET Workshop at the Plemmons Student Union at Appalachian State University. The primary objective of the OFFSET Workshop was to disseminate information about California's forest offset protocol, and support learning and education about the mechanisms for participation in a forest offset project. In doing so, ACRG sought to reduce barriers to participation in the carbon offset market for private forest owners in the High Country, encourage innovative ideas, and promote forest stewardship and conservation. The workshop supported the RIEEE mission of facilitating the dissemination of knowledge from research initiatives and supporting community outreach and education related to the environment, energy, and economics.

Workshop Participants

The target population for the OFFSET Workshop included private forest landowners from the North Carolina High Country region (Alleghany, Ashe, Avery, Mitchell, Watauga, Wilkes, and Yancey Counties), as well as land conservancies, forest industry, project developers, institutional investors, state agencies, academics, and Cherokee Nation representatives. Participants were recruited using direct mailing, email, phone, and social media. Additional outreach was conducted through County Extension Offices, county foresters, the North Carolina Forest Service, the NC Tree Farm Program, and the North Carolina Forestry Association.

Forty-seven individuals registered for the workshop and attended, along with several non-registered students and faculty from Appalachian State University. Participants represented the following: forest and carbon consulting groups (5), carbon offset project developers (6) forest/farm owners (6), government agencies (5), forest industry (5), land trusts (7), tribal groups (3), and academia (10) (*Fig. 1*). Notable speakers included representatives from the Climate Action Reserve, Green Assets, and the Conservation Fund.
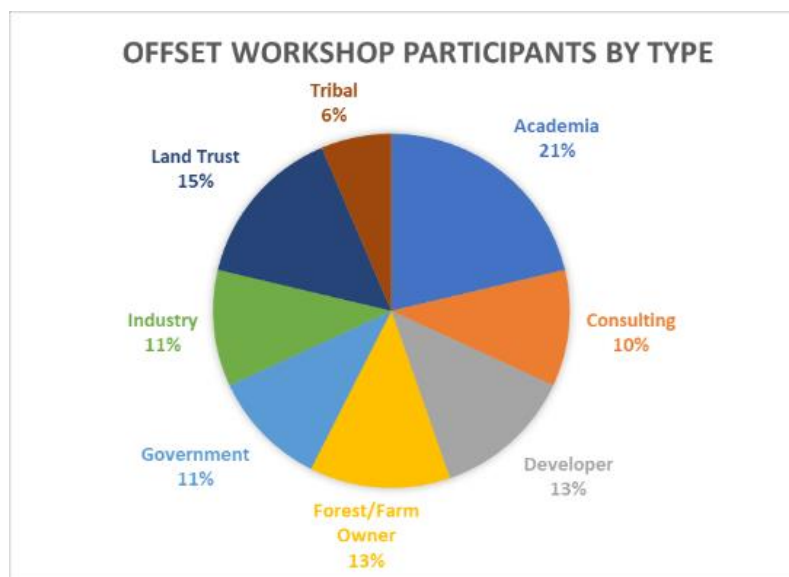
Fig.1. The OFFSET Workshop attendees by type, presented as a percent (%) of total attendees (N=47).

Workshop attendees were offered 6.5 Continuing Forestry Education (CFE) credits for their participation. The CFE Program is implemented by the Society of American Foresters (SAF) and is intended to incentivize foresters to continue developing their professional knowledge. To maintain a forester status in North Carolina, one must obtain 10 credits annually. To offer CFE credits as part of the OFFSET workshop, ACRG worked with the SFE to determine the number of CFE credits that could be earned by attendees. The SAF issued credits to 8 workshop participants as a result.

Additionally, workshop participants responded to survey questions regarding the future of carbon offsets during the afternoon plenary and group discussions. The results from the survey helps ACRG better understand the barriers to and sources of uncertainty for different types of individuals and organizations (e.g. private forest landowners and land trusts) considering undertaking a carbon offset project. Identifying these factors is the first step in addressing and improving participation in carbon offset projects in the Southeastern United States.

Speakers

The following individuals spoke at the OFFSET Workshop (see detailed agenda in Appendix II):

Dr. Nicole Bennett, Research Institute for Environment, Energy and Economics (RIEEE)
Dr. Nicole Bennett is the Director of Appalachian's RIEEE. Prior to this, she served as a program officer for the National Science Foundation (NSF) Division of Undergraduate Education in Washington, D.C. She holds a B.S. in chemistry from UNC-Chapel Hill and a Ph.D. in organic chemistry from the University of Wisconsin-Madison.

Sarah J. Wescott, Climate Action Reserve
Sarah Wescott serves as the Forest Program Manager for the Climate Action Reserve's forest team. In this role, she supports account holders as they navigate the different stages of offset project reporting, verification, and registration. She is also the implementation lead for the Forest, Urban Forest, and Grassland Project protocols.

Cindy Chiang, Climate Action Reserve
As business development manager, Cindy Chiang supports the Communications and Program teams to promote the Reserve's suite of market-based solutions to climate change. Her current areas of focus include increasing project activities in the compliance market, linking carbon offset projects to local land use planning and decision making, and generating new business opportunities to grow the Reserve's diverse service portfolio.

Hunter Parks, Green Assets, Inc
Hunter Parks is the Founder and Chairman of Green Assets, Inc. After graduating from NC State University, Hunter assumed responsibility for the management of his family's properties in Eastern North Carolina and Louisiana. In 2010, he formed Green Assets for the purpose of designing and implementing carbon offset projects for the Air Resources Board in California. Among many accomplishments, Green Assets was awarded the first ever compliance-grade avoided conversion carbon offset credits in the United States in 2015.

Kevin Harnish, The Conservation Fund
Kevin is a Forestry Analyst, based in Chapel Hill, NC. Kevin joined The Conservation Fund in 2015, and focuses on valuing timberland, modeling forest growth, discounted cash flow analysis,

and modeling carbon sequestration. Kevin earned a B.A. of Philosophy from UNC Chapel Hill and a Master of Forestry from NC State University.

Joe Schwartz, The Forestland Group
Joe Schwartz is the Forestland Analyst, engaged in forestland acquisition due diligence and valuation modeling. He coordinates third-party appraisals and property-level timber inventories and provides budgeting support. Prior to his current role, Joe Schwartz served as the Assistant Regional Director in the Southern Region.

Rick Huffines, Tennessee River Gorge Trust
Rick Huffines joined the Tennessee River Gorge Trust, of which he is now the Executive Director, in 2013 after retiring from a 26-year career with the US Fish and Wildlife Service. Most recently, Rick served as the Deputy Regional Chief of the National Wildlife Refuge System.

Tani Colbert-Sangree, Duke Carbon Offsets Initiative
Tani Colbert-Sangree is the Program Coordinator for the Duke Carbon Offsets Initiative (DCOI) at Duke University. He facilitates academic learning opportunities through the development of carbon offset projects to help the university become carbon neutral by 2024. Before joining the DCOI, Tani founded Tomorrow's Climate Solutions, a consultant service that focuses on building institutional capacity to achieve climate commitments.

Dr. Tatyana Ruseva, RIEEE & Appalachian Carbon Research Group
Dr. Tatyana Ruseva is an Associate Professor in the Department of Government & Justice Studies at Appalachian State University. Her work has examined policy drivers of land use and forest management, the role of social networks in private land conservation, and public-private collaborations for sustainable forest management.

Dr. Eric Marland, RIEEE & Appalachian Carbon Research Group
Dr. Eric Marland is professor and chair of the Department of Mathematical Sciences at Appalachian State University, and has worked on issues related to carbon accounting and uncertainty for 15 years. He is the lead author of "Understanding and Analysis: The California Air Resources Board Forest Offset Protocol".

Dr. Gregg Marland, RIEEE & Appalachian Carbon Research Group
Dr. Gregg Marland is a Research Professor in the Research Institute for Environment, Energy, and Economics (RIEEE). Prior to that, he was a Distinguished Research and Development Staff Member at Oak Ridge National Laboratory. He has been involved in forest carbon accounting and analysis for 40 years.

Agenda

Dr. Nicole Bennett welcomed the attendees, reviewed the agenda, and briefly introduced the RIEEE and the purpose of the workshop. Next, Sarah Wescott and Cindy Chiang from the Climate Action Reserve (CAR) provided an overview of carbon offsets, the difference between voluntary and compliance markets, and the requirements for developing a compliance/voluntary forest offset project. The follow-up Q&A session sought clarification on project requirements and the registry's protocol for developing projects. Hunter Parks (Green Assets) then shared his experience working with landowners to develop forest carbon offset projects. He discussed the most common obstacles he faced as both a project owner and a project developer.

Next, an expert panel shared carbon project experiences from the perspectives of an Offset Project Operator, a Timber Investment Management Organization, and a land trust, respectively. Kevin Harnish from the Conservation Fund discussed the strict criteria a prospective project must meet before being taken on by the organization. Joe Schwartz of the Forestland Group spoke about the objective of TIMOs and what investors look for in an offset project when evaluating its viability. Finally, Rick Huffines, the Executive Director of the Tennessee River Gorge Trust, spoke about completing a compliance offset project as a small land trust. The floor was then opened up for a question-and-answer session.

After lunch, Dr. Eric Marland provided an overview of the concepts of permanence, additionality, and leakage, to inform participants before a plenary discussion later in the afternoon. Tani Colbert-Sangree briefly presented on the role of colleges and universities in carbon sequestration, before turning the floor over to Dr. Tatyana Ruseva for the workshop's group activity. Participants were divided into seven different groups based on their affiliation (Fig.1) to promote a deeper discussion. Groups consisted of five to seven individuals; discussions were facilitated by faculty and graduate students from the Appalachian State University Government. Groups were invited to discuss the factors they felt were most important in influencing the future development of offset projects. They were also asked to consider the factors they felt were most uncertain. After the group discussions, participants were asked to take an online survey, the results from which were shared with the attendees (see, Appendix III for a copy of the Workshop agenda).

Participant Surveys

During the afternoon plenary each group was asked to identify five factors they felt were most important in influencing the future development of offset projects (Appendix II, *Identifying factors of change*). The factors identified by each group were then consolidated and input into an online poll. Table 1 below provides a list of these factors. Prior to the coffee break, participants were invited to access the online poll and rank the identified factors of change (Survey 1, Appendix III). Specifically, respondents were asked to select the top five factors they felt were most important in influencing the future development of offset projects.

Table 1. Factors identified as most important or most uncertain for the future of carbon offset projects

Factors shaping the future development of forest offset projects	
Time commitment	Flexibility for timber rotation
Verification cost	Different user groups
Sustainable market demand for credits	Resistance to technological advancement
Incentives for small forest landowners	Political and regulatory uncertainty
Invasive species management	Program effectiveness
Buy-in from other states in the South	Hurdles to work with government
Increasing complexity of the protocol	

In addition, the survey provided the research group with an additional breakdown of the survey respondents by group (*Fig. 2a)*. Overall, workshop participants identified incentives for small forest landowners (77% of respondents), verification costs (70%), political and regulatory uncertainty (70%), the increasing complexity of the protocol (67%), and sustainable market demand for credits (47%) as the five most important factors influencing the development of offset projects (*Fig. 2b*).
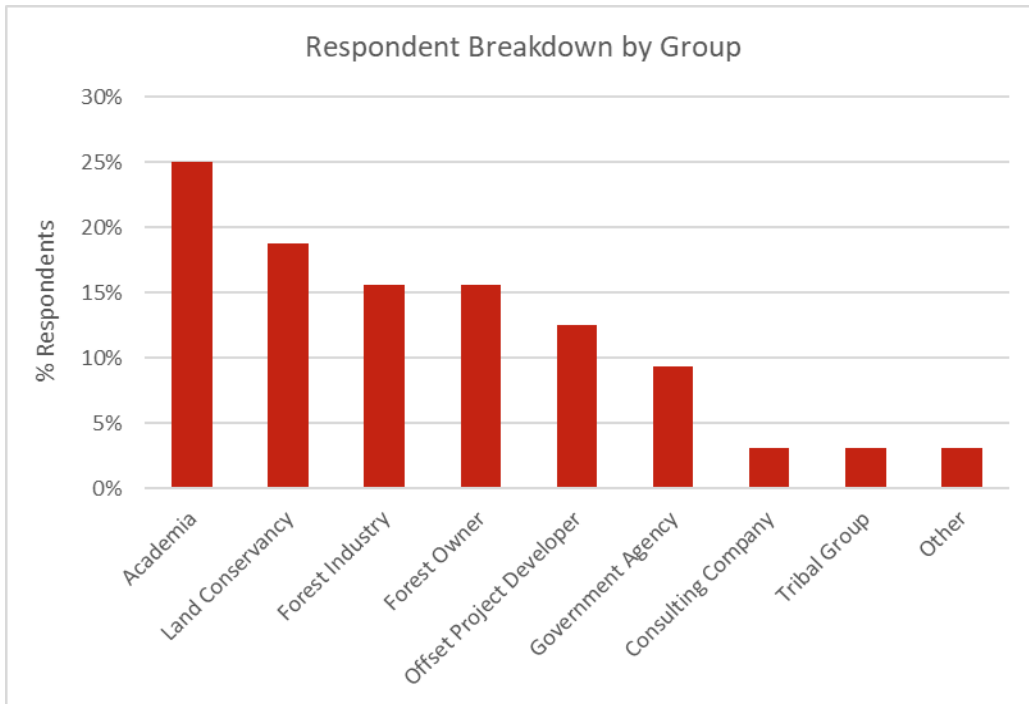
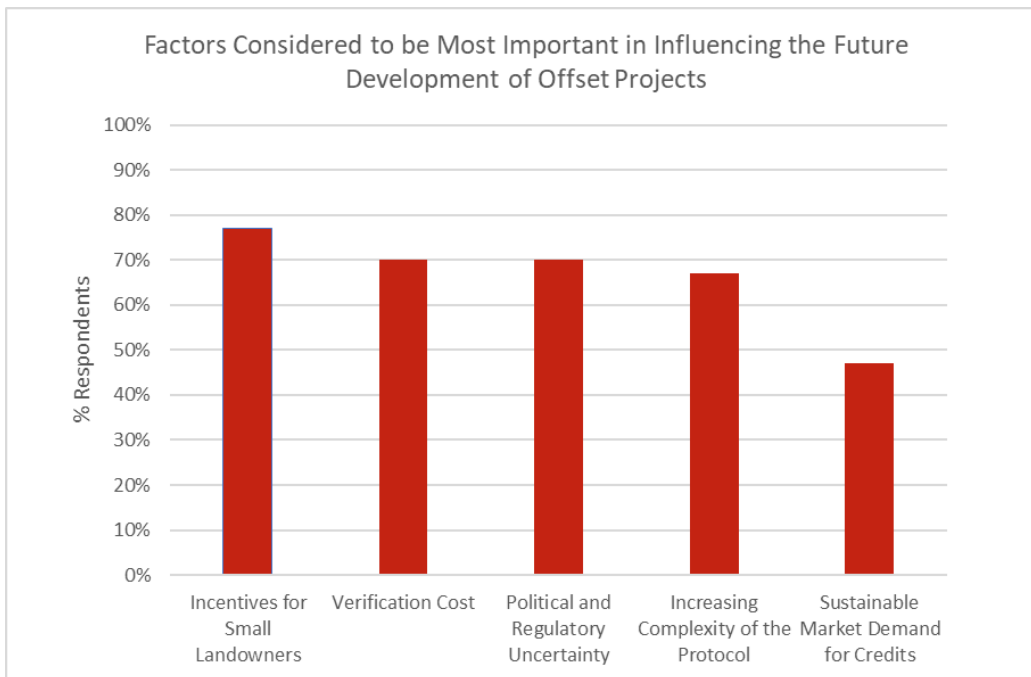*Fig. 2a.* Organizational affiliation of participants.

Fig. 2b. Factors considered by workshop participants to be most important in influencing the future development of offset projects.

After a short briefing of the survey responses, workshop participants were invited to respond to a second online poll. The goal was to gauge the importance and uncertainty of each of the five identified factors (Appendix III, Survey 2). Question two asked respondents to rate how certain they were of their importance ratings for each of the five identified factors.

On average, the importance ratings for each of the five factors mirrored the previous ranking of the factors in the first survey. Respondents felt that incentives for small landowners and verification costs were very important in influencing program participation, followed by political and regulatory uncertainty and the increasing complexity of the protocol (*Fig. 3a)*. Survey respondents felt that a sustainable market demand for credits was only moderately important in influencing forest owner participation. Overall, participants were reasonably or somewhat certain in the importance of each factor (*Fig. 3b*). Responses to the second survey were limited as several participants left before the end of the workshop.
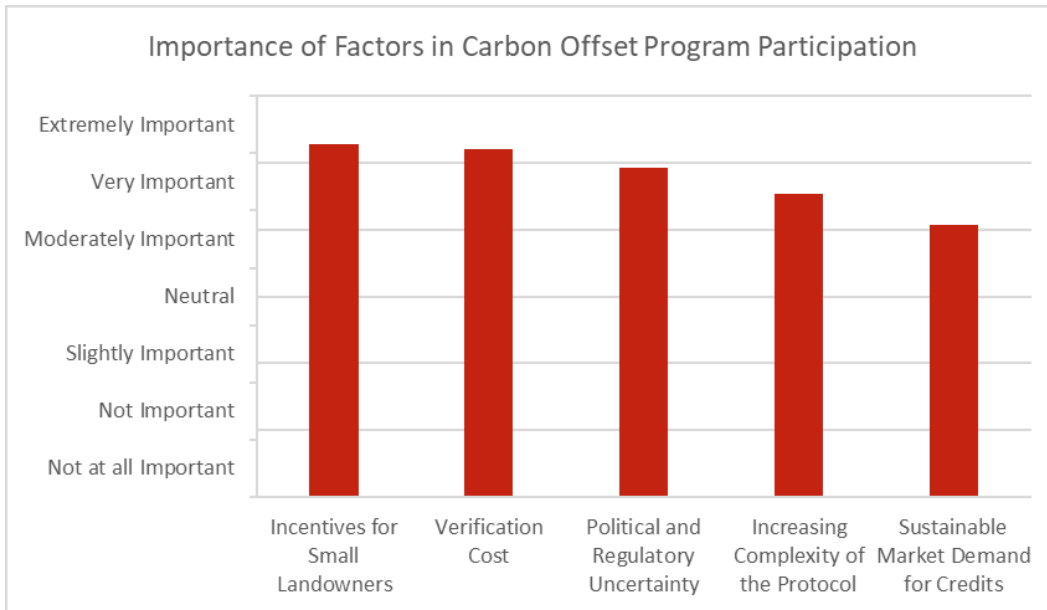
Fig. 3a. Mean importance rating assigned to each factor by workshop participants.
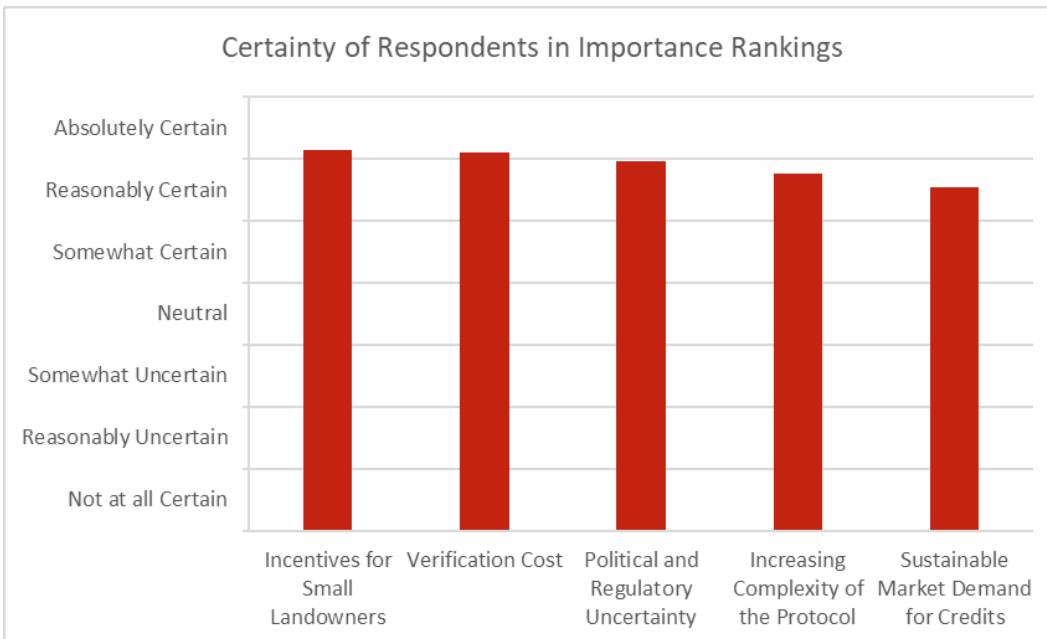

Fig. 3b. Reported certainty of workshop participants in the assigned importance ratings for each factor.

Outcomes and Next Steps

The OFFSET Workshop presented attendees with the opportunity to hear from a variety of individuals with experience in developing or operating a carbon offset project. In doing so, the workshop promoted awareness of carbon offset programs as a possibility for forest owners, and initiated a discussion between stakeholders surrounding the factors influencing participation in these programs.

The participant discussions and surveys provided the Appalachian Carbon Research Group (ACRG) with an improved understanding of the barriers to participation in offset programs. To continue exploring these factors, ACRG is seeking to host a similar workshop in the fall of 2018, specifically geared towards a proposal for a small-scale forest offset protocol, i.e. standards for offset projects on small forest parcels (<100 acres). A lack of participation by this specific group in the Southeastern United States indicates a need to address the factors preventing the program to take root on a broader scale.

For more information about ACRG and future events, please, visit: www.appalachiancarbon.wixsite.com/acrg

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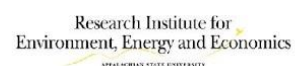Kayla Young, youngk@appstate.edu

Appendix I
Workshop Images

Appendix II
Workshop Agenda & Participant Materials

THE OFFSETS WORKSHOP:

OFFSETS FOR **F**UTURE **F**OREST **S**TEWARDSHIP & **E**DUCATION **T**OGETHER

October 6th, 2017, 9:00am - 4:00pm, Boone, NC

8:00am - 9:00am	**Registration & Breakfast**, Roan Mountain, PSU Room 122
9:00am - 10:30am	Welcome, Agenda, and Introduction *Dr. Nicole Bennett, Appalachian State University, RIEEE* State of the Voluntary Offset Market and CAR Protocol 4.0 *Sarah Wescott & Cindy Chiang, CAR* Working With Landowners to Develop Forest Carbon Projects *Hunter Parks, Green Assets*
10:30am - 10:45am	**Coffee Break**
10:45am - 12:00pm	Expert Panel: Land Trust, TIMO, and OPO Perspectives *Kevin Harnish, The Conservation Fund* *Hunter Jenkins, The Forestland Group* *Rick Huffines, Tennessee River Gorge Trust*
12:00pm - 1:00pm	**Lunch & Networking,** Attic Window, PSU Room 137C
1:00pm - 1:30pm	Challenging Issues: Permanence, Additionality, and Leakage *Dr. Eric Marland, Appalachian State University, RIEEE*
1:30pm - 2:45pm	Plenary Discussion: The Future of Forest Offsets Identifying Factors of Change, *Dr. Tatyana Ruseva, RIEEE* Break-Out Groups: What factors are likely to be important, and also hard to predict as offset credits and markets evolve?
2:45pm - 3:00pm	**Coffee Break**
3:00pm - 3:15pm	Innovative Solutions: the Role of Colleges and Universities *Tani Colbert-Sangree, Duke Carbon Offset Initiative*
3:15pm - 3:45pm	Summary Discussion: Future Scenarios for Forest Carbon, *Dr. Tatyana Ruseva & Dr. Eric Marland, RIEEE*
3:45pm - 4:00pm	Closing Remarks, *Dr. Gregg Marland, RIEEE*

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Survey 1: Voting for the Most Important Factors

As part of the workshop dialogue, we have identified and discussed factors that are likely to influence the future development of forest offsets. We now invite you to review the consolidated list of factors, and "vote" for those you consider to be *most important.* The importance of a factor is how large an impact it will have on the future development of offset projects. The goal is to select those factors that are most important, and use them to inform future scenarios and decisions.

If you agree to take part in this activity, you will be asked to respond to two questions. This should take no more than 5 minutes. Participation is completely voluntary, and you may change your mind or stop at any time. If you have questions, you may contact Tatyana Ruseva (rusevatb@appstate.edu, 812-391-0363).

By continuing, I acknowledge I have read the above information, and agree to participate.

Q1 Which group do you best identify with?
- o Forest industry
- o Forest Owner
- o Consulting Company
- o Government Agency
- o Academia
- o Land Conservancy
- o Tribal Group
- o Offset Project Developer
- o Other

Q2 What factors do you consider to be most important in influencing the future development of offset projects? As you answer the questions below, recall that the importance of a factor is how large of an impact it will have on the future development of offset projects. Select (drag and drop) 5 factors and rank them by level of importance.

(*List of factors:* Time commitment, Verification cost, Sustainable market demand for credits, Incentives for Small forest landowners, Invasive management, Buy-in from other states in the South, Increasing complexity of the protocol, Resistance to technological advancement, Political and regulatory uncertainty, Program effectiveness, Flexibility for rotation, and Different user groups, Hurdles to work with government agencies)

Thank you for your participation!

If you have questions or comments, please contact Tatyana Ruseva (rusevatb@appstate.edu).

Survey 2: Rating Importance & Uncertainty for Selected Factors

In the previous poll, we have identified the most important and uncertain factors that are likely to influence the future development of forest offsets. We now invite you to "rate" each factor by its level of *importance* and *certainty*. The goal is to integrate importance and certainty, and use the emerging patterns to inform future scenarios and decisions.

If you agree to take part in this activity, you will be asked to respond to 3 questions. This should take no more than 3 minutes. Participation is completely voluntary, and you may change your mind or stop at any time. If you have questions, you may contact Tatyana Ruseva (rusevatb@appstate.edu, 812-391-0363).

By continuing, I acknowledge I have read the above information, and agree to participate.

Q1 Please, rate the importance of each factor to landowner participation in the carbon offset markets.

	Not at all important (1)	Not important (2)	Slightly important (3)	Neutral (4)	Moderately important (5)	Very important (6)	Extremely important (7)
Incentives for small landowners (1)	○	○	○	○	○	○	○
Political and regulatory uncertainty (2)	○	○	○	○	○	○	○
Verification Cost (3)	○	○	○	○	○	○	○
Increasing complexity of the protocol (4)	○	○	○	○	○	○	○
Sustainable market demand for credits (5)	○	○	○	○	○	○	○

Q2 Some people are very certain of their views on the factors likely to impact the future development of forest offsets. Others are not at all certain. **How certain are you of your views on the importance of each factor above?**

	Not at all certain (8)	Reasonably uncertain	Somewhat uncertain (10)	Neither certain, nor uncertain (11)	Somewhat certain (12)	Reasonably certain (13)	Absolutely certain (15)
Incentives for small landowners	○	○	○	○	○	○	○
Political and regulatory uncertainty	○	○	○	○	○	○	○
Verification Cost	○	○	○	○	○	○	○
Increasing complexity of the protocol	○	○	○	○	○	○	○
Sustainable market demand for credits	○	○	○	○	○	○	○

Thank you for your participation!

If you have questions or comments, please contact Tatyana Ruseva (rusevatb@appstate.edu).