



Thank you for contacting Forecon EcoMarket Solutions (Forecon EMS) about carbon market opportunities for forestry projects. As you know, forests provide a wide array of services and products to our society. Wood, recreation, wildlife and biodiversity, quality water, aesthetic landscapes, and clean air are all values we recognize from the forest. Forest landowners and managers have seen the development of markets for many of these services, however market based solutions to compensate forest landowners for some benefits have been limited. Fortunately, new markets for ecosystem services such as water, biodiversity, and carbon sequestration are seeing increased activity and growth. Currently, the most mature of these new emerging markets is carbon.

Forecon has worked intensively in the area of Ecosystem Services over the past years, building knowledge and influencing policy as these markets develop domestically. As managers of hundreds of thousands of acres for landowners of all types, we are intimately familiar with the pressures being placed on timberlands today. Taxation, regulation, certification, and urban expansion are but a few of the threats to our timber resource today. In recognizing the increasing pressures on forest landowners today, we feel it is imperative that all market based opportunities for managed forests be researched, and where appropriate, made available to those that could benefit.

The current domestic carbon markets in the US are rapidly evolving. Rising values for carbon financial instruments, along with favorable policy and accounting rules for forestry projects are creating exciting new opportunities. Forecon Inc. has identified these new emerging markets as potential return drivers for some forest landowners that are willing to make commitments to a positive net flow of carbon over time.

Forecon is excited to assist you as you consider the impacts of participation in domestic carbon markets. The following documentation includes an overview of the services available at Forecon EMS, an overview of forest project requirements, an overview of the project development process, and a project questionnaire.

We hope that this information helps broaden your understanding of carbon accounting and marketing for forestry projects. If, after reviewing this information, you would like to proceed with investigating how your forestry project can participate, please address all questions in the questionnaire and send the information back to us. We can then address your project specifically and provide you with the appropriate advice for your project's success. Please feel free to contact us directly should you have any comments, questions, or concerns. Again, thank you for contacting Forecon EMS. We look forward to working with you.

Best Regards,

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Director of Ecosystem Services

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Carbon Sequestration, Water and Biodiversity Asset Marketing and Management  
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# Carbon Sequestration and Ecosystem Services

## Background on Forest Carbon Sequestration Registries and Markets

Market-based mechanisms are emerging as a more efficient means for addressing climate change. With market-based mechanisms come opportunities for increasing return on investments available to managed forests. Voluntary and mandatory forest carbon markets are evolving in the United States for evaluating, registering, verifying, and trading carbon credits for offsetting greenhouse gas emissions from manufactures and utilities. As markets for ecosystem services like sequestered carbon develop globally, managed forests will play an increasingly important role for addressing climate change.

The Chicago Climate Exchange (CCX) is the only carbon credit market in North America and is currently trading emission allowances that can be gained through verified net increases in forest carbons stocks.

Within the United States, three regional programs have emerged for registering carbon credits associated with managed forests and afforestation/reforestation projects; the National Carbon Offset Coalition (NCOC), the California Climate Action Registry (CCAR), and the National Voluntary Greenhouse Gas Reporting Program (1605b) . A fourth program, the Northeast Regional Greenhouse Gas Registry (RGGI), when developed, will be the first regional cap & trade program in the US.

## Forecon's Carbon Asset Management Services

### **Comprehensive GHG Inventory and Reduction Program**

- **Forecon** and its partners provide a comprehensive greenhouse gas (GHG) inventory and reduction, and verification program for integrated forest products industries with manufacturing and forest management operations.

### **Forest Carbon Market Access Consulting and Training**

- **Forecon** provides clients consulting and training services to help them understand the current regulatory environment and opportunities presented by voluntary and mandatory carbon markets, and accessing those markets.
- **Forecon** assists our clients in capturing financial returns for forest investments associated with sequestered carbon from managed forest offset projects by developing and implementing strategies for evaluating, registering, verifying, reporting, and trading forestry offset carbon credits.
- **Forecon** conducts cost-benefit and sensitivity analyses to determine when and where clients should register carbon stocks.

### **Forest Carbon Credit Registration**

- **Forecon** works through several Aggregators to develop offset project proposals to access the Chicago Climate Exchange trading platform.

### **Forest Carbon Stock Valuation and Reporting**

- **Forecon** develops customized carbon valuation and reporting tools based on proprietary client inventory data, and growth and yield models using CCX, NCOC, and 1605(b) protocols.
- **Forecon** maintains inventory databases for its clients for the reporting and verification of net changes in carbon stocks.

### **Forest Carbon Verification**

- **Forecon** is an approved Chicago Climate Exchange verification company. Our personnel are skilled auditors for conducting verifications of the CCX's commercial forestry and afforestation/reforestation projects.
- **Forecon** auditors have conducted CCX verifications for several international forest products companies in the United States and Brazil.
- **Forecon** is also qualified to conduct forestry verifications under the 1605b and NCOC programs.

## **Forecon EcoMarket Solutions LLC Forestry Carbon Offset Project Requirements and Procedure for Access to and Trading on the Chicago Climate Exchange (CCX)**

### **Basic Project Requirements:**

In order to qualify as an offset project, all projects must meet basic market requirements before trading carbon financial instruments on the CCX market. Outlined below are the basic forest project requirements for your consideration. Keep in mind that not all of these mandates must be met to submit a project proposal for review and approval by the market. Some requirements can and must be fulfilled after project approval but before credit registration and trading. Following this listing of project requirements we have presented a phased approach to how Forecon EcoMarket Solutions (Forecon EMS) can facilitate conformance with all of these items.

- Project owners must understand and be willing to assume the risks associated with entering the carbon market.
- Project owner must have sufficient ownership control to have influence over carbon stocks and sequestration levels for the future
- Project must be capable of sequestering levels of carbon capable of generating gross revenues in excess of market start up and participation costs.
- Project owner must be willing to commit to maintaining carbon stocks for the commitment period associated with the CCX market (to end of current pilot period)
- Project must have been certified as sustainable by an independent third party under a PEFC endorsed program such as the Sustainable Forestry Initiative, Forest Stewardship Council, or Group Tree Farm System.
- Project owner must be able to track and report on carbon stocks annually in conformance with market rules. This includes the use of a CCX approved growth model.
- Project owner must disclose any significant emissions sources under their influence, ownership, or control.
- Carbon stocks and net sequestration must be disclosed on all interests associated with the project owner. For instance, all lands owned must be accounted for and disclosed to the market.
- Project baselines must be developed using a site specific inventory with statistical standards of +/- 10% at 95% confidence for total tree volume. Gaps in the accounting for total tree volume of all stems 1 inch dbh and greater may be addressed using other means, with prior approval. *(note: while this is not a requirement under current CCX market rules, Forecon EMS has taken the position that these statistical standards are the benchmark from which we can establish project specific accounting to acceptable tolerances.)*

## **Step 1: Feasibility Study (optional)**

### **Phase I: Carbon Baseline Establishment and Sequestration Levels**

Using timber inventory information provided by the client, Forecon EMS will develop estimates of carbon stocks (baselines) for the ownership. These base year carbon stocks will then be modeled forward to the current date using the estimates of growth and harvest (provided by the client) in order to estimate net annual sequestration levels over 3 (2010), and 10 year projection periods. Net sequestration will then be used to calculate projected income and expense streams that could result from the sale of carbon financial instruments over the analysis period. In order to develop the models and reports for this analysis, the landowner or its assigns will need to provide a variety of information to Forecon EMS. As a result of the information provided and reviewed in Phase I, gaps or additional data needs may be identified. Any additional data needed to fully account for carbon stocks and accounting will be identified at this time.

### **Phase II: Economic Analysis**

Using the information assembled in Phase I, Forecon EMS will develop estimates of carbon stocks (baselines) and sequestration levels for the subject property. Net sequestration will then be used to calculate projected income and expense streams that would result from the sale of carbon financial instruments over the analysis period. These analyses can be performed under several income and expense scenarios. Income can be forecasted using the most current valuation data available, both with and without market price appreciation. Expense streams will be derived using the most current market participation fees, brokerage fees, start up costs, and discounts or reserve levels. The models created to process these different approaches will be constructed in such a manner as to facilitate additional scenarios or carbon prices, if desired.

## **Step 2: Forest Offset Project Development, Verification, Registration, and Trading and/or Marketing of Forest Carbon Credits**

*After completion of Step 1, you may decide to have Forecon EMS proceed with Step 2. Step 2 (Phases III– VII) includes the development, verification, and aggregation, and trading or marketing of carbon credits from your forest offset project. Upon written approval by the project owner to proceed with Step 2 and prior to beginning Phase III of this proposal, the landowner and Forecon EMS shall sign a CCX aggregation contract, designating Forecon EMS as their CCX aggregator.*

Below is a description of the phases included in Step 2. These may change based on the quality of the data provided and the results of Step 1.

### **Phase III: Project Proposal**

All offset projects must be approved for participation in the market by the CCX Forestry Committee prior to marketing credits. This phase begins the process of develop a CCX project proposal for submission to the CCX Forestry Committee for approval. Project approval is critical to justify future investments by a landowner. Forecon EMS, together with the project owner and or their management agent(s) shall compile the required information for the document, and produce the forest offset project proposal for submission it to the CCX Forestry Committee on behalf of the project owner. This process requires the full disclosure of ownership information, project information, quantification methods, estimated sequestration levels, approval of the growth models to be used, and other key information on the project. Forecon EMS is experienced in producing proposals for the CCX market and knows how best to present or “sell” your project to the market.

### **Phase IV: Project Commitments**

Upon review of this project, the CCX Forestry Committee may require that the landowner do additional work to satisfy any conditions required for approval. As described above, additional inventory, forest certification, or other requirements may need to be met in order to participate in the CCX market. Each forest project will present its own level of compliance on these issues, making the time and costs required to fulfill the market expectations highly variable. Forecon EMS does not recommend that project owners invest significant expense or effort in meeting market requirements specific to carbon market participation prior to approval of the project proposal. After the project has been approved, the commitments made in the proposal shall be implemented by the landowner. Forecon EMS will work with the landowner to facilitate these requirements in whatever capacity they may require.

### **Phase V: Baseline Calculation and Development of the Carbon Accounting System**

A basic requirement of carbon market participation is the presence of a carbon accounting system. This system must be capable of handling the conversion of forest inventory to carbon equivalents, tracking net changes annually due to growth and harvest, and providing a verifiable report annually to the marketplace.

Depending on the geographic location, forest type, and complexity of the forests within the project, owners may choose to use the carbon accounting services available through Forecon EMS, or may choose to develop and or enhance their own system, or a hybrid system using components of both approaches. Using Forecon EMS’s carbon accounting module in its TIGER database, Forecon EMS could establish the property baseline and populate the TIGER module with stand-level data. Using the CCX approved TIGER database and the US. Forest Service TWIGS growth and yield model, Forecon EMS would then implement the carbon accounting system consistent with CCX rules for a managed offset project.

Should the client choose to provide its own carbon accounting, Forecon EMS could provide consulting services in the development of the system. Forecon EMS staff can work with your existing data management system in order to facilitate conformance with market accounting rules



as consultants. Scoping audits can also be provided as interim tests of your system prior to market participation.

Another option would consist of components of each approach. Many forest owners have traditional forest inventory systems and mechanisms to keep the inventory on the forest current using growth models and reported harvests. Forecon EMS can use derivatives of a current inventory system, make the carbon conversions, generate annual reports, and submit the annual reports to the market annually for registration and trading.

There are many options available to project owners depending on the comprehensive nature of their current system for carbon accounting and their capacity or interests in handling the accounting requirements in house or outsourced. Forecon EMS will work with the project owner to facilitate the most desirable, efficient, and effective approach to meeting the market expectations.

### **Phase VI: Project Verification**

After having met all market requirements, and producing the initial baseline report, the project must be verified by an approved CCX third party verifier. Third party verifications of the carbon accounting process are an annual market requirement for participants. Although Forecon Inc. is a CCX approved verifier, we cannot serve this role on projects for which we consult and aggregate credits due to conflicts of interest. Forecon EMS can assist project owners in securing a qualified verifier and can also assist in managing and facilitating the verification process. As the role Forecon EMS plays in any specific project is variable, there may be instances where accounting records are in Forecon EMS control, requiring that we participate in the audits. This may not always be the case however. The structure of the relationship between Forecon EMS and the project owner will dictate the degree to which Forecon EMS staff will need to participate.

### **Phase VII: Project Aggregation, Baseline Registration, and Trading**

Upon successful verification, Forecon EMS can then begin the process of aggregation and trading or banking of carbon credits generated on the project site. This process is implemented annually with the submission of the annual report to the CCX. Based on each project owners plan for banking vs. marketing, Forecon EMS will register and or market credits accrued on the CCX market trading platform. Forecon will administer the process of monetizing credits chosen for sale, receiving income and distributing dividends to project owners in accordance with their objectives.

While credits accrued are typically registered annually, trades can be conducted at any time. Forecon EMS will work with each project owner to facilitate trades in a timely, efficient, and value added manner.

### **Costs Relationships:**

As you have reviewed this document it has likely become apparent to you that each project will present its own set of circumstances regarding the investments and assistance required to access the market platform. Forecon EMS recognizes that not all project owners will require the same



level of assistance in order to reach conformance with the market expectations. As each case is its own unique case, Forecon EMS also customizes its approach to establishing fee structures that fit each circumstance.

In general terms, consulting services such as those provided in phases I through IV are provided either on a cost not to exceed or hourly rate schedule. Phases V through VII are a blend of hourly rates for some items, and an aggregation rate or commission fee for others. Again, each project presents a unique set of circumstances. For some projects, all of Phase V through VII can be covered under a flat aggregation fee based on the market value of carbon credits as they are registered annually. Other projects may require a different mix of hourly fees and a commission for aggregation.

Forecon EMS understands the need to engineer cost structures in line with each projects unique qualities and requirements. As project details become known, Forecon EMS will be happy to provide proposals and estimates as needed.

**For more information on carbon markets and the services of Forecon EcoMarket Solutions, please feel free to contact one of the members of our Carbon and Ecosystem Services team below:**

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Forecon EcoMarket Solutions LLC.  
Project Eligibility Questionnaire, 07/04/07

## **Forest Offset Project Eligibility Questionnaire**

*This questionnaire is intended to provide Forecon EcoMarket Solutions with the basic information necessary to consider each forest offset project. The questions below are a guide, feel free to attach any additional documentation necessary for our full understanding of the proposed project site. If your project site is comprised of multiple management units and forest types, you may complete one questionnaire for each. All information is for the use of Forecon EcoMarket Solutions LLC. only, and will be kept strictly confidential.*

### **Ownership information:**

Owner Name(s):

Ownership Type: (Fee title, surface, etc) If divided interest, please disclose other parties and interests in the project site:

Managing agent (if different than the owner):

### **Project Description:**

Project Location:

Are property level maps available?

Number of properties:

Date Acquired:

Total Acres:

Forested Acres (acres with well stocked stands of tree species of 1 inch dbh average and greater):

Primary tree species:

Briefly describe the forest resources:



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Are there conservation easements or other similar liens on the property? If yes, briefly describe.

Are there forest practices act's local ordinances, or other regulatory requirements for how forests are managed in the region(s) in which the project is located?

Average site quality: (below average, average, above average?)

What are the management objectives for the property?

Do you feel that growth on the subject property will exceed, be the same as, or be less than harvest levels over the next 10 to 20 years?

If harvesting is a common practice on the property, what products are produced through harvesting? (ie softwood lumber, hardwood lumber, pulpwood, osb, biofuels, etc)

How long does the owner plan on holding the property? Is development or changes in land use a typical activity in the current management program for the project site?

### **Forest Management:**

Does the property have a written management plan? If yes, when was it done?

Has the management program on the property been certified as sustainable under a PEFC recognized program? (ie SFI, FSC, Tree Farm) If yes, is the certification up to date?

### **Forest Inventory:**

Does the property have a forest inventory?

If yes.....

When was it completed?

What was the sample size?

Has it been kept up to date for growth and removals/additions? Also, if growth models are used, what model has been selected for use?

What methodology was followed? (ie variable radius, strip cruise, fixed radius)

What specifications were followed? (attach if necessary)



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Project Eligibility Questionnaire, 07/04/07

What were the statistical results of the inventory for total volume?

Can you produce stand and stock table summaries for all stems on the project site?

**Emission Sources:**

Does the owner(s) represent interests that result in significant emissions of greenhouse gases? (Including changes in land use, manufacturing facilities, distribution systems, etc...) If yes, please describe.