



Solutions...

A periodic newsletter for clients and friends of Innovative Natural Resource Solutions, LLC

Wouldn't it be nice if forests could play a significant role in mitigating climate change...

Are we grinchers or realists? Sometimes, they might be the same thing. Being involved as a company in many facets of forests: their conservation; their harvest and the industry that depends on them; their certification; the people and entities that own them – we would love to be able to say that forests can play a meaningful role in mitigating climate change through carbon sequestration, but this may be a pipe dream.

Today, the market for selling carbon credits from forests in the U.S. is driven by California's Cap and Trade program. This program for greenhouse gas emissions is a part of California's Global Warming Solutions Act (AB 32) that became law in 2006

under then Governor Schwarzenegger. The program directed the California Air Resources Board (CARB) to begin developing early actions to reduce greenhouse gases (GHG) while preparing a plan to meet the 2020 limit set in the law. It is important to understand California's approach because any future federal programs will likely rely on the substantial experience gained in California.

Major sources of GHG emissions in the State, such as refineries, power plants, industrial facilities, and transportation fuels are covered under the cap-and-trade program, which is a small portion of the overall effort. The regulation includes an enforceable GHG cap that

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Forests & Climate Change

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will decline over time. ARB distributes allowances (tradable permits) equal to the emissions allowed under the cap. The program is designed with the intention of having market forces find the least-cost way to achieve mandated GHG emission reductions.

The AB 32 program seeks to reduce the projected California GHG emissions for 2020 from the anticipated 507 million metric tons (MMT) of carbon to the desired 427 MMT, an 80 MMT reduction. The entire program is designed to reduce GHG emissions to 1990 levels by 2020, with the ultimate goal of an 80% reduction from 1990 levels by 2050.

The AB 32 law aims to achieve this through these components:

Advanced Clean Cars

3.8 MMT reduction from advanced cars, focusing on cars in the model years 2017-2025.

Low Carbon Fuel Standard

(LCFS) 15.0 MMT reduction.

High Speed Rail

1.0 MMT (estimated) reduction from increased high speed rail.

Renewable Portfolio Standard

(RPS, 20% by 2020)

12.0 MMT of reductions from the state's Renewable Portfolio Standard efforts by favoring lower carbon emission renewables.

Renewable Electricity Standard (RES, 33%)

Initially estimated an 11.4 MMT reduction, but this has been revised since the economic downturn.

Energy Efficiency

11.9 MMT reduction from: building and appliance efficiency, increased combined heat and power (CHP) generation, and solar water heating.

Regional Transportation

(Related GHG Targets)

3.0 MMT CO₂e from the regional passenger vehicle GHG reduction targets established for the 18 California Metropolitan areas.

Vehicle Efficiency Measures

3.7 MMT reduction from vehicle efficiency efforts:

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Innovative Natural Resource Solutions LLC

offers consulting services in:

- ◆ Renewable Energy
- ◆ Land Protection & Management
- ◆ Advocacy
- ◆ Forest Certification
- ◆ Economic Development
- ◆ Organizational Management

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Low Friction Oil, Tire Pressure Regulation, Tire Tread Program, Solar Reflective Automotive Paint/Window Glazing.

Goods Movement

Reduced emissions from shipping and port operations -- Expected to provide negligible savings of emissions by the target 2020 date; intention is that these reductions will be realized beyond the 2020 date.

Million Solar Roofs

Encouraging installation of solar electricity generation through incentives, with goal of saving 1.1 MMT for the GHG reduction effort.

Medium/Heavy Duty Vehicles

Combination of more aerodynamic

truck designs to reduce drag and increased number of hybrid trucks on the road. Goal: 0.5 MMT reduction in 2020.

Industrial Measures

(for sources covered under cap-and-trade) Refinery Measures and Energy Efficiency & Co-Benefits Audits -- these measures are under evaluation, so potential reductions are uncertain.

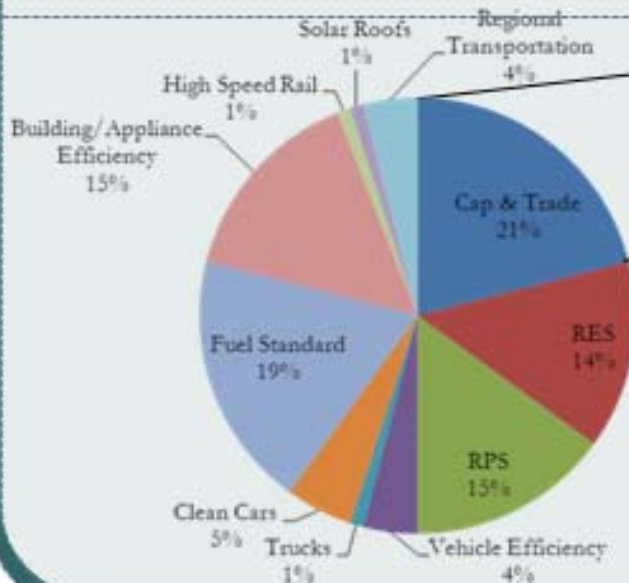
Cap-and-Trade

17.0 MMT reduction through cap-and-trade regulation that establishes a declining limit (cap) on 85% of statewide GHG emissions. Within the Cap-and-Trade program, it is believed that a 5.0 MMT reduction can be obtained through forest sequestration.

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California GHG Reduction Law

2020 goal of 80 MMT reduction in GHG emissions



“Forests might contribute 6% to the total GHG reduction goal.”

Forests & Climate Change

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So here is the reality - of the total 80 MMT reduction in GHG emissions, forests might contribute 6% to the goal. While this is laudable and suggests pursuing forest carbon sequestration projects may be worthwhile, we shouldn't kid ourselves. This California example, useful because forest-based sequestration projects anywhere in the U.S. are eligible, puts some perspective on what a small portion of this business is made up by forests.

This isn't to suggest that forests aren't critical as we grapple with greenhouse gas issues - they are. However, the regulatory system around carbon provides no reward or incentive for "business as usual" - the fact that landowners across the country are managing forests and growing carbon stocks. Instead, the incentive exists only for what is referred to as "additionality" - those actions that go above and beyond a baseline expectation.

In the Northeast, landowners are evaluating the opportunities to secure funds through participation in the California program. Additionally, the Regional Greenhouse Gas Initiative (RGGI) has just issued new rules that allow for

forest based projects in three categories:

- * Improved Forest Management (from a carbon stocks perspective)
- * Avoided Conversion (protecting land from development pressures), and
- * Reforestation (growing a forest where one does not exist today).

For years there have been promises and PowerPoints that suggest landowners will get paid for their carbon. Now with the California program, and perhaps RGGI, there may be some opportunities for landowners to be compensated for one of the important ecosystem services they provide.

We would hope that forests could play a leading role in GHG reductions in the US and elsewhere in the world. The gains, however, are greater in other areas where reductions of actual emissions are the target. Actually, it is very logical. Forests can play a small role in these efforts and we should make the best of it.

~ Eric W. Kingsley
& Charles A. Levesque

Northern Forest Biomass Project Evaluator now available online!



Northern Forest
Biomass Project Evaluator

INRS is proud to announce the launch of the Biomass Project Evaluator (BPE) Tool, a wood supply decision-support tool for the northeastern U.S.

At its heart, BPE is an assessment tool that allows users to generate realistic estimates of wood supply by consistently accounting for wood supply limitations, such as existing harvest pressure, logistic constraints, and land ownership patterns. The

tool was built with an eye toward providing a user-friendly interface, which allows expert users to design and execute model runs quickly and easily - ideal for sensitivity analyses. It is also relatively simple for a novice to use BPE, although users are encouraged to seek additional guidance when selecting model assumptions.

A series of BPE training workshops were held throughout New England in September 2012 for members of academia, state government, private consulting, and non-profit organizations. Participants indicated great interest in BPE as an assessment tool and provided valuable feedback that was incorporated into the final version.

There is extensive documentation built into the tool itself, but users can also find supporting documents and a series of video tutorials online. Take it for a test run today!

Questions and comments can be directed to Jennifer Hushaw at hushaw@inrsllc.com or 603-784-5004.



BPE was developed for the North East State Foresters Association.

The BPE tool is available as a free download online at

www.nefainfo.org



Charlie Niebling Joins INRS

Charlie Niebling, a longtime friend of the company and former INRS partner in the mid-1990s, has re-joined the company. Niebling was, for the past seven years, the General Manager with New England Wood Pellet (NEWP).



Charlie Niebling

He maintains a consulting arrangement with NEWP as he joins the firm. Charlie was previously vice president of the Society for the Protection of New Hampshire Forests and Executive Director of the New Hampshire Timberland Owners Association.

Niebling brings a wealth of knowledge and experience to INRS about biomass energy and the many opportunities found in this sector. Charlie was a founder and first Board

Chair of the Biomass Thermal Energy Council (BTEC) which has become the national voice for the biomass thermal sector. In that role he has encouraged and advocated for many important biomass thermal related policies at the federal and state levels. He recently received the 2013 International Excellence in BioEnergy Award from BBI International.

As a member of the INRS team, Niebling will continue work in the biomass thermal sector, both in the development area and policy arena and also will be specializing in strategic communications around important natural resource and renewable energy policy objectives. He will work in the U.S. and wherever this important work takes him.

Charlie Niebling is a licensed forester and lives in New Hampshire. He is the proud owner and manager of an exemplary Tree Farm forest in central New Hampshire.

Niebling can be reached at 603-965-5434 or niebling@inrsllc.com.

MA RPS Forestry Wood Difficult to Qualify

Starting in January 2013, Massachusetts has required all forest-based biomass fuel used in its Renewable Portfolio Standard to go through a complicated and time consuming qualification process. INRS has been working with biomass suppliers and facilities in New Hampshire, Massachusetts and Maine to complete this process, which uses soil types, harvest prescriptions and carbon accounting rules to determine how much "eligible biomass" fuel removed from a forestry operation can be used for MA RPS compliance (a key part of the economics of a number of biomass plants in the region).

Through this effort, INRS has worked with foresters in the three states to qualify tens of thousands of tons of biomass fuel, helping multiple facilities comply with the new rules. If your firm is working

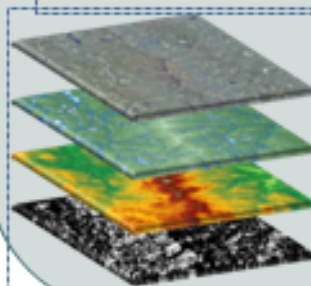
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New! INRS offers GIS/mapping services to meet your spatial data needs.

Foresters/Landowners - Let us create beautiful, quality maps of the properties you manage - fully customizable to your specifications.

Land Trusts - We can help you manage the spatial documentation of your conservation land and even work with you to strategically identify high conservation value parcels through parcel prioritization assessments.

Have something else in mind? Give us a call and we would be happy to discuss individual projects.



Visit us online at www.inrsllc.com/gis for a more comprehensive list of the services we offer.

For more information please contact Jennifer Hushaw at hushaw@inrsllc.com or 603-784-5004.

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to comply with these standards, give us a call – we certainly have more experience with the rules than anyone else, and would be happy to work with you. Of course, if you are using land-clearing or other non-forestry wood, there is no need to wade through an 11-tab spreadsheet – that wood is automatically qualified as “eligible biomass” for the Massachusetts RPS.

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