

# Industrial Hemp Processing - New York -

(ver 0.6)

**Gaining Momentum!**

[www.BuildGreenNow.net](http://www.BuildGreenNow.net)

# Call to Action!

- Kingston, NY - Refine Local Insulation Solutions
- Ulster County - Develop Insulation Plans
- New York - Produce Hemp Paper and Plastics

**New York must offer hemp processing.**

# Opportunity

## Industrial Hemp Market Worth \$ 27.72 Billion, Globally, by 2028 (25.17% compound annual growth rate)

Rising awareness among the consumers about the benefits of industrial hemp, increasing legalization to cultivate industrial hemp in many countries, and rising application of industrial hemp in diverse industries such as textile, pharmaceutical, food, beverage, personal care, construction & material, furniture, and paper is expected to drive the market for industrial hemp (by Verified Market Research™)

<https://www.globenewswire.com/news-release/2021/03/08/2188902/0/en/Industrial-Hemp-Market-Worth-27-72-Billion-Globally-by-2028-at-25-17-CAGR-Verified-Market-Research.html>

# Opportunity (cont.)

**USDA: 54,152 Acres Planted, \$824 million value, 2021**

**"We hear from manufacturers all over the country seeking domestic sources of commercially viable hemp fiber and grain. Yet, without processing facilities—which will require years of significant investment—the journey toward scale will be a slow one. Fortunately, a handful of steadfast entrepreneurs are working to speed up the scale hemp needs to unlock its immense potential."**

**- Geoff Whaling, chairman of the National Hemp Association (NHA)**

**<https://www.hempgrower.com/article/usda-releases-hemp-acreage-production-survey-results-2021/>**

# Vision

- Train Farmers.
- Provide Seeds and Support.
- Project Management for each Ulster Co. city and town.
- Hemp Processing Facility in New York by 2024.
- Ulster Co. Innovation - Eco Entrepreneurship Leadership

# A Market Signal - Industrial Hemp Building Code

- **April 2022**, ICC Mtg.  
Rochester, NY. The US Hemp Building Association presented proposal RB 316-22 (hemp-lime as wall in-fill for residential buildings)
- **September 2022 Done**,  
Hemp-lime recommended for approval, providing a pathway for using hemp as insulation in buildings.

## Hemp-lime IRC Proposal Recommended for Approval

Codes | 0 comments



This week in New York, the International Code Council (ICC) *approved* Hemp-lime (Hempcrete), [Proposal\\_RB316-22](#) for the International Residential Code (IRC). This is the **first step** toward the ICC's formal *adoption* of hemcrete as an

# Proof: The Walls of Kingston Hemp House #1





# Deregulation - Farm Bill Hemp Exemption

<https://www.hempexemption.com>

## Our Proposal

### Grain and Fiber Industrial Hemp- Exemption Framework

*To create a separation between the definition and regulation of industrial hemp fiber and grain from cannabinoid or flower hemp. The bill language maintains the current 2018 Farm Bill regulatory framework for cannabinoid hemp production with the following new framework for industrial hemp production:*

- **New statutory definition for industrial hemp for grain and fiber** - creating a distinction from cannabinoid hemp or dual/tri-purpose cannabinoid crops
- Same 2018 Farm Bill **licensing with added designation for only grain/fiber production** & harvest (including GPS coordinates of land on which hemp is produced & FSA report)
- Signed declaration that producer will only harvest grain/fiber and will not harvest or sell flower material or extract any resin from crop (note- full use of hemp seed/grain authorized)
- No background check required
- **Required visual inspection** (i.e. in person, video, aerial with drones, or unmanned aircraft) to confirm uniform crop production consistent with production designation on license

## Pending ... Farm Bill

RYA23120 DYL

S.L.C.

118TH CONGRESS  
1ST SESSION

**S.** \_\_\_\_\_

To amend the Agricultural Marketing Act of 1946 to exempt industrial hemp from certain requirements under the hemp production program, and for other purposes.

\_\_\_\_\_  
IN THE SENATE OF THE UNITED STATES

\_\_\_\_\_ introduced the following bill; which was read twice  
and referred to the Committee on \_\_\_\_\_

**A BILL**



# ... New York Hemp Processing

## Next Steps...



# Grow & Harvest Industrial Hemp in New York

## Contracts



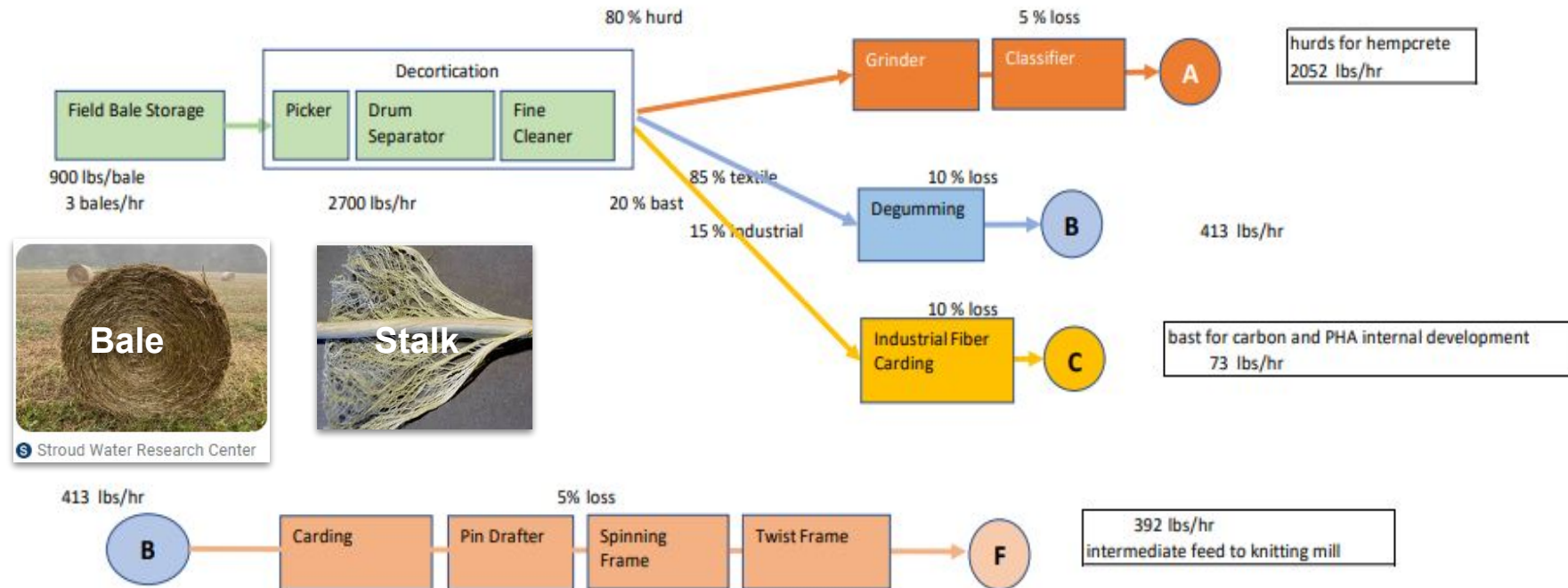
## Training



## Support



# Transport, Store & Process Hemp in New York



# New Raw Materials made in New York (2024?)

Hurd



Bulk Hemp Warehouse

Fiber/Bast





# New Products made in Ulster Co. (2024?)

## Hemp Insulation



## Hemp Thread, cloth and paper



# Budget Estimate - Pending SOW Analysis

**\$3.5 Million - \$5 Million for 2-3 year research phase**

- Build:
  - \$2MM CapEx (building, equipment, payroll etc.)
  - \$160/tons to the farmer for 4 X 4 round bales (est.)
- Operate (first 2yrs.):
  - \$1.4MM estimate of OpEx
  - \$1.0MM of possible revenue from products

# Funding (Private/Public)

- Federal/State/Ulster County Legislators Matching Funding?
- Private Investors - Seed Money and Equity?
- Community Investors - Equity Opportunities?



# Phase I: Project Timeline (1-2 years)

Key... WS: Workstream - a group of related tasks, RS: Resource

WS	Time	Resources (RS) and Work (WK)
1	ongoing	<u>RS: PM, ANL...WK: Build Coalition...</u> Community members from different social, economic and cultural groups, farmers, business leaders, town councils, mayor's offices, grant departments, architects, legislators, assembly representatives, senate representatives, dept. of Agriculture, dept. of Energy, dept. of Environment, local trade schools, local colleges, local chambers of commerce, local building departments, contractors, private investors, land/lease holders, reporters and media. This work includes phone calls, meetings, research, presentations and tentative agreements
2	tbd	<u>RS: PM, ANL...WK: Create Basic Content...</u> Create basic slide presentation and continuously improve the content and style. Share with team and stakeholders. Create Statement of Work to provide more details. Create a first draft of a proposed project plan with key milestones, resources and budget. Create prototype information dashboard on the web access. Publish a calendar of activities and contacts

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3	tbd	<u>RS: PM, ANL...WK: Finance/Legal...</u> Communicate costs, project team, resources, sharing models, engagement expectations, business formation preferences etc. and negotiate funding with Dept. of Agriculture, County Legislators, Private Investors and Community Members. Arrive at a signed agreement and receive a downpayment to launch the deep dive planning stage. Detailed work requires a financial commitment.
4	tbd	<u>RS: PM, ANL...WK: Finance/Legal/Event Planning...</u> Organize a Sign Off of all the parties involved. Create a set of documents that reflect project, including an updated Statement of Work (SOW). Work with the team to plan a community sign off event and present the team selected to start the project and possibly the location. Continue a community engagement dialog to help the workforce prepare.

# Project Team:

**Henry Gage, Jr.** - Senior Project Manager, Senior Business Analyst, builder of the only Hempcrete retrofit in upstate NY. Henry was recently elected as Certifications Director for the US Hemp Building Association and is leading a team to obtain necessary building, fire, safety, oil/gas qualifications and other approvals for usage of hemp based materials. Henry is a hands-on leader willing to lead by doing the work. Before becoming active in the hemp industry in 2019, Henry helped leading community organizations create pathways to Unity by creating one of the largest Unity Walks for peace. Henry spent decades working in the Financial Services market helping the world's largest banks (including Morgan Stanley) replace entire back office accounting systems while still keeping day to day operations working.

[henrybuildgreen@gmail.com](mailto:henrybuildgreen@gmail.com)

**Sally Warren, PhD** - Sustainability Analyst, Board Certified Naturopath, Professor and Assistant Director in Naturopathy, Program and Business Development. Dr. Sally is an entrepreneur and hemp builder as well as being highly educated in the natural health field. Having worked in the field of equine assisted psychology in California, she went on to study and qualify in the area of nutritional deficiencies and orthomolecular medicine. While working with clients in Jersey and Manhattan she studied and interviewed many CBD companies and got into the hemp industry diagnostics and requirements for health. During that time, she worked with many people who suffered with illnesses resulting from building and furniture materials in their homes, Dr. Sally worked with mold experts to find solutions building with hemp and lime materials. As an activist with qualifications in both animal and human health, and years of experience, she is a leader. [vivatherapy@gmail.com](mailto:vivatherapy@gmail.com)

# Project Team (cont.):

**Edward Lawson, Jr., JD, MBA.** - Edward Lawson is a committed change agent and transformative leader with over 25 years of direct service, public affairs, advocacy, and executive management experience. Mr. Lawson currently leads Family and Community Engagement Services, Inc. (FACES), a mission-driven strategic consulting firm committed to helping diverse social actors strengthen and scale their work. FACES is a NYC and NYS Certified Minority Business Enterprise that supports organizations in meeting the dynamic needs of the marketplace and maintaining a competitive edge, utilizing evidenced- based best practices and approaches to create custom solutions based on unique client needs.

FACES provides a range of direct and consultancy services, designed to equip, and empower communities and agencies to grow, thrive, and achieve. Specific examples of experiences and accomplishments include:

Blacc Vanilla Community Foundation, a leader in the development of social entrepreneurship; The Vin Baker Bouncing Back Foundation, founded by ex-Olympian and NBA star and dedicated to minimizing the negative impact of addiction; Mentoring in Medicine, inspiring the next generation of health and science professionals; New Rochelle City Court Opportunity Youth Part, focused on promoting Emerging Adult Justice and the Hudson Valley LGBTQ Center, with a mission to strengthen, support and celebrate the diverse LGBTQ+ community in achieving its fullest potential and creating a more equitable world.

# Project Team (cont.):

**Calvin Frye** - Scientist, activist, entrepreneur and Pre-ICO license holder Calvin Frye has 14 years of experience as a dispensary owner and Medical Marijuana (MMJ) industry consultant. Mr. Frye is Chair of the Standing Committee for Social Equity of the National Hemp Association. Mr. Frye was recently awarded, as part owner, one of the highly sought after West Hollywood edible consumption lounge licenses. Mr. Frye has held several key positions in the Biotech industry for major companies like Xoma, Amgen and Baxter Biosciences, advancing his career from Research Associate to Associate Scientist. Mr. Frye has more than a decade of experience in the cannabis industry, working alongside some of the founders of the MMJ industry (Dennis Peron and Richard Eastman) as well as many of the industry pioneering groups in Los Angeles (Americans For Safe Access and Norml). Mr. Frye has one of the oldest Pre-ICO licenses in Los Angeles and is one of the first dispensary owners in the entire country. He has been pivotal in the progression of the cannabis movement throughout the United States. As an activist, Mr. Frye travels all over the United States to help shape and pass current MMJ legislation. He has appeared in numerous documentaries and television shows and has been featured in many magazines as one of the premier voices in cannabis.

**Sarah Elisabeth** - Executive Director (A Farm for All) has spent her life in the nonprofit world, farming at Stone Barns Center for Food and Agriculture, Secretary for the NAACP and Treasurer for the Beacon Sloop Club. She is Wise Woman Spiral, an apothecary, a consultant, an edible landscaper and a teacher. She has taught at Beacon Institute, African Roots Library and offered free herbal consultations at NOFA-NY's Wellness Fair. Her website is [www.wisewomanspiral.com](http://www.wisewomanspiral.com) and she is on Facebook, Twitter and Instagram as Wise Woman Spiral.

# Project Team (cont.):

**Marc Privitera** - Marc has been one of the pioneers in bringing industrial hemp to northern New York. Having developed a background in other states previously and seeing the agricultural entrepreneurial opportunity for the farmers and neighbors in the area, Marc has been developing grow methods and product applications that would help the economic development in the North Country. With CBD production methods being focused on labor intensive grows that might not fit the agricultural grows common to the area, Marc has been developing the triple harvest method which makes better use of the installed agricultural base in northern New York.

Recognizing also that CBD is only a small part of the overall biomass from the plant, Marc and his company have been developing products using the rest of the plant. Developments include materials for energy storage devices, materials for the chemical processing industry and materials for the building industry. In addition to being part of a farming family, Marc has been a chemical engineering leader for 30 years, routinely recognized as the go to guy for getting the job done. His infectious enthusiasm and passion for excellence drives innovative applications to commercialization.

With a positive attitude, the “we will find a way” mantra comes to life. He has spent time in the corporate world and now successfully delivers in the fast paced world of venture capital funded entrepreneurial efforts. From billion-dollar chemical mega projects to the initial throws of a new start up delivering first in the world applications, Marc has delivered a wide variety of chemical engineering success. Having pitched projects successfully far and wide, he is known for taking complex technical systems and refined them into simple investment explanations in the boardroom. As an innovator, and inventor, he has developed multiple products and processes giving him eight US patents.

# Project Team (cont.):

... Projects have included agricultural processing, consumer products, biofuels, rare earths, lithium, industrial hemp, and many other critical materials. He also likes to give back, having taught university classes, developed topical symposia, and guiding capstone college course project teams over the years. When he's not tinkering in the PreProcess labs, leading chemical mega-projects or fighting with hemp wrapped up in a combine, he can usually be found out skiing in deep powder somewhere.

**Christina Borgese** - Christina leads development, engineering, construction and operational commencement for large chemical projects. Taking a project from idea inception and working through all the details to execute with technical excellence and high performance leadership. Christina has started multiple projects with an idea or an assignment of the desired investment metrics. Taking that direction, she has repeatedly been able to develop the process and engineering strategy, reducing the needed metrics to a set of unit operations to complete the system. Developing the data based experimentation to prove the principle, size the equipment or prove the system.

One of her specialties has been the reduction of complex experimental plans to simplify and focus the effort. Using a data based method qualification and statistically sound validation method, Christina is able to develop the tools that allows indicative testing on the floor to become an operating tool that speeds development and solves problems while keeping the needed technical rigor by implementing the needed referee methods in the lab. On a large mining project, Christina delivered the analytical method clarity that solved the turnaround problems and time delays at critical moments in the project. Her engineering skills and familiarity with a wide range of equipment operations allows her to come in, analyze and reduce the set of needed data to the relevant few.



# Project Team (cont.):

... On a lithium extraction effort, she was able to see the problems with the invalid data creating dead ends and hurdles for forward development progress. This block kept the engineering progress due to the project not being able to make use of needed correlations to move the sizing of the equipment forward. Implementing a rigorous “FLRC” method “Factors, Levels, Response and Constants”, she was able to weave together the multiple development efforts and create correlations needed for continued engineering moving the project forward. Examples of these successes include her work in the removal of impurities from brine in lithium extraction efforts, the use of reverse osmosis in brine treatment operations, and her rigorous analysis and development of sorbent making systems ensuring sorbent functionality where previous efforts had failed.

Christina leads operational development teams by welcoming and guiding new engineers and new technical operators through the needed training and understanding to allow the development of a strong operational team. Her presentation of data based methods leads to good team communication focused on the dashboard metrics that keeps the plant operating. She has developed, constructed and operated many chemical unit operation equipment and systems. These include the usual cadre of chemical engineering systems found in lithium extraction operations.

# Project Team (cont.):

... She is the go to person having to teach others on how the equipment works or how the system functions as a collection of equipment. Her skills include, filtration, sorbent, membrane separations, distillation, precipitation and centrifuge operations. Her experience has been applied to problem solving challenges in many target extraction operations including systems focused on lithium and other group I and group II constituents.

Christina is able to connect the technical development in the lab or plant to the needed executive level information exchange needed in the boardroom. Using the mass and energy balance as a base, she is able to brief executives and pitch to investors tying together the technical aspects and effects on the presented financial returns. She has pitched on Sand Hill Road, the center of US entrepreneurial investment, and she is a master at working the hallway meetings and pre and post presentation activities where the deals are done. She is quick on her feet and her confidence in the material that she has mastered gives her a respected position at any investment decision-making table

# Project Team (cont.):

**Christopher "Creek" Iversen** - ... grew up across the Catskills in Otsego County, but has lived most of his life in the mid-Hudson Valley where he worked as a naturalist, environmental educator, summer camp co-coordinator, and progressive teacher before becoming a sustainable community farmer. Creek taught natural science and music at the Randolph School of Wappingers Falls, an experiential school dedicated to the greatest possible self-fulfillment of every child. Creek led summer camp programs at the Randolph School for over 10 years, as well as at Manitoga Nature & Design Summer Camp, and has also worked at summer programs for Clearwater, Wappingers Recreation Department, and Cooperstown Schools Summer Program. In the 1990's Creek was the Resident Naturalist at John Burroughs Sanctuary in West Park. Creek transitioned from teaching to farming in 2008, beginning as an apprentice at Common Ground Farm in Beacon. He has also managed farms at Sylvester Manor Educational Farm in Shelter Island, Brook Farm Project in New Paltz, and Whirligig Farm in Hurley, always working hard with his crew and extended farm family to incorporate education, music and the arts, and community celebrations into the life of the farm. Creek has been active with local farm organizations such as Mid-Hudson Collaborative Regional Alliance for Farmer Training (MH CRAFT), Northeast Organic Farming Association of NY (NOFA-NY), and the Rondout Valley Growers.