

EnWave Corporation (ENW)

January 06, 2018

EnWave Corporation offers industrial-scale dehydration technology for commercial applications in the food and pharmaceutical spaces. The Company's Radiant Energy Vacuum ("REV") platforms are becoming the new global dehydration standard, as they are faster and cheaper than freeze drying, and have better end product quality than both air drying and spray drying.

The Company reported revenue of \$15.95 million for the fiscal year 2017, ended September 30, 2017, compared with \$14.93 million in the comparable period last year, an increase of 7%. The 2017 result was the highest in the Company's history.

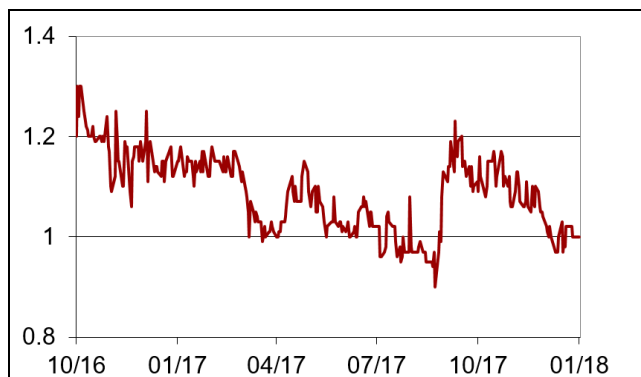
Although this is an attractive result, judging by EnWave's fourth quarter result, revenue is significantly picking up speed. During the fourth quarter of FY 2017, sales reached \$3.63 million, up 44% compared to sales of \$2.52 million in the same quarter of FY 2016. This result is due to the sharp rise in sales from Moon Cheese snacks.

As for 2018, everything at EnWave lines up for a breakthrough year. We expect a boom in cannabis-related machinery sales, as EnWave's technology can substantially reduce costs for producers. In the coming months we should also find out more about the final Factory Acceptance Tests (FAT) at Sutro Biopharma.

We reiterate our buy recommendation for EnWave Corp. with a price target of \$3.41, which is 237% above today's stock price.



- We foresee distribution expansion for Moon Cheese. EnWave is targeting to reach over \$10 million in Moon Cheese sales during 2018. A few months ago, distribution of the dried cheese snack was expanded to 2,000 Rite Aid pharmacy stores, 1,600 CVS stores, and 440 Targets in the United States. More recently, Moon Cheese also became available in approximately 70 Costco stores in the Midwest of the United States. Further expansion of Moon Cheese distribution is expected.
- In June 2017, EnWave entered into a contract with the US Army Natick Soldier R&D Center to jointly develop low weight, high quality, nutritious field rations. Initial samples of REV-dried products that were tested by focus groups, received phenomenal feedback. This opportunity for EnWave is enormous.



Market Data	
Price	C\$1.01
Sector	Diversified Machinery
52-Week Price Range	C\$0.85 - C\$1.23
Shares Issued (m)	100.9
Market Cap (m)	\$101.9
Listings	ENW (TSXV) & E4U (Fra.)
Website	http://www.enwave.net

THE COMPANY

EnWave Corporation is a Vancouver-based applied technology Company that works in partnership with food, cannabis, and pharmaceutical companies to develop commercial applications for its proprietary Radiant Energy Vacuum (REV) dehydration technology.

The key to the technology is the vacuum environment in which the drying process takes place. Thanks to the reduced atmospheric pressure, the temperature, at which the moisture is efficiently removed, can be lowered. This reduction of heat and oxidization minimizes the damage inflicted on the REV-dried products, preserving richer flavors, brighter colors and higher nutritional content versus other drying methods.

The University of British Columbia manufactured the first prototype REV machine in 1996 for dehydrating food and nutraceuticals. Since then, EnWave has developed three commercial-scale REV platforms: nutraREV for the food industry to dry fruits, vegetables, meats and other products quickly and at low-cost, while maintaining high levels of nutrition, taste, texture and color; powderREV for the dehydration of bulk food cultures, probiotics and fine biochemicals such as enzymes; and quantaREV for continuous, high-volume low-temperature drying of sensitive food products in liquid or solid form.

In addition, the Company has one developmental-stage REV platform: freezeREV to stabilize and dehydrate biopharmaceuticals such as vaccines.

EnWave's business model is to sell REV machinery and to sign royalty-bearing commercial licenses with leading food and pharmaceutical companies for the use of its revolutionary technology. Each license agreement restricts the partner's use of the technology to specific applications and geographic areas.

So far, EnWave has signed twenty-three royalty-bearing licenses, thereby opening up eight distinct market sectors for commercialization. Some of the Company's

best-known customers include Bonduelle, Gay Lea Foods, Ultima Foods (Agropur Dairy Co-operative) and Milne Fruits and Perdue Farms.

EnWave generates revenues from the following sources:

- ▣ REV machine sales and maintenance;
- ▣ Maintenance of the machines to ensure they are running properly and to replace and repair components subject to normal wear and tear from ongoing operations;
- ▣ Royalty streams from partners, which may be a gross payment of 3-5% of sales (paid out quarterly), or a fee per kilogram of net production; and
- ▣ NutraDried, a 51% owned joint venture, which sells healthy dried cheese snacks.

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A few months ago, distribution of Moon Cheese was expanded to 2,000 Rite Aid pharmacy stores, 1,600 CVS stores, and 440 Targets in the United States. More recently, the cheese snack also became available in approximately 70 Costco stores in the Midwest of the United States.

After Spire was removed as the exclusive distributor of Moon Cheese in January 2017, sales of the snack went through a slump

TECHNOLOGY

Before EnWave launched its Radiant Energy Vacuum technology, food processing companies were limited to opt for either 'freeze drying', which provides superior product quality, but is cost prohibitive and is only used to process higher-value products; or 'spray and air-drying', which is cost effective but degrades the quality of the products (Also see table below).

Thanks to EnWave's REV dryers, companies, for the first time, can combine the effectiveness of freeze drying with comparable economics of spray and air drying.

EnWave's REV technology utilizes radiant energy (microwaves) in a vacuum environment to homogeneously dehydrate a wide variety of foodstuffs and biomaterials at temperatures ranging from approximately 37.5°C to below freezing.

Four REV platforms have been developed to address specific market opportunities. Three platforms – nutraREV, powderREV and quantaREV - are at a commercial stage, while the fourth one – freezeREV - is under development. Each platform is described in more details below.

	EnWave's REV Technology	Freeze Drying	Air Drying
Better Product	Superior Color Superior Flavor High Nutritional Retention	High Nutritional Retention	Heat & Oxygen Damages Color, Flavor, Nutrients and Texture
Faster Process	Minutes or Hours (1,5 hours for Blueberries)	Hours or Days (24 - 36 hours for Blueberries)	Hours (6 hours for Blueberries)
Cheaper Cost	Up to 80% lower processing costs than freeze-drying (combination of lower capital, labor and energy costs)	High Capital Costs High Energy Costs	Low Capital Costs Competitive Energy Costs
Comparison between EnWave's REV technology, and freeze & air drying.			

Commercial Stage

nutraREV is designed for the dehydration of fruits, vegetables, herbs, dairy products, meats and seafood. It provides higher nutritional content, and improved appearance, flavor and texture over freeze drying, which is the industry standard for dehydrating many food applications. It is EnWave's most popular technology.

nutraREV machines are available at varying scales: 2kW for product development, 10kW for pilot-scale production and 100kW or higher for commercial production.

A 100kW unit is capable of producing as much as 150 kg (340 lbs) of dried product (below 5% residual moisture) per hour. A 100kW machine sells on average for \$1.5 million and generates between \$200,000 and \$400,000 in royalties per year at full utilization.

quantaREV is designed for high-volume, low-temperature dehydration of solids, liquids, granular or encapsulated products. It uses a continuous belt design in a controlled vacuum-microwave environment with an eventual target of dehydrating several tonnes of material per hour. This low temperature technology is designed to provide a higher-quality end product than what is currently achieved with spray drying or air drying.

powderREV is designed to dehydrate a wide variety of materials including enzymes, probiotics and food cultures, pharmaceuticals, non-regulated biologicals and certain dry food products.

The technology is ideally suited to replace the expensive and time consuming process of tray freeze drying, which takes place in a high heat environment and damages sensitive organisms. Laboratory tests have shown that the potential benefits of powderREV over

freeze drying include less capital cost due to faster dehydration times, smaller plant footprints, and lower energy and labor costs.

Development Stage

freezeREV is designed to provide high-speed dehydration for live and active organisms in vials with the potential for significantly lowering operating costs compared with freeze drying. freezeREV is intended for products that must have a minimum moisture content in order to maximize their shelf-life. It is currently available as a multi-vial prototype for partner research and development.

The idea was to evaluate EnWave's REV technology as a viable replacement for lyophilization in the pharmaceutical industry. More specifically, the developmental work and testing has focused on the potential of dehydrating several vaccinations.

Unlike lyophilization, freezeREV employs a combination of microwave energy with a low-pressure environment to achieve rapid, highly controlled dehydration of live, or active, biological materials.

Tests conducted on a lab-scale freezeREV show that processing times are far less than with lyophilization, which dramatically reduces costs. In addition, the footprint of a freezeREV machine is sizably smaller than a lyophilizer. And finally, third party tests show no key differences between freezeREV and lyophilized products.

Expanding Patent Portfolio

EnWave holds numerous patents that protect both its REV technology and specific methods of use. The past two years, the Company received no less than 43 new patent approvals that protect its technology and processes.

Because the Company's technology continues to be developed, new innovations are made. As such, its intellectual property portfolio continually expands.

EnWave is driven to innovate and continuously commits resources to

strengthen its intellectual property portfolio. Patents are truly the cornerstone for the Company's licensing-royalty business model, because each time a new patent is granted, the royalty stream timeline extends twenty years from the patent's filing date.

THE MARKET

EnWave targets both the drying equipment market and dried products market, where it partners with companies that dehydrate their products.

Radiant Energy Vacuum technology allows EnWave's commercial partners to capitalize on the following important global food processing market trends:

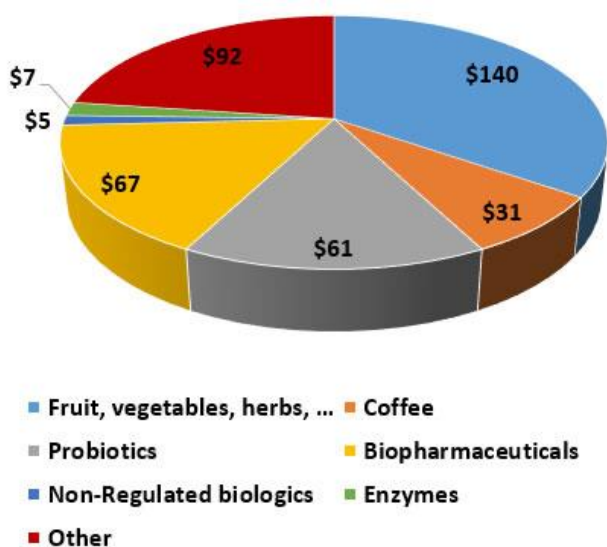
- ❑ **Snackification** – Snacks now account for one of every five 'eating occasions', driving the demand for shelf-stable, healthy grab-and-go food choices. REV technology allows for the development of many new innovative snacking options;
- ❑ **Naturally functional** – Global consumer trends are placing increased importance on the inherent nutritional properties and the subsequent health claims of the foods they are consuming. REV allows food processing companies to retain high nutritional value;
- ❑ **Protein** – Powered by the 'naturally functional' trend, consumers are looking for protein rich snack options in new forms. REV is being used by several partners to produce protein rich products in the dairy, meat and pulse crop industries; and
- ❑ **Dairy 2.0** – Companies are looking to make the most of dairy's natural advantages and deliver new innovative products that coincide with the three other market trends listed above.

The total market size for freeze drying equipment is estimated at \$16 billion and is expected to reach \$35 billion by 2020. Especially the food processing and pharmaceutical industries are expected to continue to drive demand for freeze drying equipment. While food processing is the largest segment with about 35% of the

market, biotechnology is expected to be the fastest grower the following years.

The worldwide market size for dried products is estimated at an astonishing \$400 billion. The largest segment, estimated at \$140 billion, is the food industry, which includes dried fruits, vegetables, meats, etc. The biopharmaceuticals segment comes in second with a \$67 billion market share, closely followed by probiotics, food cultures and enzymes, that generates \$61 billion annually. The dried beverage market, primarily made up of coffee and milk, is estimated at \$31 billion.

EnWave intends to develop the market for REV technology by selectively collaborating with strategic partners focused on reducing processing costs and creating new or improved product opportunities.



The global dried products market (figures in billion USD).

VERSATILE APPLICATIONS

While EnWave’s dehydration technology has plenty of applications, it’s clearly excelling in a number of distinct sectors.

Rapidly Expanding Dairy Space

By far the most successful REV dried cheese snack on the market today is Moon Cheese, as it’s available at every Starbucks in North

America and at thousands of retail stores in Canada and the United States.

Attracted by this success, other food companies worldwide sensed an opportunity and closed commercial agreements with EnWave to produce similar snacks. Typically, EnWave receives a 5% royalty on all cheese snack sales.

The companies below have all signed a commercial agreement with EnWave to produce a REV dried cheese product. It is also stated for which country or region the companies obtained an exclusive license.

- ❑ **NutraDried LLP** for the United States;
- ❑ **Umland LLC** for high kosher products in the United States. Production and distribution of the snacks has commenced;
- ❑ **Gay Lea Foods** for Canada. It started up a 100kW nutraREV machine to expand the production of its 'Nothing But Cheese' snack product;
- ❑ **Lake Blue Spa** for Chile. Commercial production of its INTAKT cheese snacks has recently started. The dried cheese products are available in four flavors: Original Gouda, Spicy Gouda, Oregano Gouda, and Mediterranean Mix;
- ❑ **Dominant Slice** for Portugal and Spain. It recently launched a dried cheese product, coined B!t Cheese;
- ❑ **Agricola Industrial La Lydia SA (Pitalia)** for Central America. It has received two 10kW nutraREV units and has ordered a 100kW REV machine (also see below);
- ❑ **Ereğli Agrosan** for Turkey. The license actually grants the company the exclusive right to process a variety of fruit, vegetable and cheese products. Ereğli’s dried cheese product has entered the market and is being sold B2B in central Asian markets and into Europe;
- ❑ **Kesito LLC** for Greece. A 10kW commercial REV machine was installed late 2016, which allowed Kesito to complete product development and enter the European market with a high-quality, shelf-stable dried cheese snack product under the Air Cheese brand name: and
- ❑ **Ashgrove Cheese** for Tasmania. Ashgrove submitted a purchase order for a

10kW commercial REV machine to initiate production and will be launching snack products under the brand name 'Amaze Balls' in January 2018.

Next to the above agreements for REV dried cheese snacks, EnWave also signed its first commercial royalty-bearing license for yogurt products.

- ❑ **Ultima Foods (Agropur Dairy Co-operative)**, a major Canadian yogurt processor which produces more than 100 million kilos (220 million lbs) of fresh dairy products each year has agreed to purchase a 10kW commercial REV machine to enable a focused market trial in early 2018. Subject to maintaining the exclusivity of the license, Ultima is also required to order a larger, continuous REV machine before the end of 2018.

EnWave Excels In Dried Fruits Market

A growing number of fruit processors have signed either an evaluation or commercial agreement with EnWave, indicating that this is another strong market segment for the Company's applications.

EnWave has a royalty-bearing commercial license with, among others, these fruit related companies:

- ❑ **Milne Fruit Products** entered the REV-dried fruits market a couple of years ago, positioning MicroDried products - all-natural fruit pieces and powders - as pure, healthy alternatives to sugar-infused offerings. Milne Fruit is one of EnWave's largest customers. In fact, more than 50 consumer products on the market today already use its ingredients;
- ❑ **Natural Nutrition Limited d.b.a. Nanuva Ingredients**, a Chilean fruit processor, that has positioned itself as a leading provider of 100% natural (with no additives) dried fruits with colours, shapes, flavours and nutrients very similar to those of fresh fruit. These healthy ingredients are used in the snack food, functional food, nutraceutical and cosmetics industry;
- ❑ Next to dried cheese (see above), **Agricola Industrial La Lydia (Pitalia)** is

also very active in the dried fruits space. In fact, La Lydia is a global leader in producing and exporting golden pineapples under the brands YAZ and SWITI. La Lydia formed a new business entity coined Pitalia specifically for the production of REV dried products. In 2018, Pitalia aims to start selling pineapple, apple, mango and banana snack products through its Pure Joy brand in the European and South, Central and North American markets; and

- ❑ **Van Dyk Specialty Products Ltd.**, a major Canadian producer of wild blueberry products, that is best known for its highly successful blueberry juice, is focused on providing the market with high-quality REV dried blueberry products.
- ❑ **AvoChips LLC**, a U.S. based processor that has developed an innovative new avocado snack product using REV technology. AvoChips submitted a purchase order to obtain a small commercial-scale REV machine to initiate production. The license grants AvoChips the exclusive global rights to use the REV technology to process the snack product.
- ❑ **Howe Farming Group**, one of Australia's largest and most diverse farming enterprises. The license grants Howe Farming the exclusive right to use the Company's REV dehydration technology to produce dried banana products in Australia and the non-exclusive right to produce dried blueberry products in Australia.



AvoChips were developed in three flavors: Chili Lime, Sriracha, and Sea Salt & Black Pepper.

Growing in Important Vegetable Sector

In January 2016, **Bonduelle**, the world's leading processed vegetable producer launched a new category of frozen vegetables called InFlavor. The new exclusive InFlavor dehydration and preparation process uses

EnWave's vacuum-microwave drying technology.

The REV technology truly separates InFlavor from all other frozen vegetables as the texture and taste of the vegetables is retained.

Bonduelle first launched InFlavor to its B2B customers in North America. In addition, it also has an eye on the European market, so this could potentially be a very exciting evolution. In fact, Bonduelle contracted EnWave to double the production capacity of its existing 120kW dryer. This process is ongoing, but should be finished shortly. Consequently, Bonduelle's commercial production, as well as its royalty payments to EnWave, are expected to go up in 2018.

In 2017, **Merom Farms**, an agricultural and food production company, announced that it is going to start selling wasabi-based products in Canada and the United States.

The dried, powdered and encapsulated wasabi is specifically designed for the natural health supplement market and will soon be available under the "Your Wasabi" brand name.

Your Wasabi holds the ONLY license issued by Health Canada to produce wasabi capsules in Canada.

Meat Snack Producers - Another Opportunity for EnWave Success

In addition to dairy, fruits and vegetables, meat is another opportunity for success.

The intention of most of these meat companies is to develop crispy meat snacks. Similar snacks are already being produced, but the texture and taste of most meat chips is poor because they are either air dried or baked.

In the meat category, EnWave has signed royalty-bearing agreements with:

- ❑ **Perdue Farms**, a leading food and agricultural products company, ordered a 10kW REV dryer in July 2016 to process

pet food and pet treats in the United States and Canada.

Moreover, EnWave has engaged in technology evaluation relationships with several other major meat and protein processors such as:

- ❑ **Jack Link's**, the number one meat snack manufacturer worldwide;
- ❑ **A U.S. based leader in the meat and prepared food industries**. The name of the partner company wasn't disclosed, but when we do an online search for "American meat and prepared food leader" the recurring names are Smithfield Foods, JBS USA, and Tyson Foods. All multi-billion-dollar companies;
- ❑ Another **major European meat processor** started conducting product development trials at EnWave's facilities in February 2017. After a thorough evaluation of the end products, signing a commercial license may be the next step; and
- ❑ A **major Australasian meat processor** that has been developing several new meat snack products since early 2017.

EnWave is in active negotiations with many more companies in this sector in various parts of the world. So we'll undoubtedly continue to see more news with developments in the meat area.

Cannabis Application

Late August 2017, EnWave filed a new patent application for the simultaneous pasteurization and drying of cannabis using REV technology. These patent-pending methods expand the application of EnWave's REV technology to the booming medical and recreational cannabis sector.

Two months later, EnWave signed a royalty bearing agreement with a major Canadian cannabis player with international presence.

Although the name of the marijuana company wasn't disclosed, it was mentioned that it is an Authorized Licensed Producer as defined by Health Canada's Access to Cannabis for Medical Purposes Regulations (ACMPR).

The license grants the cannabis grower the exclusive right to use the Company's proprietary Radiant Energy Vacuum (REV) dehydration technology to dry and decontaminate cannabis in Canada.



We expect a boom in cannabis-related machinery sales, as EnWave's technology can substantially reduce costs for producers.

In return for the exclusivity, the producer has purchased a small-scale 10kW commercial REV unit to enable advanced product development along with a large-scale 60kW commercial REV machine that will be used to initiate commercial production. The 10kW dryer was recently installed, while the 60kW unit is scheduled to be commissioned in May, 2018.

Furthermore, the cannabis producer is required to achieve certain minimum royalty thresholds, and to purchase additional REV machinery in order to maintain its exclusivity. It is worth noting that the producer is projected to achieve a production capacity greater than 50 metric tons in 2018. The 60kW machine however, can only process approximately 25 to 30 tons annually, which means that it will need to buy at least one additional 60kW REV machine.

Moreover, the licensed producer must also pay royalties based on the amount of cannabis processed with EnWave's REV equipment. Royalties in the cannabis space could be up to three times higher than what EnWave receives from companies that are active in the food sector.

EnWave also granted the cannabis player the right to sub-license the REV technology to additional Canadian licensed producers, with sub-license royalties to be shared between

the two companies. The two will collaborate to find and attract sub-licensees.

The Seafood Category

In July 2017, EnWave recently opened another category as it signed a TELOA with **Born Wild LLC**, a seafood processor located in the United States. Born Wild serves the global seafood market with processing capabilities and sourcing from Alaska, through Canada, Washington, Oregon, and northern California. It is led by several individuals with vast seafood processing experience.

Born Wild collaborates with EnWave's product development team at the Company's pilot plant facility to develop several unique seafood snack products for human consumption. Noteworthy is that EnWave's food science group has already conducted quite a lot of product development work in the dried seafood snack space. A commercial decision is expected from Born Wild in the first half of 2018.

Pharmaceutical Technology

Dehydration

Another pillar of EnWave's success is pharmaceutical applications. The commercialization of the powderREV and freezeREV technology platforms continues to progress for its two pharmaceutical partners Merck and Sutro Biopharma.

The powderREV machine for **Sutro Biopharma**, a pharmaceutical company based in San Francisco, is scheduled to be finished first. EnWave recently successfully conducted a pre-factory acceptance test. A factory acceptance test is currently ongoing. Once finished, this should trigger a go/no-go decision from Sutro to move the commercial scale REV machine from EnWave's Vancouver facilities to Sutro's San Francisco facilities for commercial startup in 2018.

If this REV machine is successful with the production of Sutro's products, the company will immediately go into commercial production, as its ingredient does not require FDA approval. In that scenario, Sutro Biopharma would pay EnWave a royalty based

on the production of its pharmaceutical ingredient.



A lab-scale freezeREV designed to provide high-speed dehydration for live and active organisms in vials.

In December 2011, EnWave signed a 10-year Research and Development agreement with **Merck**, one of the world's leading pharmaceutical, chemical and life science companies, in which Merck bears the costs associated with this process.

Test results with a scaled-up freezeREV machine have been very encouraging. EnWave is now looking to finalize the **Good Manufacturing Practice (GMP)** certification of this machine, which would trigger the next stages of Merck's project.

Although it will take some more time to develop and commercialize freezeREV, the agreement with Merck provides revenues for EnWave as the machine and technology is further developed.

If the installation of the powderREV and freezeREV platforms in the pharmaceutical sector yields superior performance to incumbent dehydration technologies, it will solidify EnWave's value proposition with potential new partners in the pharmaceutical industry.

GOOD MANUFACTURING PRACTICES (GMP)

Good Manufacturing Practices (GMP) are the practices required in order to conform to guidelines for manufacture and sale of food, drug products, and active pharmaceutical products. These guidelines provide minimum requirements that a pharmaceutical or food products manufacturer must meet to assure that the products are of high quality and don't pose any risk to the consumer or public.

Good manufacturing practices, along with good laboratory practices and good clinical practices, are overseen by regulatory agencies in the United States, Canada, Europe, China, and other countries.

GROWTH DRIVERS

Drying and Decontaminating Cannabis

Medicinal cannabis is often used by chronically ill or immunocompromised patients, causing several countries with medicinal cannabis programs to employ strict standards regulating microbial contamination of herbal cannabis products in order to reduce the potential for opportunistic lung infections. Ionizing radiation is currently the only method commonly employed to meet these medicinal cannabis microbial standards.

However, EnWave has developed a method that allows it to simultaneously dry and **pasteurize** cannabis, which circumvents the need to transport medicinal cannabis to highly-specialized and expensive off-site gamma irradiation facilities. EnWave's new methods dramatically shorten the time from harvest to marketable products to under one hour.

Another major advantage is that EnWave's continuous high-volume REV drying process also eliminates the need for large-scale in-house drying rooms and their associated potential for product loss due to mold growth during the traditional multi-day drying process.

PASTEURIZATION

Pasteurization is the process of heat processing a liquid or a food to kill pathogenic bacteria to make the food or beverage safe for consumption. The use of pasteurization to kill pathogenic bacteria has helped reduce the transmission of diseases, such as typhoid fever, tuberculosis, scarlet fever, polio, and dysentery.

Finally, a common method for the extraction of cannabinoids (essential oils) from the dried plants uses pressurized CO2 as solvent. The challenge with this process however is that moisture levels in dried leaves often vary, which results in inconsistencies in the oils that are extracted. The goal with REV is to produce a much more homogenous raw material at a specific moisture level.

Worldwide the use of cannabis for medicinal purposes is being legalized. Thanks to the expanding market, the cost savings that can be generated with the REV technology, and the high royalties, cannabis could become an extremely profitable sector for EnWave.

EnWave Potentially Solving Major Military Issue

In June 2017, EnWave entered into a contract with the US Army Natick Soldier R&D Center to jointly develop low weight, high quality, nutritious field rations.

This opportunity for EnWave is enormous, as potentially hundreds of thousands of men and women in active duty could be served Radiant Energy Vacuum (REV) dried rations.

Warfighters consume the rations when they are deployed or in training. These are called Meals Ready-to-Eat (MREs). Deployed service members have been relying on them for more than 30 years.

The MRE is intended as a single meal and is issued in a durable tan plastic bag. Inside, each MRE provides an entrée, an assortment of sides and bakery items, beverage base

powder, and an accessory pack that includes gum, tissue, a moist towelette, and seasoning.

Although the MRE has continuously improved in both form and function over the years, it has one major drawback, the fact that warfighters already have to carry up to 100 pounds of gear. This means that they have very limited space for storing food.



Warfighters these days have to carry up to 100 pounds of gear, leaving very limited space for storing food.

If fighters go into the field for three days, they have to carry nine bulky MREs with them. What often happens, is that they will 'field-strip' their operational rations by removing unwanted components to save weight, thereby sacrificing crucial nutrition.

Consequently, the military is focused on reducing the footprint (weight and volume) of what fighters have to carry in the field. It will not only increase chances of them packing more rations, it will also lessen their fatigue and improve agility and speed.

This is exactly where EnWave comes into the picture and why the US Army Natick Soldier R&D Center signed a contract with the Company. The goal of the cooperation is to produce lightweight, shelf stable, nutritious, compressed food bars.

The Company's Radiant Energy Vacuum technology is uniquely suited for this purpose,

because food items can be intermediately dried, and as such easily compressed. When products are dried with other drying techniques and then compressed, they typically pulverize into small pieces.

Since the contract was signed in June last year, Natick has visited EnWave's facilities on several occasions for product development sessions. Initial samples of products were tested internally by focus groups, and the feedback was phenomenal.

Next, further develop work will be conducted along with Natick, while there will be continued testing internally. This could lead to EnWave deploying REV machinery to Natick's site in the next three to six months. This would allow them to expedite the product development.

If things progress to the point where the U.S. Armed Forces decide that REV dried products should become available within their organization, then EnWave would work directly with a group of approved suppliers for the U.S. Armed Forces. The Company has already been in touch with several of those suppliers.

RECENT EVENTS

EnWave Adds Fruit Partner

In November 2018, EnWave signed a commercial royalty-bearing license with AvoChips LLC, a processor within the snack food industry that is developing a new product made from dried avocado slices. EnWave has granted an exclusive license to AvoChips to use its REV dehydration technology in the processing of this new snack food.

One appealing aspect to this arrangement is that the use of REV technology ensures that the sliced, ripe avocado chips do not succumb to a bitter flavor when exposed to air, as would occur with other processing options. This represents a proprietary advantage that directly contributes to a premium product made possible by REV processing.

The deal involves the sale of a smaller commercial-scale 10kW unit, which will enable

AvoChips to commence production early 2018.

During the early phases AvoChips will evaluate the market response to its avocado chips, prior to launching full production. Within 18 months following the commissioning of the 10kW dryer, AvoChips plans to transition to full production. In that one and a half year time frame, AvoChips is required to purchase at least a 120kW processing unit in order to retain its exclusive license from EnWave. The arrangement allows for further expansion and the potential for several additional units to be purchased over the following six years.

While AvoChips is a new entrant to the Snack Food Industry, the management team has a track record of successful product development and shares a corporate lineage with the No Bake Cookie Company, headquartered in Bend, OR. This contributes a head start for the AvoChips product launch and should help accelerate the distribution and sales process.

EnWave Expands Presence in Australasian Market

Howe Farming, the second largest producer of bananas in Australia, signed a commercial royalty-bearing license with EnWave in October last year.

The license grants Howe the exclusive right to use the Company's proprietary Radiant Energy Vacuum (REV) dehydration technology to produce dried banana products in Australia and the non-exclusive right to produce dried blueberry products in Australia.

Howe already conducted several tests, both at an already deployed REV unit at another Australian partner of EnWave, and at EnWave's test facility in Vancouver, Canada. Now the fruit processor is ready to initiate commercial production.

Howe Farming must pay EnWave a royalty on the revenue derived from the sale of the aforementioned products.

The license is also supplemented by a 10kW REV machine purchase order, which is

scheduled to be up and running at Howe Farming's facility by January 2018. Moreover, in order for the fruit processor to retain its exclusive license for Australia, it must submit additional purchase orders for REV machinery with minimum total capacity of 240kW within twelve months of the installation of its first REV machine. EnWave is making a habit of attaching larger machine purchase orders to exclusivity contracts.

The fact that Howe is willing to commit to such significant machine purchase orders, indicates that it already has distribution lined up for its REV products. This shouldn't come a big surprise, as Howe supplies both Woolworths and Coles grocery store chains (two of the largest in Australia) with their fresh fruits, as well as independent fruit marketers and vendors.

EnWave Signs TELOA With Reputable Food & Beverage Producer

In September 2017, EnWave signed a TELOA with Sun-Rype Products Ltd, a leading Canadian fruit-based food and beverage manufacturer.

During twelve months Sun-Rype and EnWave will collaborate to develop unique and innovative fruit-based snacks using the Company's Radiant Energy Vacuum (REV) dehydration technology. Initially, Sun-Rype will make use of EnWave's test facility in Vancouver, BC to develop products. In a later stage, the food and beverage producer could rent a small-scale REV machine to complete its due diligence on the technology and market opportunity for its new products.

Sun-Rype is a Canadian beverage and snack company based in Kelowna, BC. The company grew out of the fresh fruit business in the Okanagan Valley. In 1946, British Columbia fruit growers created BC Fruit Processing Ltd. to produce a 100% pure apple juice, made with apples straight from the orchard. The new juice was named "SunRype" and so it all began.

Although Sun-Rype has come a long way since then, as it has added many different fruit juices and fruit snacks to its product

assortment, its SunRype 100% Unsweetened Pure Apple Juice remains the company's signature fresh pressed juice.



Sun-Rype, which already has a broad range of fruit snack products on the market, will seek to develop REV dried fruit-based snacks.

Sun-Rype sources its ingredients from around the world to find the best manufacturers of the highest quality 100% fruit juice concentrates and purees. By sourcing internationally, it is able to find products that are not available in North America and can ensure that the Sun-Rype products are available year-round. Sun-Rype products are available across Canada and the USA.

A 2016 report from The Hartman Group, an authority on food and beverage trends, states that one in five consumers is snacking a lot more, or somewhat more often, compared to five years ago.

Food and beverage companies more than ever realize that the future of snacking presents multiple opportunities for them to relate with consumers around new, flexible eating styles. EnWave's REV technology can help realize those opportunities as it offers the possibility to explore new kinds of foods that are healthier and more nutritious.

FINANCIALS

EnWave generates revenue from two business segments: EnWave Canada and NutraDried. EnWave Canada sells REV machinery to royalty partners, rents REV units to prospective royalty partners, and earns

royalties from customers that sell REV dried products. Note that royalties are payable to EnWave as a percentage of the value of products sold or based on the number of units produced by its royalty partners. NutraDried, on the other hand, sells Moon Cheese snacks into retail and wholesale distribution channels.

Amounts in \$000's	09/30/17	09/30/16
EnWave Canada Sales	1,626	1,270
NutraDried Sales	2,004	1,249
Total Sales	3,630	2,519
Cost of Goods Sold	2,764	2,120
Gross Profit	866	399
Expenses	1,926	1,961
Net Profit (Loss)	(1,060)	(1,562)
Diluted Shares Outs.	90,799	90,379
Diluted EPS	(0.01)	(0.02)
Selected income statement data for the fourth quarters ended September 30, 2017 and September 30, 2016. Source: Company Filings		

EnWave Canada had revenue of \$1.62 million for the three months ended September 30, 2017 compared to \$1.27 million for the three months ended September 30, 2016, an increase of \$356,000, or 28%. The increase is due to more machinery sales in 2017 to companies such as Ashgrove Cheese, Howe Foods, Ultima Foods, Van Dyk, Pitalia, and Merck.

For the full year, EnWave Canada had revenue of \$9.39 million compared to \$8.82 million in fiscal year 2016, an increase of \$573,000. The increase was driven primarily by higher equipment rental fees and royalty revenue.

EnWave Canada finally, earned royalties of \$370,000 during the year ended September 30, 2017 compared to \$249,000 for the year ended September 30, 2016, an increase of almost 50%. During the final quarter of fiscal year 2017, EnWave Canada earned royalties of \$77,000 compared to \$63,000 in the same quarter of 2016.

Revenue from NutraDried was \$6.55 million for the year ended September 30, 2017 compared to \$6.10 million for the year ended

September 30, 2016. During Q4 2017 revenues from NutraDried were \$2.00 million, compared to \$1.24 million during Q4 2016. **Moreover, NutraDried reported a net income of \$716,000 in 2017 compared to a net income of \$306,000 in 2016, an increase of \$410,000 or 134%.**

Balance Sheet As Of September 30, 2017

On September 30, 2017, the Company had working capital of \$6.50 million, compared to \$6.89 million on September 30, 2016. Also on September 30, 2017 the cash and cash equivalents position was \$1.32 million compared to \$4.59 million the year before.

In November 2017, however, the Company added gross proceeds of no less than \$10,006,500 to its bank account. The net proceeds of the financing - EnWave paid the Underwriters a cash fee equivalent to 6% of the gross proceeds - will immediately be utilized to accelerate EnWave's growth. For example, several large scale quantaREV and nutraREV units will be manufactured so that lead times become shorter.

Also, additional staff will be hired, such as a LEAN consultant to optimize the engineering and manufacturing process; a technical sales person to further expand the business development pipeline; and additional engineers to help with the installation and manufacture of the REV dryers.

Furthermore, NutraDried, the 51% owned joint venture of EnWave, may soon need to purchase an additional REV machine as distribution of the popular Moon Cheese snacks continues to increase.

EnWave could have raised \$25 million in this offering if it wanted to, indicating that interest from institutional parties was extremely high. In fact, the financing added a double-digit amount of new institutional shareholders. This more than ever shows the confidence that professional investors have in the future of the technology Company.

Amounts in \$000's	09/30/17	09/30/16
Cash and Cash Eq.	1,319	4,590
Restricted Cash	250	250
Trade Receivable	2,617	770
Due From Customers Under Contract	2,378	1,542
Inventories	2,973	1,681
Total Current Assets	9,723	9,449
Plant and Equipment	2,675	3,679
Total Assets	13,344	14,962
Trade and Other Payables	2,181	1,084
Total Current Liabilities	3,222	2,552
Long Term Debt	90	201
Total Liabilities	3,312	2,753
Total Stockholder Equity	10,032	12,209
Selected balance sheet data on September 30, 2017 and September 30, 2016. Source: Company Filings		

It is also good news that trade receivables, due from customers on contract, and inventory increased by \$1.84 million, \$.83 million, and \$1.29 million respectively compared to the previous year. These increases were all related to EnWave's higher machine production number for an increasing number of customers.

OUTLOOK & VALUATION

In the past, food processing companies had to choose between minimizing their drying costs or producing premium dried products. With EnWave's REV technology, companies no longer have to choose, as they're able to produce high-value dried products at a much lower cost. The main goals of using REV technology are to shorten processing times, reduce operational costs and to produce higher-value products than previously achievable via alternative processing technologies with similar economics.

As EnWave's unique dehydration technology is becoming widely known, companies recognize its potential. The food industry is extremely competitive and producers are constantly looking to make the difference. For the first time in many years an innovative dehydration technology has entered the market, which is faster and cheaper than freeze drying, and

has better end product quality than air drying or spray drying.

An increasing number of food and biopharmaceutical companies are realizing that REV is the way to go if they want to maintain their competitive advantage. EnWave's business model allows for territorial exclusivity, therefore it is simply a matter of signing an agreement first before a competitor snatches away the rights for a certain country or product.

The sale of REV dryers is generating millions of dollars for EnWave. Moreover, with each additional REV unit becoming operational, the minimum quarterly royalties are increased proportional to the size of the machine. A 100kW machine will typically generate between \$200,000 and \$400,000 in royalties per year at full utilization. As more and more machines are taken into production, EnWave will benefit big time.

While EnWave will continue to push forward in 2018 with more machine sales, technology evaluation agreements, and royalty agreements, there are four upcoming events that make EnWave look extremely appealing.

For example, in October 2017, EnWave signed a royalty-bearing agreement with a large, well-established Canadian medical cannabis licensed producer. This license expands the application of EnWave's REV technology to the rapidly growing global medicinal and recreational cannabis markets. EnWave's revolutionary method to simultaneously dry and pasteurize cannabis, circumvents the need to transport medicinal cannabis to highly-specialized and expensive off-site gamma irradiation facilities, which reduces the costs dramatically.

The licensed producer submitted a purchase order for two REV dehydration machines: a 10kW REV unit for product development and a 60kW REV unit for commercial processing. Delivery of the 60kW quantaREV machine is expected in the third quarter of fiscal year 2018. First royalties are expected shortly thereafter. We foresee many more machine sales to the booming cannabis sector in the coming year.

The commercialization of powderREV, EnWave's technology for the bulk dehydration of temperature-sensitive biomaterials, is also moving forward. During the past year, the Company made significant progress with the construction and testing of the first commercial powderREV machine for Sutro Biopharma, a U.S. based pharmaceutical partner. More news is expected shortly. EnWave also commenced the design phase for the first scaled-up GMP freezeREV for Merck. If the powderREV and freezeREV platforms prove to yield superior performance to incumbent dehydration technologies, it would be a major breakthrough for EnWave.

Moreover, during the summer of 2017, EnWave entered into a contract with the US Army Natick Soldier R&D Center to jointly develop low weight, high quality, nutritious field rations. Initial samples of REV-dried products were tested internally by focus groups, and the feedback was phenomenal. If things progress to the point where the U.S. Armed Forces decide that REV dried products should become available within their organization, then EnWave would work directly with a group of approved suppliers for the U.S. Armed Forces. This opportunity for EnWave is enormous, as potentially hundreds of thousands of men and women in active duty could be served Radiant Energy Vacuum dried rations.

Finally, the Company is targeting to reach sales of over \$10 million in Moon Cheese alone during 2018. A few months ago, distribution of the dried cheese snack was expanded to 2,000 Rite Aid pharmacy stores, 1,600 CVS stores, and 440 Targets in the United States. More recently, Moon Cheese also became available in approximately 70 Costco stores in the Midwest of the United States. Further expansion of Moon Cheese distribution is expected.

Valuation

EnWave's technology works and is validated by many commercial agreements. The dehydration market is large and spread over many different sectors.

Given the still emerging nature of EnWave's earnings, a multiple-based valuation is

challenging. Instead, we apply a Discounted Cash Flow (DCF) model.

Based on our estimate of 116 million shares outstanding, the intrinsic value of EnWave's shares derived from our model is \$3.44, about equal compared to our previous report.

We reiterate our buy recommendation for EnWave Corp. with a price target of \$3.41, which is 237% above today's stock price.

SHARE DATA & OWNERSHIP

As of December 31, 2017, EnWave had approximately 100.9 million common shares outstanding. In addition, the Company had 8.4 million warrants outstanding with an average exercise price of \$1.38.

Finally, EnWave has close to 6.9 million stock options outstanding with a weighted average exercise price of \$1.15. Each stock option entitles its holder to purchase one common share of the Company.

The principal owners of the Company's common stock are DJE Investment (4.69%) and Manulife Asset Management (2.40%).

MANAGEMENT

▣ MR. JOHN P.A. BUDRESKI - EXECUTIVE CHAIRMAN

Mr. Budreski has over 30 years of extensive capital markets and executive management experience. He was formerly a Vice Chairman of Cormark Securities Inc. from 2009 to 2012 and President and CEO of Orion Securities Inc. from 2005 to 2007, prior to its successful sale to Macquarie Bank. He has filled the roles of a Managing Director of Equity Capital Markets and Head of Investment Banking for Scotia Capital Inc. from March 1998 to February 2005 after starting out as a Managing Director of US Institutional Equity Group for Scotia Capital. He also held senior roles in investment banking and equity sales and trading for RBC Dominion Securities.

▣ DR. TIM DURANCE - PRESIDENT & CEO, DIRECTOR

One of the founders of EnWave, Dr. Durance has 35+ years' experience in the processed

food industry and is the co-inventor of the Company's REV technology. Dr. Durance received his Ph.D. and M.Sc. in Food Science from UBC, as well as a B.Sc. in Microbiology from the University of Guelph and a B.A. in Anthropology from the University of Waterloo. He's the author of more than 75 peer-reviewed scientific publications, 16 patents, and numerous book chapters, scientific presentations, and invited lectures on technology and food processing. As EnWave's President & Co, his responsibilities include research and development related to all of the REV technologies, as well as ongoing intellectual property development.

▣ **MR. DANIEL HENRIQUES – CFO**

Mr. Henriques is a Chartered Accountant and brings extensive experience in finance effectiveness and financial reporting to his role at EnWave. Prior to joining EnWave, Mr. Henriques was a manager in the Assurance group at PricewaterhouseCoopers LLP, and supported numerous mid-market companies, including companies listed on the Toronto Stock Exchange, TSX Venture Exchange and

the New York Stock Exchange, with financial reporting and compliance. While at PwC, Mr. Henriques provided clients in the manufacturing and technology sectors professional services in the areas of financial audits, financial reporting and tax.

▣ **MR. BRENT CHARLETON, CFA – SVP SALES AND BUSINESS DEVELOPMENT, OFFICER**

Mr. Charleton has extensive experience working in competitive team-based environments in the public and private sectors. He has managed the business development, marketing and investor relations mandates for EnWave Corporation since 2010. Brent, an ex-professional athlete, is a graduate of the Marketing Management program at the British Columbia Institute of Technology and has earned a Bachelor of Arts degree in Criminology and Communications from Simon Fraser University. Mr. Charleton has completed the Canadian Securities Course and is a holder of the right to use the Chartered Financial Analyst® designation.

ANNUAL INCOME STATEMENT FY 2014 – FY 2017

All numbers in thousands

PERIOD ENDING	FY 2014*	FY 2015*	FY 2016	FY 2017
Total Revenue	1,198	5,868	14,933	15,954
Cost of Revenue	462	4,689	10,383	11,654
	736	1,179	4,550	4,300
Expenses				
General & Administrative	1,445	2,089	1,989	2,072
Sales & Marketing	616	719	793	2,160
R&D	1,591	1,386	1,656	1,138
Amortization Intangible Assets	1,419	1,420	1,222	888
Stock-based Compensation	608	261	399	891
Total Operating Expenses	5,770	6,172	6,387	7,286
Net Loss Applicable To Common Shares	\$5,034	\$4,993	\$1,837	\$2,986

Annual Income Statement FY 2014 – FY 2017. Source: Company Filings

* Note that in the Fiscal Year 2014 and 2015 column all revenues and expenses generated by Hans Binder Maschinenbau – a former subsidiary of EnWave - have been excluded, due to its insolvency on September 29, 2015.



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