2018 California Cannabis Forecast

Green Market Report January 2018



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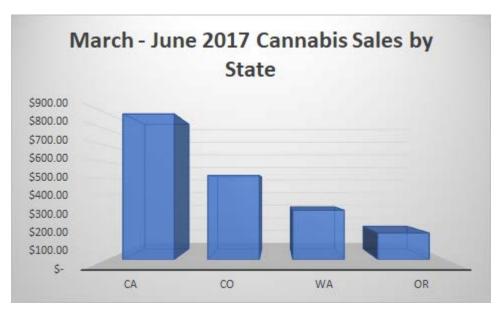
California was the first state to legalize medical marijuana in 1996 with Proposition 215 but was a latecomer to regulating full adult-use marijuana. The state only legalized recreational use in the November 2016 elections with the first sales beginning on January 1, 2018. Beating California to this accomplishment was Colorado, Washington, Oregon, Alaska and Nevada in the race to legalize full recreational use. Not only that, these states established programs with a regulatory framework system that brought the local and state governments millions in tax revenues.

Granted, California's legal cannabis market had operated as if it had already legalized adult use when one recognizes the industry infrastructure that developed and is currently in existence. The numerous cultivation practices located in the Emerald Triangle, the products already available and the number of dispensaries that have been opened were almost as advanced as operations found in Amsterdam, or Colorado once it had fully embraced regulation for large-scale commerce. The industry had become comfortable with how it was operating, so there was not the same motivation to push through recreational use. The amount of time, change, and money that a fully regulated system would take became a deterrence to the existing industry. However, it was largely thought that in order for the rest of the country to tip into a full recreational direction, California had to succumb to a regulated system.

Now, this unregulated medical marijuana market is about to undergo drastic changes as the state hits the reset button. New rules are being put in place and established players are finding themselves in competition with better-funded entities as they adjust to a regulated way of operating.

Comparing California To Other Legal States

Washington, Oregon, and Colorado have had a head start on California with their legalized adult use marijuana programs. Even the latest state to ioin this select club. Nevada, has managed to put up some impressive sales numbers. Yet all of these are expected to pale in comparison to California. BDS Analytics calculated sales from Colorado, Oregon, and Washington and California for four months (March through June) in 2017. California state dispensaries sold \$894 million worth of cannabis products versus Colorado's \$516 million, Washington's \$302 million and Oregon's \$163 million. It's worth noting that these are only medical marijuana sales and the inclusion of recreational sales will make that number grow tremendously.



Data provided by BDS Analytics

Nevada's legal recreational sales of marijuana began in July and in the following four months, they have sold \$125 million. These months didn't include the April 20 holiday or the big Thanksgiving day sales, so once those numbers are included, the Nevada market could easily rival Oregon and could be even bigger than Colorado, giving it a run for its money as one of the main cannabis tourism destinations. Yet, even this hot, new market won't be able to compete with the behemoth that is California.

Even without legal recreational sales, California already represents 34% of all legal sales in the U.S. according to BDS Analytics, which is one of the first companies to capture hard data on the market. Even though California had sold medical marijuana for years, the state hadn't tracked the sales and the data was slim. Most figures from analysts prior to this report were only estimates. Armed with some hard data, analysts can now begin to sharpen their pencils and come up with strong estimations for what the market is expected to do in 2018.

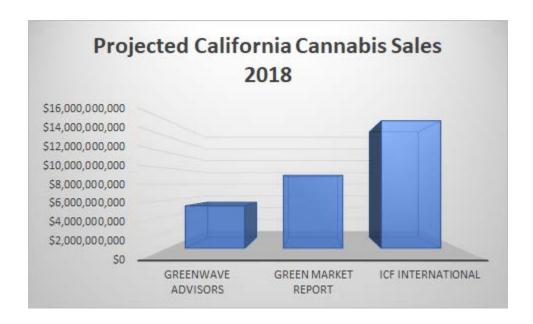
2018 Estimated Sales For California

On January 1, Californians lined up at some of the legal dispensaries ready to buy adult-use marijuana. According to MJ Biz Daily, one dispensary named 420 Central has sold \$30,000 worth of product by 1:30 in the afternoon on New Year's Day. The owner said he normally stocks up on inventory once a week, but now he may have to do so twice a week to satisfy demand. Matt Karnes, the founder of Green Wave Advisors states California should reach ~\$5.3B in retail sales, its first year of a consolidated market. This would be almost double the current market sales for medical marijuana alone.

ICF International, a professional services, and technology company published a white paper last year that estimated an even higher number. These analysts believe the California market could reach between \$15.9 billion and \$20.2 billion per year. They collected information on state residents that reported marijuana use and then used that information with a number of grams consumed per day. The group also made an adjustment to the illegal market, which they believe is significantly underreported.

The white paper determined that there are 7.7 million cannabis consumers that use between 108 million grams per month to 137 million grams per month depending on how heavy the use is of the consumer.. Then they annualized that figure. According to ICF, visitors in the state accounted for 7.3% of marijuana sales, so on the low end of demand, tourists could potentially buy 95.4 million grams on their own. The report bases its estimates on a 2015 average cost per gram of cannabis at \$11.37, which is

a little high for today's prices. The current average price for Colorado is \$7.14 per gram according to the Honest Marijuana Co.

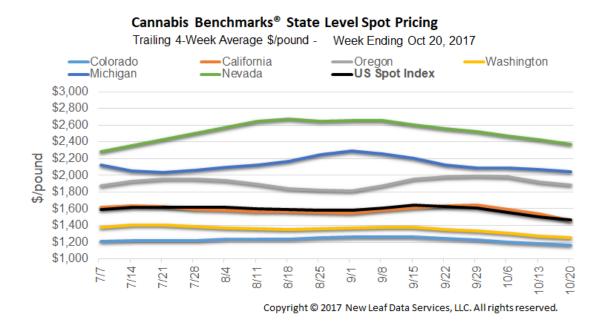


In sum, ICF's total annual demand estimate is 1.3 billion grams per year on the low side and 1.6 billion grams per year for heavy consumers. Using Colorado's average price Green Market Report forecasts that the low end of sales will be at \$9.1 billion and the heavier side of consumption could result in sales of \$11.5 billion. This is higher than Karnes estimate but lower than ICF's using the outdated average price. A pretty hefty sized market, either way, you calculate.

Cannabis Prices Will Jump Before Falling

Initially, cannabis prices are expected to be on the high side as the market makes adjustments to the new rules. Some cultivators that haven't abided by the restrictions will be shut down, while others will have limited inventory to meet the demand. According to Cannabis Benchmarks spot prices for a pound of wholesale cannabis in November 2017 in California were \$1,318, with a low price of \$500 and a high of \$2,500. That's a pretty wide spread for prices, but it sets a baseline.

Other established recreational markets experienced an initial pop in prices when those states legalized recreational use and once the market stabilized, those prices fell. For example, in Colorado, the wholesale price of a pound of marijuana dropped from \$2,000 in January 2015 to \$1,115 in November 2017.

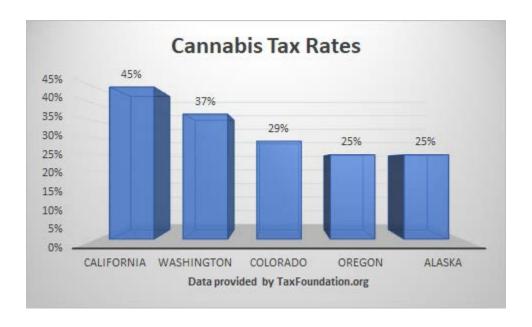


Cannabis Benchmarks also stated that it is currently a buyers market in California as farmers are selling off inventory to avoid paying the upcoming 2018 cultivation taxes which are \$9.25 per ounce of flower, \$2.75 per ounce of trim and \$1.29 per fresh plant. By selling inventory now, the farmers are also able to dodge some of the new requirements like testing and can raise cash to make the investments needed to meet new compliance standards.

Green Market Report forecasts that California prices will remain elevated at the early stages of the market. As more cultivators get licensed and come on board, prices will fall and stabilize a pattern that has been seen in other markets. It is likely this will take at least a year.

Taxes, Taxes, And More Taxes

One of the biggest changes to take hold of the existing cannabis operations in California is taxation. On November 8, 2016, California voters approved Proposition 64, Control, Regulate and Tax Adult Use of Marijuana Act. This resulted in a 15% tax on cannabis purchases, plus any local taxes which could range between 7% and 9%. Local businesses will pay a tax on gross receipts and farmers pay a cultivation tax. A Fitch rating report suggested that taxes could end up totaling as much as 45% combined. "By comparison, Oregon taxes non-medical cannabis at approximately 20% and Alaskan taxes range from 10% to 20%," said the report which went on to say, "California's high taxes are likely to keep black market prices competitive into the long term."



ICF International estimates that California's tax revenue could generate between \$2.4 billion and \$3.0 billion per year. Matt Karnes of Green Wave

puts this in perspective by saying, "The excise tax on cigarettes is \$84.7 million and the excise tax on alcohol is \$366 million."

Kellsi Booth, attorney for Premium Produce stated that the "Tax rates are very high. That hasn't changed too much, but couple that with the fees and the local level of taxes, it's really high. Especially in light in of 280e, this hits dispensaries particularly hard." Booth also feels that local municipalities aren't considering that the small, local businessman can't earn much of a profit when faced with all the taxes they will not be obligated to pay.

While the various government departments are salivating at this newfound tax revenue, the small businessperson is getting hammered and she feels this is a little short-sighted. Booth is hopeful that local municipalities will lower their tax demands so that small businesses can thrive. Many established small cannabis businesses in California are also grumbling about now having to pay taxes when they haven't had to pay for years and come up with thousands of dollars for new licenses on existing businesses. While in Colorado, cannabis companies were established knowing they would pay high taxes and considered it the cost of doing business. California companies are incensed that they now have to give up some of their income to the state. Granted, the percentage is higher than other states, but the grousing about paying taxes is only met so much sympathy from other industries that have always had to pay taxes.

The tax situation has caused many cannabis businesses to stockpile inventory now as they don't have to pay taxes until 2018 causing a miniboom among the current producers. It's also setting up dispensaries to have a great product selection in the early days for their customers and have higher margins until they get hit with new tax bills.

Green Market Report predicts that the tax system will be rewritten as local businesses close and get replaced with well-funded companies from outside of California. If the black market continues to stay entrenched, state and local taxing authorities will want to entice these operators to enter the regulated market and they will need to lower taxes in order to do so. Colorado did a similar reboot of its taxation system and while it was slightly disruptive for businesses, it didn't affect the consumer-facing side of the market.

Cannabis Carpetbaggers

A consistent theme heard among the established cannabis businesses in California is the fear of being pushed out by newcomers with deep pockets. Companies from existing legal states and even Canada are flocking in droves to the state to get a piece of the pie. California businesses are being acquired at a fast clip and the stock prices of the publicly traded companies are rising in anticipation of strong sales numbers to come.

There are currently as many as 1,700 dispensaries operating in the city of Los Angeles alone according to City Controller Ron Galperin, yet only 139 have obtained valid tax certificates. This means that many will be closed or will operate illegally creating an opportunity for new market participants to take advantage of the market disruption.

"The market is already incredibly oversupplied," said Ryan Jenneman of THC Design. His company has been in California for the past eight years and is currently available in 330 stores. "Every market segment is competitive and we will all be battling for that space or retail square footage. The competition will be fierce." Jenneman said that companies with lots of capital are coming into the market and pricing themselves at a loss to drive out the small players. "They are willing to lose millions to get market share," he said, "And the markets aren't efficient since we can't cross state lines. We have to cut production costs tremendously in order to be competitive." Still, he hopes that the relationships he has nurtured over the past eight years will serve him well in light of the newcomers.

Green Market Report predicts that many illegal dispensaries are likely to remain open and either claims ignorance to stay open or fold and just enjoy the profits they made while operating illegally. It will take several months for regulators to sift through the bad players, but it is certain that many dispensaries will close. It will take time for new players to come in and open up shop. The dispensaries that have followed the rules will enjoy cornering market share and creating customer loyalty as others try to play catch up.

Expect Californians Tastes To Change

BDS Analytics wrote, "California's size, combined with a lack of regulation and ease of entry created an ultra-competitive landscape resulting in an incredibly crowded market. In the Golden State, the top five brands control 52% of the concentrates market and 42% of the edibles market." The next five brands in concentrates own 14% of the market leaving a whopping 34% of the market open to other brands. The edibles market is even more wide open with the next five brands in the top ten owning 17% of the market with 42% of the edibles market open to other brands.

Traditional marijuana flower is the most popular product at California dispensaries according to BDS Analytics. 56% of California's cannabis shoppers prefer hybrid strains, while 26% prefer indica and the rest (18%) of the consumers choose sativa strains. Of the legalized adult use markets, Californian's buy more indicas than any other state. Yet, industry insiders familiar with the state's customers are quick to point out that northern residents differ dramatically from southern residents when it comes to choosing cannabis strains.

Northern California consumers prefer the more active sativa strains. The physically active lifestyle of the northern residents combined with the intensity of the silicon valley workforce means there is no time for chilling out with an indica strain. Whereas the Southern California consumers prefer the laid-back approach to life and choose the indica strains over the sativa strains. One dispensary owner also said that the Southern customers prefer high THC products that deliver the strongest high, while the Northern consumer chooses a lower velocity experience.

Not all of these brands will survive. It will be difficult for dispensary owners to choose who they will put on their shelves. With hundreds of products to choose from, they will likely choose producers that give them good deals and higher margins. They will also end up stocking brand names that consumers are already familiar with or that get requested due to promotional activity. This means the brands with the deepest pockets will

have a better chance of survival than a small business without the same resources.

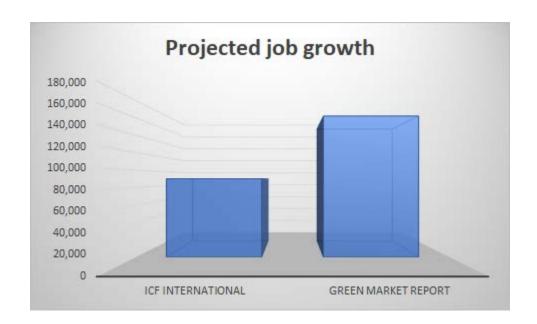
Customers are also likely to be drawn to products with professional, sophisticated, and expensive packaging that smaller players cannot afford. Budtenders will be motivated to promote the brands that reward their sales with gifts and incentives. Certainly, a superstore will end up opening that will stock just about every one of the hundreds of cannabis products that will be vying for consumers dollars.

Green Market Report expects that California will follow the patterns of other states and flower sales will begin to plateau. The ease and mobility of vape pens will win over previous flower only consumers. Sales of vape pens will increase as edibles find a more limited audience. If consumers purchase edibles, low dosage versions will increase in demand as users want to consume cannabis but still function.

Jobs, Jobs, Jobs

ICF International did an economic impact analysis that determined that the new legalized market could support between 81,000 and 103,000 jobs. They believe that these jobs would result in \$3.57 and \$4.52 billion in labor income. Then there are the secondary jobs. "An important result of this analysis is the magnitude to which marijuana sales impact other industries beyond the primary industry. Recall that indirect impacts are those experienced by industries that supply or interact with the primary industry such as security and janitorial services, laboratory testing, light manufacturers." They estimate that the industry could support between \$8.37 billion and \$10.64 billion in total industry activity. The new value to the economy would be between \$5.51 and \$7.01 billion.

The government agencies are on a hiring binge of their own as well. The Bureau of Cannabis Control expects to go from a handful of employees to almost a hundred. The California state budget included over \$100 million for programs that include hiring for positions to issue and review licenses, enforce rules and regulations, and jobs to oversee environmental concerns. A variety of agencies including the Food and Agricultural Department, the Public Health Department and the Water Resources Control Board are all hiring to oversee this new industry.



Green Market Report forecasts that California's cannabis industry will actually add 162,000 jobs, a much higher number than the ICF is calculating. Denver-based Marijuana Policy Group conducted a study in October 2016 that determined \$996 million in cannabis sales resulted in 18,000 full-time jobs, meaning that each new job needed \$55,000 in sales to support it. If those results can be applied to California and the state does \$9 billion in sales, that would create approximately 162,000 new jobs.

Green Market Report also predicts increased employment for an untapped workforce. People that didn't want to work for big corporations in traditional industries sitting in cubicles all day will be excited to join this industry. Employees such as older women that are passed over by other employers will be happy to take these jobs. People with colorful hair, excessive tattoos or creative piercings will not turn off these new employers. Scientists, chemists, and horticulturalists will be welcomed to the new industry. The ripple effects of these new salaries will boost local economies.

Environmental Impact

Colorado has set the standard for establishing programs for legalized marijuana. Since California has had limited regulations or standards to follow, other states have not looked to the Golden State for leadership or guidance. However, that could change as California takes the reins on studying the environmental impact of cannabis farming. Kristin Nevedal, Board Chair of the International Cannabis Farmers Association (ICFA), said that California was one of the few states to study the effects of cannabis farming on the environment and armed with this data could impact farming methods.

The 500-page IER report ruled that the worst offenders used high-intensity discharge lighting. Nevedal said, "For example, one indoor grow of 22,000 square feet light usage is like adding 298 homes to the grid. It's an immense amount of greenhouse gas emissions." Currently, 80% of California's cannabis is grown outdoors, which is the most environmentally friendly method, but that is expected to change with the new rules. Only 27% of municipalities have passed ordinances regarding cultivation, which means over 70% of the state will not allow cannabis to be grown outdoors. Of the 27% that have approved it, only roughly 5% have set up guidelines for outdoor growing. The result is that most of the cultivation will happen inside, which is exactly what the state doesn't want.

The outdoor cannabis farmers have been reluctant to engage in the new system. Nevedal noted that of the 15,000 cannabis farms only 2,700 have completed applications during a 1 year period. Several of these farms are located in remote areas and it is believed that many export their product out of state since 80-90% of the cannabis products on California dispensary shelves are grown indoors. A major disconnect that signals the reality of the illegal market. This black market has existed for decades and it will be a rude awakening when local and county officials begin to crack down. Without a tax incentive, the authorities had little interest in aggressively enforcing the law. Now, these unregulated farmers will be seen as tax dodgers and it will not be tolerated. Nevedal believes that the local authorities will choose to fine the farmers versus conducting raids and taking inventory away from them.

Green Market Report forecasts that the market will shift to mostly indoor and greenhouse grows. Even in counties where outdoor grows have been tolerated over the years, some seem hesitant to create new state compliant regulations. Improving technology will be able to address the electricity demand issues and solar panel investments can alleviate problems as well. Californians love their sun-grown cannabis for sure, but if the farmers can't get on board, the state and counties will begin shutting down those operations. If they end up with a mountain of fines or losing the farms for not paying cannabis taxes, deep pocket companies will buy out those farmers. Other states don't face some of the problems that California faces with regards to droughts, wildfires, and air quality so it will probably be the energy usage restrictions that may be the most replicated.

Challenges In The First Six Months

The roll out for the new system is expected to be anything but smooth. It is a well-established program with many long-time participants that are now getting a new set of rules to play by. The rules though are changing even as they are being written and submitted at the very last moments.

"It was unrealistic for a multi-billion industry to switch a flip to be a regulated environment on Jan 1," said Adam Spiker, executive director Southern California Coalition. "It was an overwhelmingly burdensome job to undertake at the state level, plus all of the variables to get this ready." The state of California wanted to make sure that local municipalities had a lot of say over the legalized market in their regions. While this seems like a good idea, it has resulted in a wide variety of rules and regulations that may vary from the state regulations. Plus, smaller regions were looking to the state for guidance on implementing their programs and when the state was slow to provide those guidelines, it put these smaller cities behind. Spiker said, "A lot of locals haven't done their work yet."

What the state did was to issue emergency rules that are to be used and are expected to be adjusted as the market becomes more established. This is not unlike the adjustments that states like Colorado made once its program was live. "Other states learned on the fly," said Spiker, "But then they are much smaller." Plus, other states were able to start from scratch and create their programs from a clean slate. California is trying to tell businesses that have operated without any restrictions for more than 20 years, that they now have to follow a new set of strict rules. While some are

attempting to make these adjustments, many are chafing at the new rules of a game that they have been playing for decades.

2018 Green Market Report Forecast:

The California marijuana market will host many disruptions over the coming year for the cannabis industry at large. Many dispensaries are expected to be closed for not obtaining proper tax certificates or abiding by new regulations for compliance. Illegal cultivation operations will be fined and shut down for noncompliance with regulations or failing to pay taxes.

Hundreds of brands could fail if they cannot find enough dispensaries to stock their product or investment to expand and compete. Small businesses that can't raise the funds needed to pay for new licenses or to bring their businesses into compliance will close.

Well-funded companies will be able to withstand the market disruption and will ultimately be the successful players in this market. Local small businesses that are resistant to the new rules will increasingly encounter less sympathy as they compete with other businesses happy to pay the state and city taxes. As the market matures, municipalities will observe amongst themselves which requirements are the most successful and make changes accordingly. Each change will bring new headaches for the companies operating in those regions. The companies that can pivot with these changes will ultimately be successful and able to thrive in the world's largest regulated cannabis market.

Demand for medical marijuana will fall as the recreational market grows. It's been a bad secret that most of the medical marijuana consumers in California were really recreational consumers in disguise. In other states, the sales of medical marijuana fell once adult use marijuana entered the market and California will repeat this pattern.

Local municipalities that reap the benefits of the new tax base will be able to afford reinvestment into their cities in the form of improved infrastructure, better-funded education and increased jobs. Those cities that were slow to create their cannabis marketplace may be unable to catch up to other more aggressive cities and counties.

The cannabis tourists may switch their vacations from Colorado, Las Vegas Seattle, and Washington to California. The state has always had a large tourism trade and this could draw new tourists.

The legalization of recreational marijuana will ultimately improve the California economy. The latest federal government report on state-by-state gross domestic product described California's economy growing at 2.1%, which is down from last year's 3.7%. California's growth rate had ranked number four in the country and now it has slipped to 35th. So, while the state's economy was still growing, that growth rate had slowed. This change will give it a much-needed boost.

Overall, the addition of adult use marijuana in the state of California will be messy. It will take at least a year for the market to stabilize as existing companies try to become legal entities as well-capitalized new players try to corner market share. The black market will not go down without a fight and regulators as well as authorities will have their hands full trying to enforce new rules and regulations. Yet, capitalism will thrive and markets always find a way to adapt and right themselves. The lessons of supply and demand always seem to work no matter the end product.

Cannabis will prove to be an economic driver of significance in California just as it has in the recreational states before it. California was the state that the world was waiting for to embrace recreational commerce. It will indeed prove to be the tipping point for the world. Here at *Green Market* Report, we look forward to witnessing California evolve into the world leader it was always meant to be for cannabis.

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For More Information Contact:

Cynthia Salarizadeh, CEO

Salar Media Group

Cynthia@salarmediagroup.com

856.425.6160