Marijuana Industry Update

Robert Elmouchi
Air Quality Division

January 16, 2020
Marijuana Industry Update

• Brief Orientation
• AQD Issues
• Marijuana by the Numbers
• National Marijuana Industry
• Market Forces
• Obstacles, Opportunities and Solutions
• Industry Future
Experience

- EGLE Marijuana Workgroup
- Marijuana Regulatory Agency/EGLE Marijuana Interagency Workgroup
- National Cannabis Industry Association Environmental White Paper Committee
EGLE (DEQ) Marijuana Workgroup

WHITE PAPER: THE ENVIRONMENTAL IMPACTS OF THE MARIHUANA INDUSTRY
Seeing Green

• “One of the fastest-growing industries on the planet.”*
• Greater than 300% worldwide sales growth between 2014 and 2018
• Wall Street forecasts 5 to 18-fold global increase by 2030

*The Motley Fool
5 Reasons the Marijuana Black Market Won’t Go Away
by Sean Williams; October 19, 2019
Multi-State Operators

$14.7 Billion value
Emission Sources

- Cultivation emissions – pending
- Processing emissions – mass balance
- Odor Control – activated carbon, foggers, et. al.
- Cleaning – VOC, HAPS
- Power plant emissions – NOx, CO, VOC, SOx
- Emergency generator emissions – NOx, CO, VOC, SOx
Air Pollution Control Rules

State of Michigan

• Rule 201, Permit to Install
• Rule 901, Air contaminant or water vapor; prohibition.
• Rule 910, Air-cleaning devices.
• Rule 911, Malfunction abatement plans.
Air Pollution Control Rules

USEPA

• Title V, Federal Renewable Operating Permit
• 40 CFR part 63 subpart ZZZZ – CI and SI RICE
• 40 CFR part 60 subpart IIII – CI RICE
• 40 CFR part 60 subpart JJJJ – SI RICE
AQUA - Permits

Three facilities pending Permit to Install

• Lansing
• Warren
• Pinconning
Aqd - Permits

Warren

• 156,000 square-foot facility
  – Cultivate
  – Process
  – Power Plant
  – Emergency Generator
• PTI application pending
AQD - Permits
AQB - Permits

• Processing Emissions
• Power Plant Emissions
• Emergency Generators
• CO2 Generators
• Odor/Emission Controls
  – Ozone Generators
  – Foggers, Misters, and Odor Masking Agents
• Maintenance Plan
• Odor Control and Malfunction Abatement Plan
Michigan’s Marijuana Industry

MRA Licensed Facilities*

- Processors: 23
- Class A Growers: 18
- Class B Growers: 2
- Class C Growers: 135
- Provisioning Centers: 184

*As of November 29, 2019
Marijuana by the Numbers

Michigan
- 17 Processors
- 43 Cultivators
- 10 M Census*

Colorado
- 286 Processors
- 682 Cultivators
- 5.8 M Census

Washington
- 221 Processors
- 863 Cultivators
- 7.5 M Census

Oregon
- 234 Processors
- 1150 Cultivators
- 4.2 M Census

* 2019 US Census Bureau, https://www.census.gov/
Marijuana by the Numbers

Michigan Forecast 2024
~450 Processors
~1200 Cultivators
Marijuana by the Numbers

<table>
<thead>
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<tr>
<td>Colorado</td>
<td>Revenues, million U.S. dollars</td>
<td>$67.60</td>
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<td>Nevada</td>
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Marijuana by the Numbers

Per Capita Revenues per State, Per Number of Retail Years

Per Capita Revenues: 18, 8.68, 18.22, 27.42, 37.25, 48.13, 51.47

1st Year: $8.68
2nd Year: $18.22
3rd Year: $27.42
4th Year: $37.25
5th Year: $48.13
6th Year: $51.47
# Marijuana by the Numbers

## Michigan Revenue Forecast

<table>
<thead>
<tr>
<th>Michigan Marijuana Revenue Forecasts</th>
<th>Calendar Year 2020</th>
<th>Calendar Year 2021</th>
<th>Calendar Year 2022</th>
<th>Calendar Year 2023</th>
<th>Calendar Year 2024</th>
<th>Calendar Year 2025</th>
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<td>Cumulative Total</td>
<td>$ 76,000,000</td>
<td>$ 213,000,000</td>
<td>$ 315,000,000</td>
<td>$ 393,000,000</td>
<td>$ 475,000,000</td>
<td>$ 516,000,000</td>
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<td>Percent of Michigan State Budget</td>
<td>0.24%</td>
<td>0.68%</td>
<td>1.01%</td>
<td>1.26%</td>
<td>1.52%</td>
<td>1.65%</td>
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National Marijuana Industry
“Lansing. This is Opportunity. We have a problem...”

- Adult-Use Marijuana
- Medical Marijuana
- Black Market
- Grey Market
- Interstate Market
Shrinking Green

• Legalization in U.S. and Canada has not eliminated black market.

• California 2019 marijuana sales:*
  • Legal Marijuana Sales – $3.1 billion
  • Illegal Marijuana Sales - $8.7 billion
  • 75% of legal sales lost to the black market

• Canada 2019 marijuana sales:†
  • 45% to 75% of legal sales lost to the black market

*The Motley Fool
5 Reasons the Marijuana Black Market Won’t Go Away
by Sean Williams; October 19, 2019

† Quartz
Canada’s black market for weed is thriving—even after legalizationby Sean Williams; October 19, 2019
https://qz.com/1605614/canadas-black-market-for-weed-is-thriving-even-after-legalization/
Market Forces

- 75% of legal sales lost to the black market in Michigan.*
- Marijuana Stocks Drop 60 to 70% Nationwide
- California Marijuana Industry Layoffs
- Potential Bankruptcy
- Abandoned Properties
- Increase Illegal Grow Impacts
- Loss of State Revenues

* per Todd Thomann, VP Pureoptions, Dec.17, 2019
Why does the black market still exist?
Market Forces

• 100 Years for Black Market to Evolve
  • Cultivation
  • Distribution
  • Sales
  • Counter-culture

• Medical Marijuana Grey-Market

• Production –under, over, and quality

• Licensing Expense

• Taxes and Fees
Marijuana Black Market

Mlive.com
Aug 05, 2019

With little funding or political will, Michigan police let black market weed slide

"We're literally seeing hundreds of businesses that have opened up across the state and sell recreational marijuana without a license...“

Michigan State Police Lt. Chris Hawkins, Marihuana and Tobacco Investigation Section
Marijuana Black Market

National Revenue Forecast

Billion U.S. Dollars

|$25.00
|$20.00
|$15.00
|$10.00
|$5.00
|$-

1 2 3 4 5 6

U.S. Tax Revenue forecast in billion U.S. dollars per state records.

U.S. Tax Revenue forecast in billion U.S. dollars per state records plus 30% increase from black market control.
Black Market Control Winners

- Government
  - Protect Public
  - Protect Environment
  - Assure Funding
- Industry
  - Sustainable Business Model
  - Safeguard Production
- Public
  - Product Safety
  - Purchase Safety
Regulatory Horizon

- Cultivation Emission Factors
- Marijuana Opportunity, Reinvestment, and Expungement (MORE) Act
- Interstate Competition after National Legalization
Questions?

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