



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

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

<https://www.fool.com/investing/2019/10/19/5-reasons-the-marijuana-black-market-wont-go-away.aspx>

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 – NO_x, CO, VOC, SO_x
- Emergency generator emissions – NO_x, CO, VOC, SO_x

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

AQD - Permits

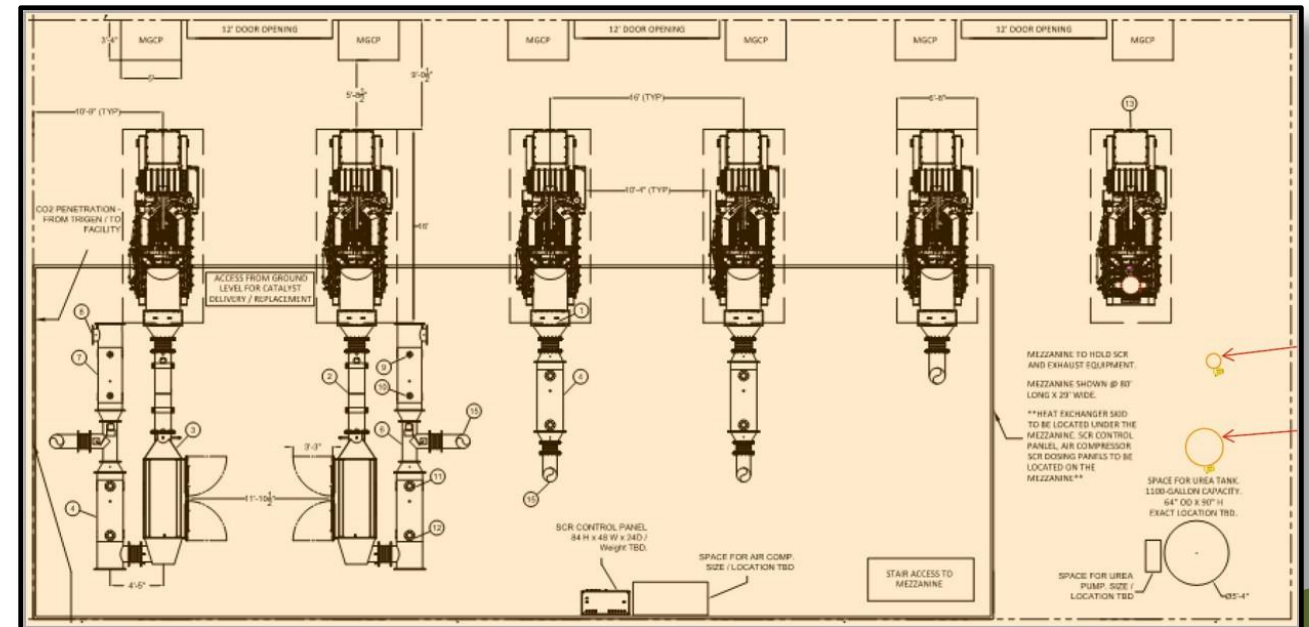
Three facilities pending Permit to Install

- Lansing
- Warren
- Pinconning

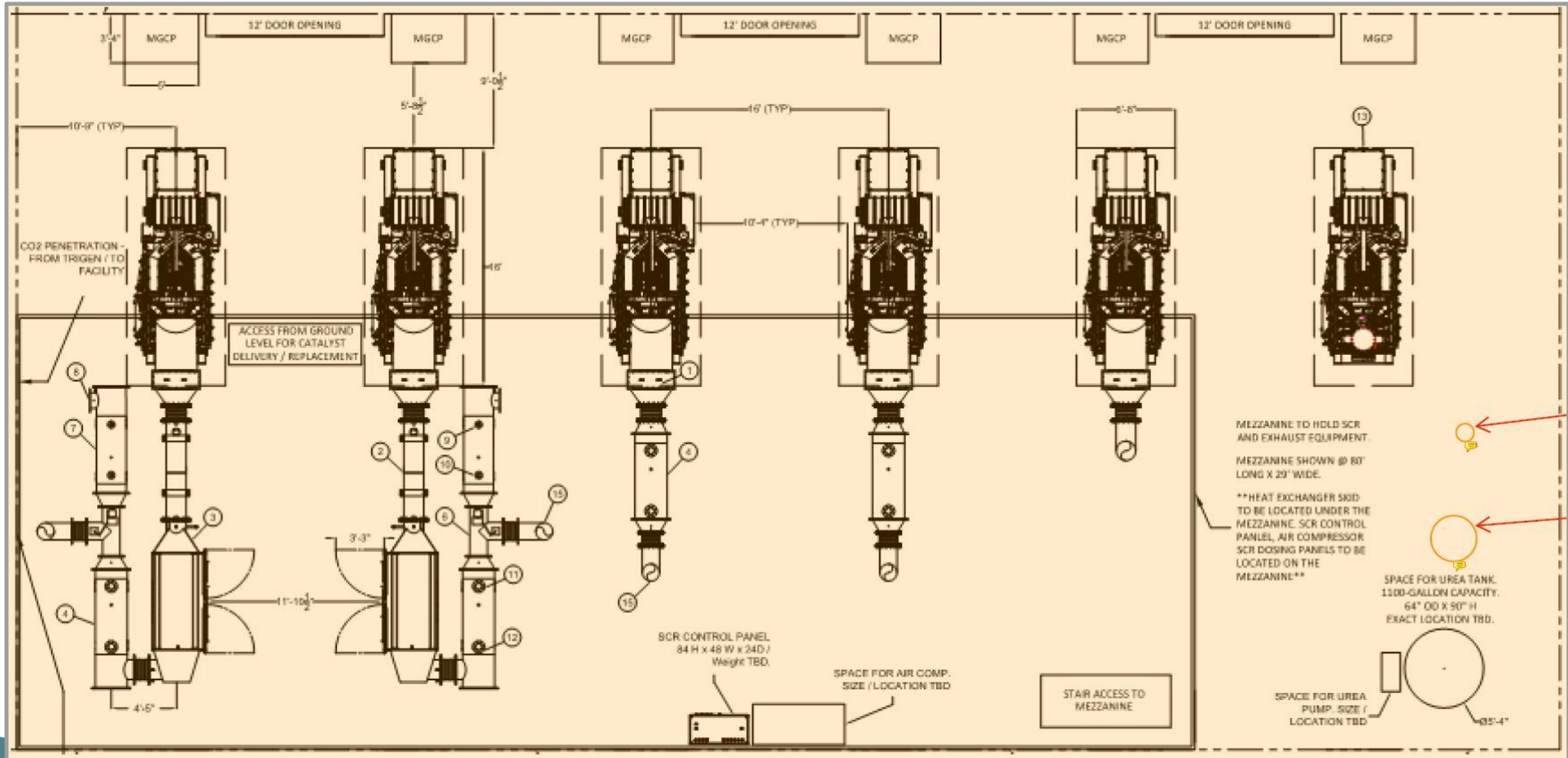
AQD - Permits

Warren

- 156,000 square-foot facility
 - Cultivate
 - Process
 - Power Plant
 - Emergency Generator
- PTI application pending



AQD - Permits



AQD - Permits

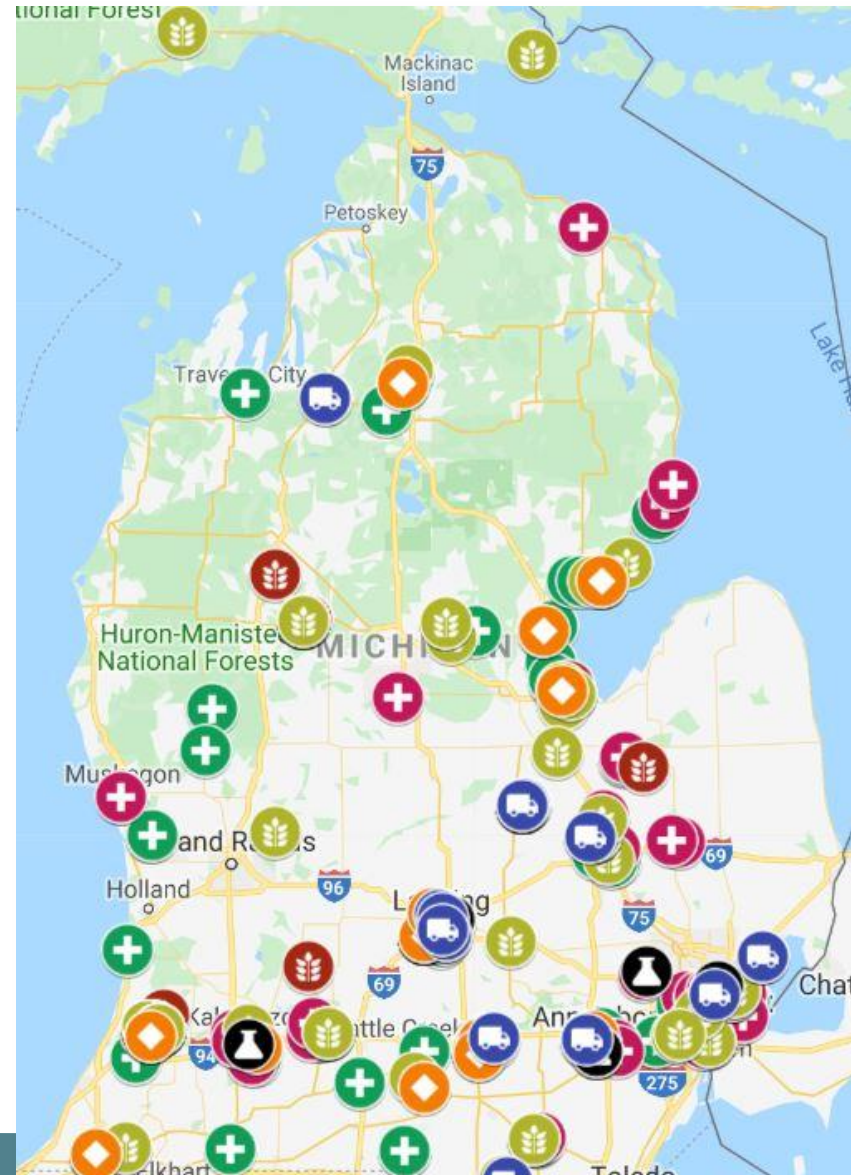
- Processing Emissions
- Power Plant Emissions
- Emergency Generators
- CO2 Generators
- Odor/Emission Controls
 - Ozone Generators
 - Foggers, Misters, and Odor Masking Agents
- Maintenance Plan
- Odor Control and Malfunction Abatement Plan

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



REVENUE PER CAPITA National Financial Analysis December 2019

State	Category	2014	2015	2016	2017	2018	2019
Colorado	Revenues, million U.S. dollars	\$ 67.60	\$ 130.40	\$ 193.60	\$ 247.40	\$ 266.50	\$ 296.99
Colorado	Census	5,351,000	5,452,000	5,541,000	5,616,000	5,695,564	5,770,545
Colorado	Revenue per Capita	\$ 12.63	\$ 23.92	\$ 34.94	\$ 44.05	\$ 46.79	\$ 51.47
Washington	Revenues, million U.S. dollars	\$ 1.78	\$ 67.50	\$ 189.00	\$ 319.10	\$ 367.40	
Washington	Census	7,052,000	7,061,410	7,183,700	7,310,300	7,427,270	7,546,400
Washington	Revenue per Capita	\$ 0.25	\$ 9.56	\$ 26.31	\$ 43.65	\$ 49.47	\$ -
Alaska	Revenues, million U.S. dollars			no report	\$ 1.75	\$ 11.10	\$ 19.20
Alaska	Census			730,714	734,185	737,438	741,177
Alaska	Revenue per Capita				\$ 2.38	\$ 15.05	\$ 25.90
Oregon	Revenues, million U.S. dollars			\$ 20.70	\$ 70.30	\$ 94.40	\$ 102.10
Oregon	Census			4,091,000	4,147,000	4,191,000	4,245,901
Oregon	Revenue per Capita			\$ 5.06	\$ 16.95	\$ 22.52	\$ 24.05
California	Revenues, million U.S. dollars					\$ 345.20	\$ 466.40
California	Census					39,560,000	39,747,267
California	Revenue per Capita					\$ 8.73	\$ 11.73
Nevada	Revenues, million U.S. dollars					\$ 69.80	\$ 99.20
Nevada	Census					3,034,400	3,087,025
Nevada	Revenue per Capita					\$ 23.00	\$ 32.13

Marijuana by the Numbers



Per Capita Revenues per State, Per Number of Retail Years



Marijuana by the Numbers

Michigan Revenue Forecast



MICHIGAN MARIJUANA REVENUE FORECASTS	Calendar Year 2020	Calendar Year 2021	Calendar Year 2022	Calendar Year 2023	Calendar Year 2024	Calendar Year 2025
	\$ 76,000,000	\$ 213,000,000	\$ 315,000,000	\$ 393,000,000	\$ 475,000,000	\$ 516,000,000
Cumulative Total	\$ 76,000,000	\$ 289,000,000	\$ 604,000,000	\$ 997,000,000	\$ 1,472,000,000	\$ 1,988,000,000
Percent of Michigan State Budget	0.24%	0.68%	1.01%	1.26%	1.52%	1.65%





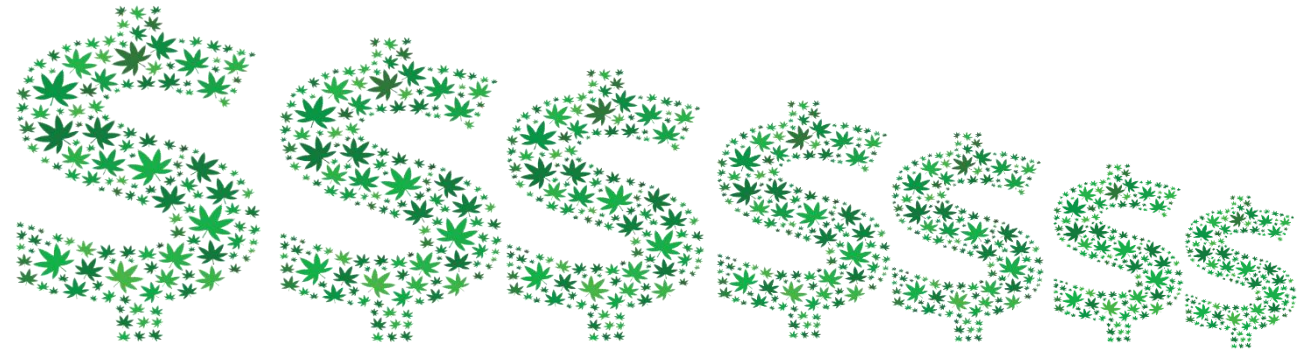
- **Adult-Use Marijuana**
- **Medical Marijuana**

- **Black Market**
- **Grey Market**
- **Interstate Market**



“Lansing.
This is Opportunity.
We have a problem...”

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
<https://www.fool.com/investing/2019/10/19/5-reasons-the-marijuana-black-market-wont-go-away.aspx>

† Quartz
Canada's black market for weed is thriving—even after legalization by 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..."

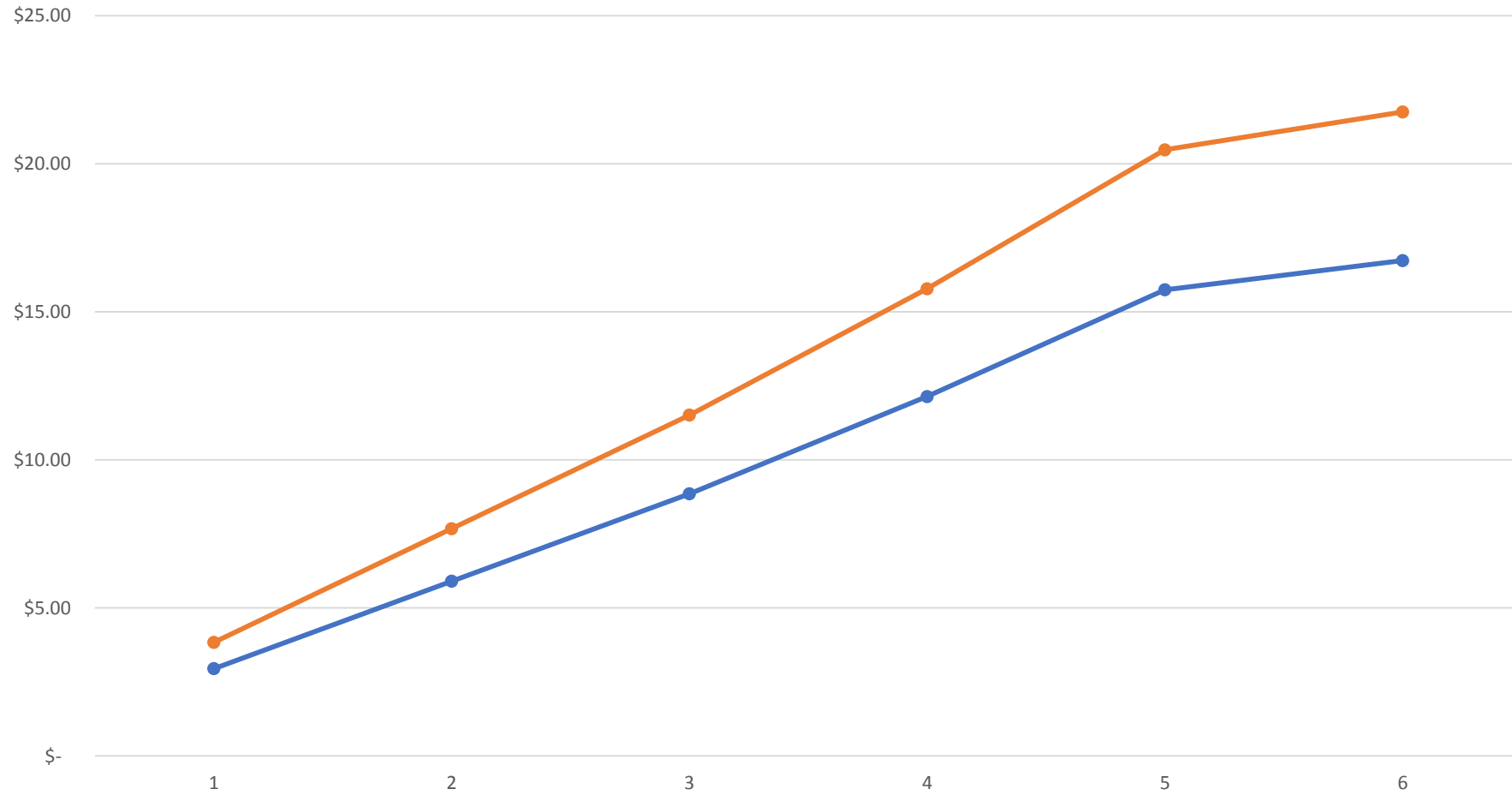
Michigan State Police Lt. Chris Hawkins, Marijuana and Tobacco Investigation Section

Marijuana Black Market

National Revenue Forecast



Billion U.S. Dollars



— 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?

Robert Elmouchi

Environmental Quality Analyst

Air Quality Division

Warren District Office

Michigan Department of Environment, Great Lakes, and Energy

27700 Donald Court

Warren, MI 48092-2793



Tel. 586-753-3736

elmouchir@michigan.gov