



WYOMING LEGISLATIVE SERVICE OFFICE

Memorandum

DATE April 10, 2020 [Updated April 13, 2020]

TO Members, 65th Legislature

FROM Don Richards, Budget and Fiscal Administrator
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SUBJECT State Revenue Scenarios: FY2020, FY2021 and FY2022

I. Introduction. This memorandum is intended to provide a range of potential revenue impacts resulting from the extraordinary economic environment that has developed over the last month. With legislative leadership approval and in order to manage competing information requests, LSO staff is providing a range of potential revenue outcomes in lieu of responding to individual revenue scenarios. The following principles may warrant your attention:

- In light of the last month's unprecedented economic developments, the January 2020 Consensus Revenue Estimating Group (CREG) forecast is no longer a reasonable projection of state revenues in the near-term. Wyoming's economic outlook has changed significantly.
- Since state revenue collections are lagged (usually at least two months), the forthcoming April Revenue Update will not reflect the current economic downturn. In fact, while some revenue streams may be falling slightly short of the projections in the January 2020 CREG forecast, others will be exceeding the forecast. In total, we anticipate that the revenues collected and accounted for to date are roughly on pace with the January 2020 CREG forecast.
- **This memorandum is *not* a CREG product.** LSO Budget/Fiscal staff reached out and obtained valuable feedback from CREG members but not all inputs were incorporated. Members and several support staff provided meaningful feedback, suggested alternative assumptions, offered support for many assumptions and selected variables, verified our inputs using their own approaches, raised important questions, and offered useful context from differing perspectives. We are extremely grateful for their time, perspectives, and occasionally, outright corrections. Nonetheless, the resulting document is LSO's alone. When called upon to issue a new formal CREG forecast, CREG will follow its normal process and may consider additional, and different, information than is available for this memorandum. Such an updated CREG forecast will be a consensus product as opposed to an LSO product.
- State of Wyoming revenue has been impacted by both the economic effects associated with the response to the COVID-19 pandemic as well as the oil price war between Saudi Arabia and Russia,

the latter of which increased oil supplies well beyond levels commensurate with depressed demand. Given the lag in state tax collections, no timely sales and use tax data trends associated with these extraneous factors are presently available. Additionally, as noted in the October 2019 and January 2020 CREG reports, investment performance and distribution information, is significantly delayed – recall this particular issue is unrelated to either the COVID-19 outbreak or the global oil price war.

- Unlike traditional CREG reports which illustrate forecasts of price and production projections in terms of calendar years, this memorandum depicts the estimates in fiscal years to more precisely illustrate the potential revenue impacts for the next three months (FY2020), for the next fiscal year (FY2021) and for the full, upcoming biennium (FY2021-2022). In particular, note that the FY2020 scenario assumptions include approximately six to seven months of known tax collections, prices, and production levels and in some cases, quality pricing and fairly reliable production data up to the writing of this memorandum. Incorporating roughly seven months of known data might yield some surprising results. For example, Wyoming oil prices averaged over \$52/bbl in the first six months of FY2020 and known prices through the first couple months of CY 2020 were not too far off that amount. Even if Wyoming oil prices averaged \$10/bbl for the last few months of the FY2020, the average Wyoming price for the year would remain well over \$30/bbl. In other words, today's prices are not reflective of the annual average price.
- This exercise includes three (3) scenarios titled: (i) optimistic, (ii) pessimistic, and (iii) intermediary. Given uncertainty regarding the depth of the current economic downturn, the duration of the downturn and the speed of a recovery, LSO staff believed it was best to depict a range of reasonably informed potential outcomes. Of the three scenarios, the intermediate scenario is not necessarily the expected scenario or a preview of a likely revision by CREG. Nonetheless, it does use the timeliest information, e.g., current futures prices of major commodities.
- Finally, perhaps the best interpretation of these scenarios is to view them as “informed guesses”. Given the lack of precedent, lack of reliable internal and external modelling, and the diversity of both Wyoming anecdotal information and national forecasts – many of which have been regularly revised over the past month - the confidence one should place on these scenarios is limited. For example, the developments of the OPEC+ commitments are known as of this writing; however, given the initial market reactions, the scenario inputs were not revised. Once sufficient time has passed for data to accurately depict the status of adherence to the commitments and rebound in demand, if any, viewpoints could be further modified.

II. Assumptions and Context. In the results section, three scenarios are provided. The optimistic scenario includes a shorter economic downturn and a quicker recovery (compared to the other scenarios) in industries with significant contributions to state revenues, e.g., oil production and tourism. The pessimistic scenario incorporates a drawn-out crisis with an extended recovery. For example, a second wave of the virus, potentially next fall, and a much slower recovery compared to the other scenarios narratives. This scenario also incorporates lingering and continued impacts of the over-supply of world oil. The intermediate scenario incorporates existing futures prices, continued economic disruption throughout the summer and a modest recovery over the next year albeit slower than the optimistic scenario. These three scenarios are in no way the only possible outcomes. For example, one could anticipate a scenario where the magnitude of federal appropriations and Federal Reserve actions potentially over-stimulate some sectors resulting in specific areas of inflation / asset price appreciations, etc. In contrast, it is also possible that the world

economy could deteriorate throughout the entire next biennium without a meaningful recovery. Both of these scenarios are outside the assumptions envisioned in this memorandum.

All scenarios incorporate known state revenue collection through the date of this memo. Below are highlights of key assumptions, for the intermediate scenario:

- *Sales and use taxes* incorporates a 40 percent decline in major retail and oil and gas industries for three months and a 30 percent decline for a subsequent six months with larger declines specifically in the restaurant and lodging industry.
- *Oil and natural gas prices* incorporates posted futures prices of major hubs as of the week of April 6, 2020, adjusted by historic Wyoming differentials for transportation, etc.
- *Oil production* incorporates **double** the reduction of any year of Wyoming oil production declines (in the 1980s and 1990s) given the pressures of oversupply of and lack of demand for oil production. Further, this intermediate estimate is informed by the steeper natural production declines of Wyoming's horizontal wells and anticipates shutting in of legacy wells.
- *Coal production* considers information from the **April federal Energy Information Administration Short-Term Energy Outlook** as well as incorporates continued downward trend lines in production which have been accelerated due to declining energy demand and favorable pricing of natural gas and other methods of electric generation.
- *General Fund (GF) Pooled Investments* incorporates the results of a reinvestment model for fixed income in the State Agency Pool with weighted average projected income from fixed income assets, including known maturities for assets held. The pessimistic scenario incorporates potential diversions from the known maturities used in the intermediate scenario, recognizes potential impacts of recent State Loan and Investment Board actions, and anticipates additional deposit disruptions or further declines in fixed income markets.
- *PWMTF and CSPLF Investments* are assumed to be guaranteed by statutory revenue flows from the Reserve Accounts for the period of these scenarios. Put differently, the Reserve Accounts are assumed to have sufficient balances to fully guarantee the projected income for the GF and School Foundation Program Account within the January 2020 CREG forecast.

Perhaps the two largest areas of uncertainty reside in the scenarios of sales and use taxes and oil production inputs. There is considerable uncertainty in these input variables and minor changes can result in tens of millions of dollars in annual total revenues for Wyoming. Caution should be exercised prior to utilizing the assumptions in this memorandum to formulate policy decisions.

Other variable inputs are depicted in Tables 2 through 4 for reader consideration; however, the overall revenue impacts of those other inputs are not nearly as significant as those listed above.

Ad Valorem / Property Taxes: The mineral or non-mineral assessed valuations associated with the current economic downturn will not have any material impact on state or local revenues until FY2022 and are included in the scenario results for that fiscal year. However, the impacts of the current economic downturn will, for purposes of revenue, extend into the FY2023-2024 biennium, especially with respect to K-12 school district funding and political subdivisions, i.e., counties, special districts, including community college districts, and municipalities.

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Federal Mineral Royalties (FMRs): Members of Congress have advanced discussions to provide a holiday, or exemption, from payment of FMRs either in their entirety or just the federal share of the royalty. Under January 2020 CREG estimates, Wyoming was forecast to receive \$486 million and \$501 million per fiscal year for FY2021 and FY2022, respectively. A complete holiday on the state’s share would eliminate state FMRs for the period of such a holiday. This potential impact is not incorporated in the three scenarios provided.

III. Results. Tables 2, 3 and 4 on the following pages depict the input values of all major revenue components considered for FY2020, FY2021, and FY2022, respectively. Each table illustrates the estimated revenue impacts, by input variable, as well as a total impact, for the optimistic, intermediate, and pessimistic scenarios. The reader can determine which is the most likely outcome, or range of outcomes, by time period. Furthermore, the cumulative impact by fund, or entity, is illustrated for each fiscal year and each scenario. A summary of the revenue outputs is provided in Table 4, below.

Table 1. Total Estimated State Revenue Impacts for FY2020, FY2021, and FY2022 (combined), by Fund (Recipient) and Scenario.

| | Optimistic | Intermediate | Pessimistic |
|-----------------------|------------------------|--------------------------|--------------------------|
| GF/BRA ¹ | (\$254,600,000) | (\$925,200,000) | (\$1,473,800,000) |
| OPSTA ² | (\$16,900,000) | (\$81,300,000) | (\$120,300,000) |
| PWMTF ³ | (\$38,300,000) | (\$147,800,000) | (\$218,200,000) |
| SFP/SCCA ⁴ | (\$136,100,000) | (\$344,000,000) | (\$526,500,000) |
| Local ⁵ | (\$109,900,000) | (\$265,500,000) | (\$451,800,000) |
| Other ⁶ | \$0 | \$0 | (\$7,500,000) |
| TOTAL | (\$555,800,000) | (\$1,763,800,000) | (\$2,798,100,000) |

Notes:

- 1) GF/BRA: General Fund/Budget Reserve Account
- 2) OPSTA: One Percent Severance Tax Account, currently not appropriated
- 3) PWMTF: Permanent Wyoming Mineral Trust Fund
- 4) SFP/SCCA: School Foundation Program Account/School Capital Construction Account
- 5) Local: This is an estimate of the impacts from the local government share of the statewide four percent (4%) sales and use tax, the “fifth penny” sales and use tax for those jurisdictions currently imposing such as tax and property taxes not associated with school districts. This estimate does not incorporate any impacts on the “sixth penny” or capital facilities sales and use tax as the direct impact would be a longer duration of the imposition of the tax - not a reduction in the amount collected. This amount also includes any reduction of “under the cap” severance taxes directed to local governments.
- 6) Other: Severance taxes to other accounts, e.g, Water Development Accounts, Highway Fund, etc. These revenue reductions are limited to severance taxes in the event that the \$155 million cap is not reached in any fiscal year.

If you have questions, please advise.

File Storage: [https://wyoleg.sharepoint.com/sites/LSO/Fiscal/CREG/2020 CREG/May/20200410_AprilRevenueScenarios_FINAL.docx](https://wyoleg.sharepoint.com/sites/LSO/Fiscal/CREG/2020%20CREG/May/20200410_AprilRevenueScenarios_FINAL.docx)

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Table 2. State Revenue Estimates and Inputs, FY 2020, by Input Value and by Account

| Major Estimating Element | Value | | | Baseline | Scenario Revenue Impact | | |
|--|------------|--------|-------------|---------------|-------------------------|-----------------|-----------------|
| | Optimistic | Middle | Pessimistic | | Optimistic | Middle | Pessimistic |
| Statewide Sales and Use Taxes | -11% | -17% | -25% | \$970,100,000 | (\$107,100,000) | (\$160,600,000) | (\$241,000,000) |
| Oil Price | \$45 | \$40 | \$35 | \$51.25 | (\$47,000,000) | (\$101,800,000) | (\$148,100,000) |
| Oil Production | 1% | -7% | -12% | 100,500,000 | | | |
| Coal Price | \$12 | \$11.9 | \$11.6 | \$12.1 | (\$35,400,000) | (\$53,600,000) | (\$74,300,000) |
| Coal Production | -10% | -15% | -20% | 270,000,000 | | | |
| Natural Gas Price | \$2.30 | \$2.20 | \$2.10 | \$2.60 | | | |
| Natural Gas Production | 0% | -3% | -6% | 1,585,000,000 | (\$9,400,000) | (\$25,300,000) | (\$40,800,000) |
| Natural Gas Assessment Ratio | 64% | 64% | 63% | 64% | | | |
| Trona Price | \$77 | \$75 | \$70 | \$75 | | | |
| Trona Production | 0% | -2% | -5% | 20,500,000 | \$500,000 | (\$400,000) | (\$1,900,000) |
| All Other Minerals | 0% | -2% | -5% | \$27,000,000 | \$0 | (\$500,000) | (\$1,400,000) |
| GF Pooled Investments | 5% | 0% | -15% | \$55,100,000 | \$2,800,000 | \$0 | (\$8,300,000) |
| PWMTF Investments | NA | NA | NA | \$189,600,000 | \$0 | \$0 | \$0 |
| CSPLF Investments | NA | NA | NA | \$188,500,000 | \$0 | \$0 | \$0 |
| Non-Mineral Assessed Valuation | NA | NA | NA | \$764,100,000 | \$0 | \$0 | \$0 |
| GF - All Other | 5% | 0% | -5% | \$152,300,000 | \$7,600,000 | \$0 | (\$7,600,000) |
| State Royalties & Leases to SCCA | 2% | 0% | -5% | \$56,000,000 | \$1,100,000 | \$0 | (\$2,800,000) |
| TOTALS | | | | | (\$186,900,000) | (\$342,200,000) | (\$526,200,000) |
| Impact by Fund | | | | | | | |
| GF/BRA | | | | | (\$115,300,000) | (\$220,600,000) | (\$343,000,000) |
| OPSTA | | | | | | | |
| PWMTF | | | | | (\$12,800,000) | (\$25,800,000) | (\$37,700,000) |
| SFP/SCCA, incl indirect property taxes | | | | | (\$11,900,000) | (\$25,400,000) | (\$39,800,000) |
| Locals | | | | | (\$46,900,000) | (\$70,400,000) | (\$105,700,000) |

Table 3. State Revenue Estimates and Inputs, FY 2021, by Input Value and by Account

| Major Estimating Element | Value | | | Baseline | Scenario Revenue Impact | | |
|--|------------|---------|-------------|---------------|-------------------------|-----------------|-------------------|
| | Optimistic | Middle | Pessimistic | | Optimistic | Middle | Pessimistic |
| Statewide Sales and Use Taxes | -4% | -16% | -33% | \$984,700,000 | (\$40,100,000) | (\$160,500,000) | (\$321,000,000) |
| Oil Price | \$40 | \$25 | \$15 | \$50.0 | (\$119,600,000) | (\$253,000,000) | (\$333,600,000) |
| Oil Production | -10% | -20% | -30% | 103,500,000 | | | |
| Coal Price | \$12 | \$11.60 | \$11 | \$12.1 | (\$67,900,000) | (\$108,100,000) | (\$149,400,000) |
| Coal Production | -20% | -30% | -40% | 267,500,000 | | | |
| Natural Gas Price | \$2.75 | \$2.50 | \$2.0 | \$2.58 | | | |
| Natural Gas Production | 0% | -15% | -30% | 1,560,000,000 | \$25,400,000 | (\$58,300,000) | (\$142,600,000) |
| Natural Gas Assessment Ratio | 64% | 64% | 63% | 64% | | | |
| Trona Price | \$80 | \$75 | \$65 | \$75 | \$1,300,000 | (\$1,300,000) | (\$5,000,000) |
| Trona Production | 0% | -7% | -15% | 20,750,000 | | | |
| All Other Minerals | 0% | -5% | -15% | \$27,000,000 | \$0 | (\$1,400,000) | (\$4,100,000) |
| GF Pooled Investments | -10% | -20% | -30% | \$58,750,000 | (\$5,900,000) | (\$11,800,000) | (\$17,600,000) |
| PWMTF Investments | NA | NA | NA | \$194,200,000 | \$0 | \$0 | \$0 |
| CSPLF Investments | NA | NA | NA | \$196,100,000 | \$0 | \$0 | \$0 |
| Non-Mineral Assessed Valuation | NA | NA | NA | \$779,400,000 | \$0 | \$0 | \$0 |
| GF - All Other | 0% | -5% | -10% | \$151,900,000 | \$0 | (\$7,600,000) | (\$15,200,000) |
| State Royalties & Leases to SCCA | 0% | -10% | -30% | \$61,000,000 | \$0 | (\$6,100,000) | (\$18,300,000) |
| TOTALS | | | | | (\$206,800,000) | (\$608,100,000) | (\$1,006,800,000) |
| Impact by Fund | | | | | | | |
| GF/BRA | | | | | (\$128,000,000) | (\$372,400,000) | (\$603,000,000) |
| OPSTA | | | | | (\$16,200,000) | (\$40,500,000) | (\$59,100,000) |
| PWMTF | | | | | (\$24,400,000) | (\$60,700,000) | (\$88,600,000) |
| Severance taxes to other accounts | | | | | | | (\$4,400,000) |
| SFP/SCCA, incl indirect property taxes | | | | | (\$20,600,000) | (\$64,100,000) | (\$108,200,000) |
| Locals | | | | | (\$17,600,000) | (\$70,400,000) | (\$143,600,000) |

Table 4. State Revenue Estimates and Input Values, FY 2022, by Input Value and by Account

| Major Estimating Element | Value | | | Baseline | Scenario Revenue Impact | | |
|--|------------|--------|-------------|---------------|-------------------------|-----------------|-------------------|
| | Optimistic | Middle | Pessimistic | | Optimistic | Middle | Pessimistic |
| Statewide Sales and Use Taxes | 0% | -8% | -16% | \$999,500,000 | \$0 | (\$81,400,000) | (\$159,900,000) |
| Oil Price | \$55 | \$30 | \$20 | \$52.5 | | | |
| Oil Production (bbl) | -5% | -20% | -35% | 106,000,000 | (\$57,900,000) | (\$392,800,000) | (\$556,900,000) |
| Coal Price | \$12 | \$11.5 | \$11 | \$12.1 | | | |
| Coal Production (tons) | -20% | -30% | -40% | 257,500,000 | (\$99,800,000) | (\$156,800,000) | (\$213,500,000) |
| Natural Gas Price | \$3.00 | \$2.50 | \$2.00 | \$2.75 | | | |
| Natural Gas Production (Mcf) | 0% | -15% | -30% | 1,560,000,000 | (\$8,200,000) | (\$131,200,000) | (\$231,600,000) |
| Natural Gas Assessment Ratio | 65% | 64% | 63% | 64% | | | |
| Trona Price | \$80 | \$75 | \$65 | \$75 | | | |
| Trona Production (tons) | 0% | -7% | -15% | 21,000,000 | \$1,100,000 | (\$4,200,000) | (\$12,800,000) |
| All Other Minerals | 0% | -5% | -15% | \$35,000,000 | \$0 | (\$1,800,000) | (\$5,300,000) |
| GF Pooled Investments | 5% | -20% | -30% | \$53,150,000 | \$2,700,000 | (\$10,600,000) | (\$15,900,000) |
| PWMTF Investments | NA | NA | NA | \$199,200,000 | \$0 | \$0 | \$0 |
| CSPLF Investments | NA | NA | NA | \$203,600,000 | \$0 | \$0 | \$0 |
| Non-Mineral Assessed Valuation | 0% | -3% | -6% | \$795,000,000 | \$0 | (\$23,900,000) | (\$47,700,000) |
| GF - All Other | 0% | -5% | -10% | \$151,900,000 | \$0 | (\$7,600,000) | (\$15,200,000) |
| State Royalties & Leases to SCCA | 0% | -5% | -10% | \$61,000,000 | \$0 | (\$3,100,000) | (\$6,100,000) |
| TOTALS | | | | | (\$162,100,000) | (\$813,400,000) | (\$1,264,900,000) |
| Impact by Fund | | | | | | | |
| GF/BRA | | | | | (\$11,300,000) | (\$332,200,000) | (\$527,800,000) |
| OPSTA | | | | | (\$700,000) | (\$40,800,000) | (\$61,200,000) |
| PWMTF | | | | | (\$1,100,000) | (\$61,300,000) | (\$91,900,000) |
| Severance taxes to other accounts | | | | | | | (\$3,100,000) |
| SFP/SCCA, incl indirect property taxes | | | | | (\$103,600,000) | (\$254,500,000) | (\$378,500,000) |
| Locals | | | | | (\$45,400,000) | (\$124,700,000) | (\$202,500,000) |