Input: Impact of the COVID-19 pandemic on the economy and energy sector in North Macedonia – New GDP projection developed as a part of the Energy Strategy
Content

- Introduction
- Methodology
- Analyses of historical data and COVID-19 impact
- Input data
- Scenarios and results
Update from the previous presentation

- Final draft on National Energy and Climate Plan
- Study on the Industry Sector Analysis of Policies and Measures - STUIND
- 4th National Energy Efficiency Action Plan
- Long Term Strategy on Climate Action (draft version)
- Nationally Determined Contribution
- Update of the energy strategy, Program for the realization of the Strategy
- Updated version of the strategy
- White paper
- Program for the realization of the strategy up to 2025
Analysis of historical data and COVID-19 impact

- Energy consumption by sectors
- Electricity
- Natural gas
- Oil products
- Coal
- RES
- Energy sector vs Covid-19
Energy sector vs Covid-19

Electricity consumption

Electricity supply

Gross domestic production

Import

Export
Energy sector vs Covid-19

Wholesale electricity price HUPX, 2019-2020
Energy sector vs Covid-19

• Oil consumption, Jan-Aug 2018-2020

• Natural gas consumption, Jan-Aug 2018-2020

• Lignite consumption, Jan-Aug 2018-2020
Input data

- GDP
- Population
- Input data per sectors
- Energy supply
- Global energy trends,
- International fossil fuel prices
- EU ETS carbon price
Parameters used for GDP projections

**Investments**, as one of the key factors of the economic growth, during the second quarter of 2020, have recorded a high decline

**International trade** is the main channel through which the negative effects of the changes in the economic activity (business cycles) are transmitted between the individual countries within the global economy.

Negative results from the crisis, in the domain of foreign trade, will be effected through several basic channels:

- **The first channel** is the trade with industrial products related to the global value chain. Exports through this channel account for 50 percent of the total exports of goods to the Macedonian economy, participating with 25 percent in GDP.
- **The second channel** refers to the export of raw materials, semi-finished products and final industrial products of Macedonian companies that are not directly related to GVCs.
- **The third channel** refers to the inflow of foreign direct investments in the economy.
- **The fourth channel** refers to the inflow of remittances from our citizens working abroad - some of them have lost their jobs, some work part-time, and some returned to the country.
### Table 1: Basic economic indicators for the Republic of North Macedonia in the year before the COVID-19 crises and in the first and second quarter of 2020

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Q1</th>
<th>Q2</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (real growth rates, %)</td>
<td>2.8</td>
<td>1.1</td>
<td>2.9</td>
<td>3.2</td>
<td></td>
<td>0.2</td>
<td>-12.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial production cumulative average</td>
<td>3.4</td>
<td>0.2</td>
<td>5.4</td>
<td>3.7</td>
<td>0.3</td>
<td>3.5</td>
<td>-13.4</td>
<td>-3.7</td>
<td>-25</td>
<td></td>
</tr>
<tr>
<td>Inflation CPI</td>
<td>-0.2</td>
<td>2.4</td>
<td>0.9</td>
<td>0.4</td>
<td>0.6</td>
<td>0.7</td>
<td>0.5</td>
<td>0.6</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Unemployment rate (in %)</td>
<td>23.7</td>
<td>22.4</td>
<td>20.7</td>
<td>17.3</td>
<td>16.2</td>
<td>16.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budget balance (Central budget and Funds budget balance as % of GDP)</td>
<td>-2.7</td>
<td>-2.7</td>
<td>-1.8</td>
<td>-2.0</td>
<td>-0.2</td>
<td>-0.5</td>
<td>-0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total credits (annual growth rate)</td>
<td>-0.1</td>
<td>5.4</td>
<td>7.3</td>
<td>6.0</td>
<td>6.8</td>
<td>6.9</td>
<td>5.8</td>
<td>5.8</td>
<td>6.6</td>
<td></td>
</tr>
<tr>
<td>Total deposits (annual growth rate)</td>
<td>6.1</td>
<td>5.0</td>
<td>12.1</td>
<td>9.0</td>
<td>8.8</td>
<td>7.8</td>
<td>7.9</td>
<td>7.9</td>
<td>8.4</td>
<td></td>
</tr>
<tr>
<td>Current account balance (as % of GDP)</td>
<td>-2.1</td>
<td>-1.0</td>
<td>-0.14</td>
<td>-2.8</td>
<td>0.0</td>
<td>-0.7</td>
<td>-0.8</td>
<td>-1.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade balance (as % of GDP)</td>
<td>-18</td>
<td>-18.1</td>
<td>-16.9</td>
<td>-17.8</td>
<td>-1.2</td>
<td>-1.8</td>
<td>-1.6</td>
<td>-4.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct investments (in million of EUR)</td>
<td>316.9</td>
<td>180</td>
<td>603.7</td>
<td>290.6</td>
<td>24.9</td>
<td>-42.2</td>
<td>-108.4</td>
<td>-132.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross external debt (as % of GDP)</td>
<td>74.7</td>
<td>73.4</td>
<td>3.3</td>
<td>72.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>76.3</td>
<td></td>
</tr>
<tr>
<td>Gross foreign reserves (in million of EUR)</td>
<td>2613.4</td>
<td>2336.3</td>
<td>2867.1</td>
<td>3262.6</td>
<td>3100.6</td>
<td>3084.5</td>
<td>3017.3</td>
<td>3017.3</td>
<td>3639.7</td>
<td></td>
</tr>
</tbody>
</table>

The strongest short-term decline in the economic activity since the past 150 years all over the world.

- The short-term decline of economic activity among the European Monetary Union member states (the first two quarters of 2020) is significant and is estimated at -12.1%.
- The unemployment rate for the second quarter of 2020, compared to the first quarter has increased, and according to the calculation is at 7.7%.
- The latest GDP estimates prepared by European Commission, has predicted decline in real GDP at -7.8% among EMU countries.

Forecast of real GDP of most important trade partners of North Macedonia
Parameters used for GDP projections

GDP growth rate projections from different institutions

Parameters used for GDP projections

Besides the above mentioned elements, the projection is performed on the following assumptions:

- the pandemic intensity will significantly decrease by the end of the second quarter of 2021;
- the Government would not use extremely strict restrictions that would lead to lock down of entire economic sections and the business entities should adapt the working process to the so called “new reality”;
- in 2021, especially in the third and fourth quarters a significant recovery of the Macedonian economy will be evident, but the recovery it would not be complete, the complete recovery will happen in 2022;
- after 2022 the economy will continue to perform with growth rates around its long-term trend.
Macedonia GDP projections

GDP (in bn. EUR) - GDP growth (%)

GDP (in bn. EUR) - GDP growth (%)
Industrial index growth

The industrial production as a component of GDP is a typically pro-cyclical category. This means that is increasing with the growth of the total economic activity and vice versa is decreasing with the decreases of the total economic activity.

Chain indices of industrial production in North Macedonia, by years, period 2010 – 2019

GDP average growth rate for the period 2013 – 2019
Industrial production average growth rate for the period 2013 – 2019
GDP per capita average growth rate for the period 2013 – 2017
Input data – industry sector

The table and the graph below show the input data for the industry sector.

### Table

<table>
<thead>
<tr>
<th>Year</th>
<th>Chemical</th>
<th>Food</th>
<th>Iron Steel</th>
<th>Non-metallic</th>
<th>Other</th>
<th>Paper</th>
<th>Non-ferrous</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>1,142</td>
<td>1,386</td>
<td>250,439</td>
<td>13,286</td>
<td>3,182</td>
<td>358,148</td>
<td>5,379</td>
</tr>
<tr>
<td>2020</td>
<td>1,152</td>
<td>1,360</td>
<td>250,439</td>
<td>13,286</td>
<td>3,182</td>
<td>358,148</td>
<td>5,379</td>
</tr>
<tr>
<td>2025</td>
<td>1,157</td>
<td>1,395</td>
<td>250,439</td>
<td>13,286</td>
<td>3,182</td>
<td>358,148</td>
<td>5,379</td>
</tr>
<tr>
<td>2030</td>
<td>1,293</td>
<td>1,493</td>
<td>250,439</td>
<td>13,286</td>
<td>3,182</td>
<td>358,148</td>
<td>5,379</td>
</tr>
<tr>
<td>2035</td>
<td>1,382</td>
<td>1,538</td>
<td>250,439</td>
<td>13,286</td>
<td>3,182</td>
<td>358,148</td>
<td>5,379</td>
</tr>
<tr>
<td>2040</td>
<td>1,414</td>
<td>1,386</td>
<td>250,439</td>
<td>13,286</td>
<td>3,182</td>
<td>358,148</td>
<td>5,379</td>
</tr>
</tbody>
</table>

### Graph

- **Mil. EUR**
- **Years: 2016 to 2040**
- **Industries:**
  - Chemical
  - Food
  - Iron Steel
  - Non-metallic
  - Other
  - Paper
  - Non-ferrous

The graph illustrates the growth and variations in input data across different industries from 2016 to 2040.
Scenarios and results
Final energy demand per fuel

- Adopted strategy
- Updated strategy
Electricity results

Electricity consumption

- **Addopted strategy**
- **Updated strategy**

Installed capacity

- **Addopted strategy**
- **Updated strategy**
Installed capacity by type of technology

Note: Lignite generation takes into account the raw material supply constraint of ~5 M tons / year (3.5 M tons / year since 2035). Difference may arise due to rounding.

Source: Strategy & analysis, MANU modeling on net installed capacities.
Thank you for your attention

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