



# Georgia's Energy Sector Electricity Market Watch

Georgia | Energy  
1H22  
August 2, 2022

## Key Highlights

**Electricity consumption increased by 9.8% y/y and reached 7.3TWh in 1H22.** The growth was mainly satisfied by growth in hydro generation (+21.1% y/y), attributable to good hydrology of this year. Additionally, import of electricity (-31.1% y/y) was substituted by thermal generation (+62.4% y/y) when possible, due to price differences.

**Georgia had a positive trade balance in electricity trade in 1H22, first time in a decade.** In 1H22, export of electricity stood at US\$ 55.8mn, import at US\$ 34.7mn, resulting in positive trade balance of US\$ 21.1mn. On the one hand, energy crisis and global price growth of energy products impacted our key export destination Turkey – where prices tripled. On the other hand, the energy crisis did not affect our import providers - Russia and Azerbaijan - as they are price setters on the global energy market. Price of electricity import from Russia and Azerbaijan to Georgia increased, but not so significantly to cause any dramatic changes on local market prices. Therefore, Georgian companies benefited from current energy crisis with increased revenue from electricity exports to Turkey, while prices on local markets increased far below global trend:

- **Prices of electricity in Turkey tripled y/y and went up to US\$ 14.5/kWh in Jun-22,** in line with price surge of natural gas globally. Georgian exporters benefited from this growth – gaining historic high revenue of US\$ 51.2mn from electricity export to Turkey in 1H22. Export of electricity in Turkey started in May and will probably continue until end of August with some limited volumes. Despite high demand and price growth expectation on Turkish market, export of electricity is limited by Georgian regulation - prohibiting electricity exports when electricity import is needed.
- Price of imported electricity also increased, but this growth was far below exported price. For example, price of electricity imported from Azerbaijan stood at US\$ 7.5/kWh in 1H22, up from US\$ 4.6/kWh in 1H21 (+62.1% y/y), while electricity export price is at US\$ 14.5/kWh.
- **Balancing electricity price** in Georgia increased by 21.9% y/y to US\$ 5.7/kWh. The main reason is growth of average import price.

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**Day-ahead and balancing and ancillary services markets should start its operation on 1 September 2022**, according to current addition of electricity market concept (Government decree N246, dated 16.04.2020). A month prior the date, there are still some open questions remaining. GNERC and all responsible policymakers approve regulatory documents intensely to fill the regulatory gaps and have whole framework ready for September. Public hearing on some regulatory piece is planned for almost every single day of the summer.

The date was previously postponed several times and chances of postponing once again seem to be high, although policymakers seem very decisive this time.

**Imbalance settlement should also be introduced from September 1, 2022.** Market participants should become responsible for the difference between their planned and actual consumption/generation in each hour. This imbalance settlement mechanism is the key difference from the current market model and makes trade on day-ahead market reasonable.



### Electricity supply, demand and prices

In 1H22, 8.2TWh of electricity was supplied to the grid, out of which 5.5 TWh (67.2%) was hydro generation, 1.5TWh (18.1%) thermal generation, 0.04TWh (0.5%) wind generation and 1.2TWh (14.3%) of electricity was imported.

Out of 8.2TWh of electricity supplied to the grid in 1H22, 7.3TWh (88.7%) was consumed locally at wholesale level, 0.6TWh (7.6%) was exported and 0.3TWh (3.7%) lost during transmission.

### Domestic consumption

**Electricity consumption increased by 9.8% y/y and reached 7.3TWh in 1H22.** The growth was mainly driven by consumption of legal entities.

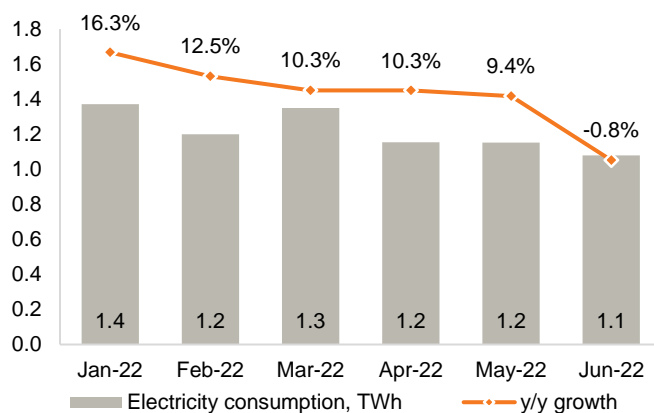
Abkhazian region's consumption increased by 6.6% y/y and accounted for 23.1% of electricity consumption. Consumption of the rest of Georgia increased by 10.7% y/y in 1H22.

Electricity consumption by certain groups of consumers was highly impacted by increased number of eligible consumers. As of July 2022, 53 companies were registered as direct consumers on wholesale market of electricity. Most of them had legal obligation of registration, but there are some volunteers hoping for utility cost optimization via direct purchase of electricity. Repositioning of certain consumers from one group to another made significant impact on y/y statistics of consumption breakdown.

Table 1: Demand growth breakdown

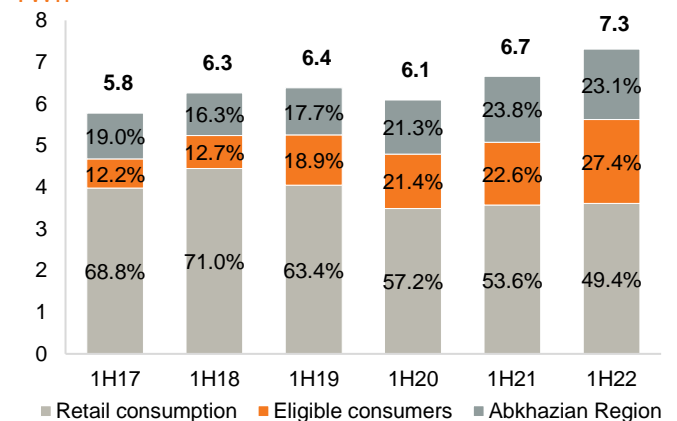
| Consumer                          | Growth rate, y/y | Share in consumption |
|-----------------------------------|------------------|----------------------|
| <b>Domestic consumption</b>       | <b>+9.8%</b>     | <b>100.0%</b>        |
| Abkhazian region                  | +6.6%            | 23.1%                |
| Direct consumers                  | +33.4%           | 27.4%                |
| Retail consumption                | +1.2%            | 49.4%                |
| Energo-Pro Georgia and EPG Supply | -3.6%            | 29.2%                |
| Telasi and Telmico                | +8.9%            | 20.3%                |

Figure 1: Electricity consumption, TWh



Source: ESCO

Figure 2: Electricity consumption by consumer groups, TWh



Source: ESCO

Note: Retail consumption includes consumption of subscribers of Energo-pro Georgia and Telasi prior 2022 and subscribers of Telmico and EP Georgia Supply in 2022

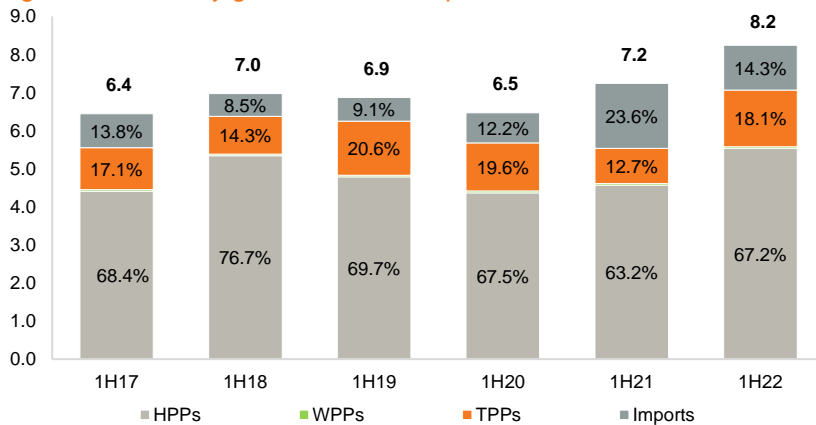


### Electricity generation and import

**The growth of consumption was mainly satisfied by growth in hydro generation.** Generation of **HPP** increased by 21.1% y/y due to favourable hydrological conditions and low base of Enguri HPP (due to maintenance works in 1H21).

**Thermal** generation was up by 62.4% y/y, while electricity **imports** were down by 31.1% y/y. This shift from electricity import to thermal generation (which works on imported natural gas) is explained by price difference - average price of electricity imports was USc 7.5/kWh, while price of thermal generation ranged between USc 3.3/kWh (e.g. for gardabani 1 TPP) and USc 4.5/kWh (e.g. Mtkvari Energy).

Figure 3: Electricity generation and imports, TWh



Source: ESCO

Table 2: Supply growth breakdown, 2021

| Supply source        | Annual growth | Share in supply |
|----------------------|---------------|-----------------|
| <b>Total supply</b>  | <b>+13.8%</b> | <b>100%</b>     |
| Imports              | -31.1%        | 14.3%           |
| Domestic generation  | +27.7%        | 85.7%           |
| TPPs                 | +62.4%        | 18.1%           |
| WPPs                 | -8.3%         | 0.5%            |
| HPPs                 | +21.1%        | 67.2%           |
| Enguri and Vardnili  | +28.4%        | 23.5%           |
| Other regulated HPPs | +9.4%         | 19.2%           |
| Deregulated HPPs     | +24.8%        | 24.4%           |

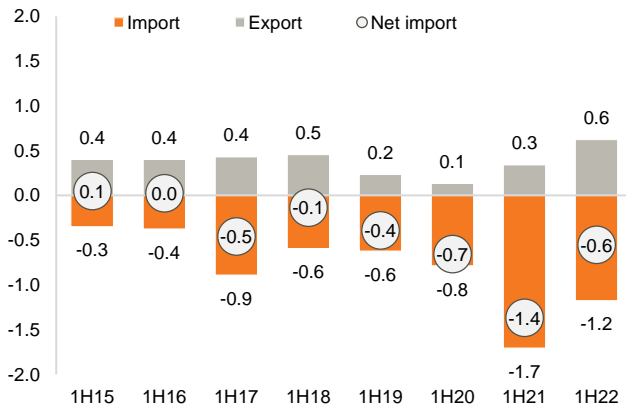
Source: ESCO

### Foreign trade of electricity and average prices

**First time over last 10 years the trade balance of electricity was positive** - Georgia earned US\$ 55.8mn via electricity exports and spent US\$ 34.7mn on electricity imports, resulting in US\$ 21.1mn of net export. Despite the positive trade balance in US\$ terms, Georgia remains net importer in kWh terms. Georgia imported 1.2TWh electricity and exported 0.6TWh in 1H22, resulting in 0.6TWh net import. Increased export revenues are attributable to sky-rocked prices in key export destination - Turkey.

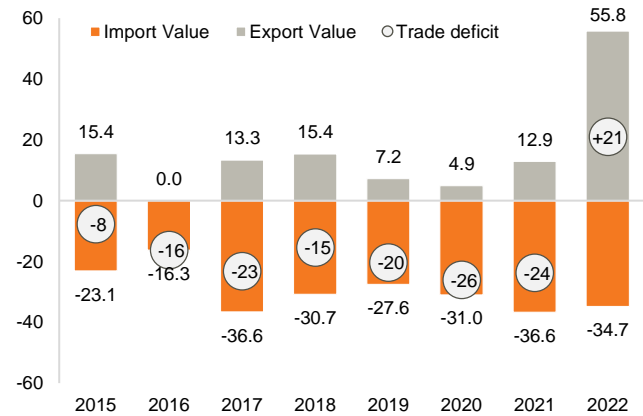


Figure 4: Foreign trade of electricity, TWh



Source: ESCO, Geostat, Galt & Taggart

Figure 5: Trade deficit, US\$ mn

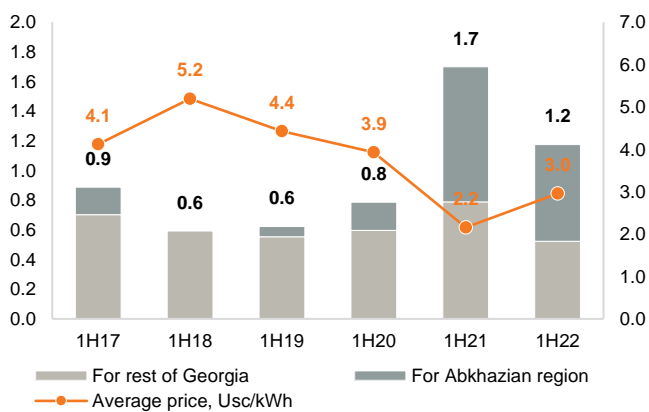


Source: ESCO, Geostat, Galt & Taggart

**In 1H22, 77% of total imports came from Russia (most for Abkhazian region), 11% from Azerbaijan and 12% from Armenia.** Abkhazian region consumed 55% of total electricity imported to Georgia. This electricity is received at “special” price (less than USc 0.5/kWh), decreasing the average import price to USc 3.0/kWh. Commercial price of electricity imports varies by importer country:

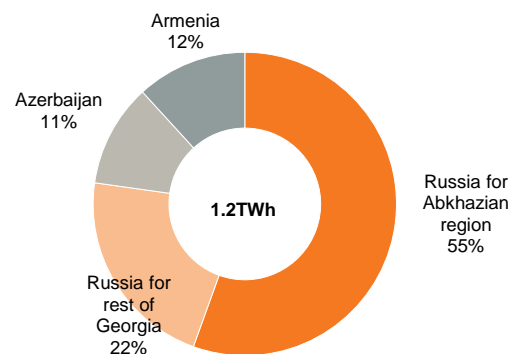
- Price of electricity imports from Azerbaijan stood at US\$ 7.5/kWh in 1H22
- Price of electricity imports from Armenia - US\$ 7.4/kWh in 1H22
- Price of electricity imports from Russia stood at USc 6.0/kWh in Apr-22 – the only month without any import for Abkhazian region.

Figure 6: Electricity imports, TWh



Source: ESCO, Galt & Taggart

Figure 7: Electricity import source-countries in 1H22

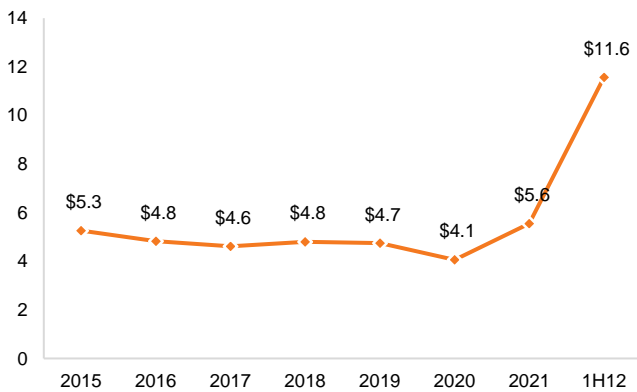


Source: ESCO, Geostat, Galt & Taggart



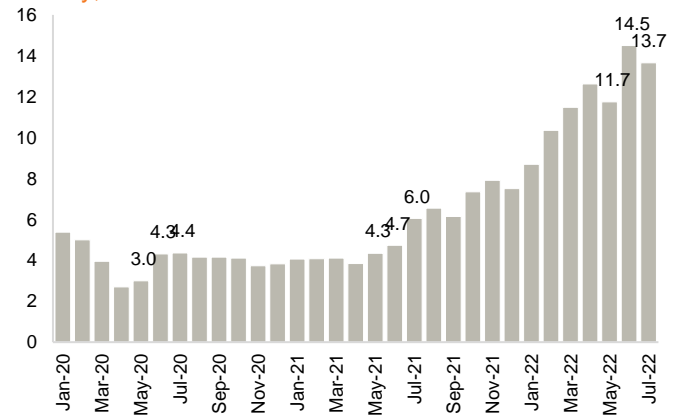
**Price of electricity on Turkish market almost tripled and reached USc 11.6/kWh in 1H22 up from USc 4.2/kWh in 1H21.** On some days of July price of electricity reached as high as USc 18.3/kWh. Globally increased natural gas prices due to current energy crisis and Turkish markets' dependence on gas-fired thermal power plants are the cause of this spike.

**Figure 8: Average annual Market Clearing Prices in Turkey, USc/kWh**



Source: EPIAS, EVDS, Galt & Taggart

**Figure 9: Average monthly Market Clearing Prices in Turkey, USc/kWh**



Source: Geostat, ESCO, Galt & Taggart

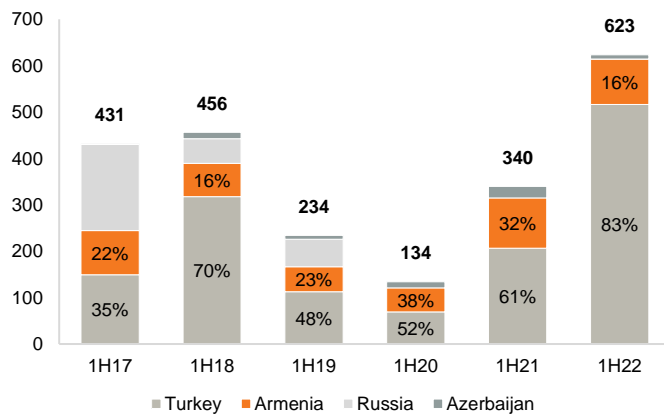
**Electricity exports from Georgia reached US\$ 55.7mn in 1H22 - a record high for Georgia.** The reason for this growth was increased prices of electricity in Turkey and Armenia, which resulted a jump of average export price by 128.2% y/y to USc 8.9/kWh. Prices in Georgia remained in a range of USc 4.0-5.5/kWh, therefore demand on Georgian electricity was high from Turkey and Armenia. The volume of electricity exports from Georgia increased by 59.4% y/y to 0.6TWh. Thankfully, Georgia had good hydrological conditions in 2021 and 2022 and had extra electricity to export. Export of electricity started in May and will probably continue until end of August with some limited volumes. Despite high demand and price growth expectation on Turkish market, export of electricity is limited by Georgian regulation - prohibiting electricity exports when electricity import is needed.

Turkey remained the largest export destination for electricity (83% of total), followed by Armenia (16% of total):

- Average price of electricity exports to Turkey stood at USc 8.9 and USc 12.1/kWh in May and June, respectively.
- Average export price to Armenia was USc 4.1/kWh in May and USc 4.0/kWh in June.

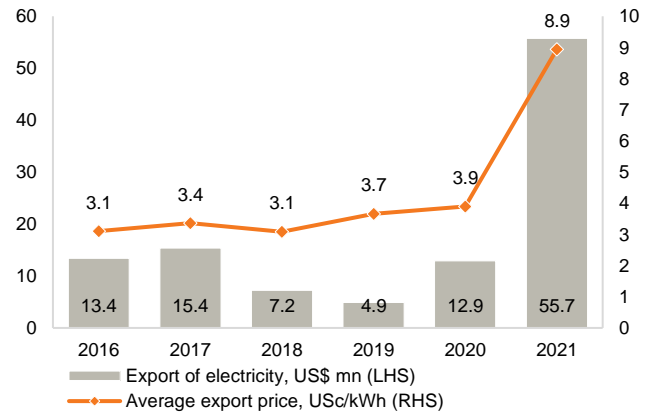


**Figure 10: Electricity export destination countries, TWh**



Source: ESCO

**Figure 11: Export value and average price of electricity exports**



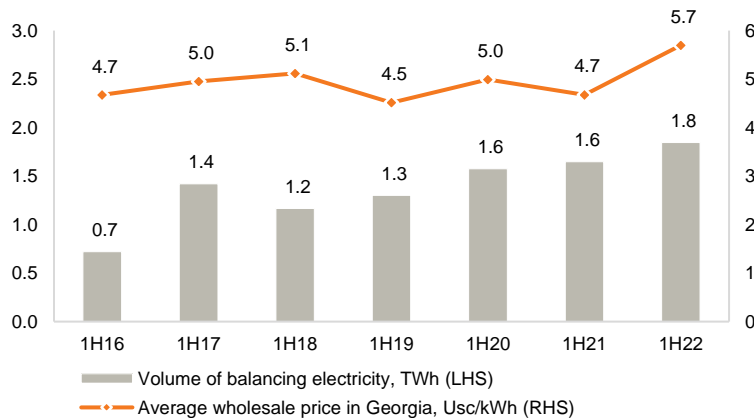
Source: Geostat, ESCO, Galt & Taggart

**Electricity transit through Georgia reached 0.7TWh in 1H22.** Turkey was the main direction of all the transited energy (mainly from Azerbaijan), due to increase in Turkish prices. Notably, there was no transit of electricity between Aug-20 and Jun-21, due to low energy prices on Turkish market. Once prices went up in Turkey, transit started again. Importantly, no transit took place in May-22 as transfer capacity to Turkey was fully occupied by Georgian exporters.

### Wholesale electricity prices in Georgia

**Balancing electricity price** in Georgia increased by 21.9% y/y to USc 5.7/kWh. The main reason is growth of average import price. Total volume of electricity traded through ESCO as balancing electricity reached 1.8TWh, up by 11.9% y/y. It accounted for 22.4% of total electricity supplied to the grid.

**Figure 12: Balancing electricity volume and prices**



Source: ESCO



Table 3: Electricity Balance, GWh

|  | 2021           | Jan-22       | Feb-22       | Mar-22       | Apr-22       | May-22       | Jun-22       | 1H22         |
|--|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Domestic consumption, total</b>       | <b>13,730</b>  | <b>1,372</b> | <b>1,199</b> | <b>1,349</b> | <b>1,154</b> | <b>1,152</b> | <b>1,080</b> | <b>7,307</b> |
| % change y/y                             | +13.1%         | +16.3%       | +12.5%       | +10.3%       | +10.3%       | +9.4%        | -0.8%        | +9.8%        |
| Of which:                                |                |              |              |              |              |              |              |              |
| - Abkhazian Region                       | <b>2,956</b>   | 359          | 300          | 329          | 264          | 253          | 184          | <b>1,689</b> |
| % change y/y                             | +15.8%         | +13%         | +8%          | +1%          | +12%         | +14%         | -11%         | +6.6%        |
| - Eligible consumers                     | <b>3,554</b>   | 332          | 306          | 350          | 344          | 350          | 324          | <b>2,006</b> |
| % change y/y                             | +45.8%         | +46%         | +46%         | +42%         | +38%         | +24%         | +12%         | +33.4%       |
| - Retail consumption                     | <b>7,219</b>   | 682          | 594          | 670          | 545          | 549          | 572          | <b>3,613</b> |
| % change y/y                             | +1.0%          | +7%          | +2%          | +3%          | -3%          | +0%          | -4%          | +1.2%        |
| Of which:                                |                |              |              |              |              |              |              |              |
| - Energo-Pro Georgia + EP Georgia Supply | <b>4,400</b>   | 399          | 347          | 389          | 329          | 332          | 336          | <b>2,132</b> |
| % change y/y                             | -2.5%          | +1%          | -2%          | -2%          | -7%          | -5%          | -7%          | -3.6%        |
| -Telasi + Telmico                        | <b>2,819</b>   | 283          | 247          | 281          | 217          | 217          | 236          | <b>1,481</b> |
| % change y/y                             | +7.0%          | +16%         | +10%         | +10%         | +4.4%        | +9.8%        | +2.0%        | +8.9%        |
| <b>Domestic Generation, total</b>        | <b>12,645</b>  | <b>1,025</b> | <b>890</b>   | <b>1,077</b> | <b>1,125</b> | <b>1,461</b> | <b>1,485</b> | <b>7,063</b> |
| % change y/y                             | +13.3%         | +27%         | +29%         | +63%         | +36%         | +20%         | +12%         | +27.7%       |
| Of which:                                |                |              |              |              |              |              |              |              |
| - TPPs                                   | <b>2,380</b>   | 508          | 444          | 499          | 35           | -            | 3            | <b>1,489</b> |
| % change y/y                             | -15.6%         | +49%         | +34%         | +182%        | -46%         | -100%        | +81%         | +62.4%       |
| - WPPs                                   | <b>83</b>      | 7            | 5            | 7            | 6            | 8            | 6            | <b>40</b>    |
| % change y/y                             | -8.2%          | +30%         | -7%          | -20%         | -6%          | -9%          | -23%         | -8.3%        |
| - HPPs                                   | <b>10,182</b>  | 510          | 441          | 571          | 1,084        | 1,453        | 1,475        | <b>5,534</b> |
| % change y/y                             | +23.4%         | 11%          | 24%          | 20%          | 43.9%        | 19.9%        | 12%          | +21.1%       |
| <b>Imports</b>                           | <b>2,006</b>   | <b>406</b>   | <b>357</b>   | <b>331</b>   | <b>71</b>    | <b>9</b>     | <b>1</b>     | <b>1,175</b> |
| % change y/y                             | +24.6%         | -2%          | -14%         | -46%         | -72.8%       | +119%        | -87.3%       | -31.1%       |
| <b>Exports</b>                           | <b>391</b>     | <b>NM</b>    | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>269</b>   | <b>351</b>   | <b>623</b>   |
| % change y/y                             | +154%          | NM           | N/A          | N/A          | N/A          | +105%        | +80%         | +83.5%       |
| <b>Trade balance</b>                     | <b>(1,615)</b> | <b>(404)</b> | <b>(357)</b> | <b>(331)</b> | <b>(70)</b>  | <b>260</b>   | <b>351</b>   | <b>(551)</b> |
| <b>Transit</b>                           | <b>1,184</b>   | <b>186</b>   | <b>168</b>   | <b>124</b>   | <b>139</b>   | <b>-</b>     | <b>92</b>    | <b>707</b>   |
| % change y/y                             | +481%          | NM           | N/A          | N/A          | N/A          | N/A          | +417%        |              |

Source: ESCO

Note: N/A= not available; NM= not meaningful





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