



## Results

Some identified options have already been implemented. An example is introducing air agitation for rinsing baths to improve the rinsing process leading to product quality improvement and reduction of the following baths contamination. In addition, the company implemented the option of using the PVC covers for the static anode bars leading to reduction of power consumption and maintenance cost.

The company will install in the near future a wastewater treatment unit to reduce the danger of hazardous and toxic materials as well as to reuse the drag out water.

Option	Environmental benefits	Economic savings		
	Water, materials or energy consumption reduction	Savings [JD/yr]	Investment [JD]	Payback [years]
<b>Option 1 – Cascade rinsing</b> Use counter current cascade rinsing after nickel and chromium baths to bring back drag out chemicals and water to these baths.	Reduce 92% of used rinsing water Reduce 90% of drag out chemicals	1570	300	0.2
<b>Option 2 –Direct Current (DC) contact</b> Replace the existing DC contacts for cathodes by more efficient Best Available Technology (BAT) ones.	Reduce 10% of product defects Reduce 5% of power consumption	540	1200	2.2
<b>Option 3 – Ventilation system</b> Improve the performance of the ventilation system, maintain or replace the exhaust air-fan to reduce noise and install an air suction system above the chromium bath.	This option mainly aims to improve working conditions especially around the chromium bath.			
<b>Option 4 – Wastewater treatment unit</b> Installation of treatment unit for oxidation of cyanide and reduction of hexavalent chromium.	This option mainly aims to treat the industrial wastewater and electroplating spent baths.			

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