



**NANAIMO LADYSMITH PUBLIC SCHOOLS  
Board of Education  
Business Committee Meeting  
Information Sheet**

DATE: November 9, 2022  
TO: Business Committee  
FROM: Mark Walsh, Secretary-Treasurer  
SUBJECT: Paper Reduction Strategy

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**Background:**

The recently adopted Environment Stewardship Action Plan (the “Plan”) includes the requirement that the District “Reduce our impact on the land and implement restorative efforts”. An action associated with this objective is to “develop a paper reduction strategy”. In addition, the Plan envisions the reduction of GHG emission by 4.5% per year. This Information Sheet will outline the District’s paper reduction strategy as required by the Plan, as well as highlights the strategy’s potential positive impact on GHG emissions.

**Discussion:**

During the spring of 2022, staff in IT and finance engaged an external consultant to assist in examining options to limit paper and electricity use associated with printing and copying in the District. Given our aging fleet of copiers as well as inflating costs of paper the consultant, working with school and district staff at every school in the district have created a strategy that will begin to be adopted in the near future.

Specifically, the strategy envisions three priorities to lessen paper and electricity use as follows:

1. A significant reduction of single use printers in the District replaced by larger multiuse printers dispersed through schools with appropriate geographic placement for staff to ensure convenience;
2. The use of a software program that requires all printing to be released at source by individual users with individual passwords for access; and
3. Communication about the importance of the strategy to both promote less paper usage as well as to address concerns about the impact of the removal of single use machines.

***Removal of Single Use Printers***

Although the District has recently started to refuse purchases of single use printers, there are currently 382 in the District. Not only is their electricity use less efficient than the larger printers, but the costs of ink and maintenance are significantly higher. The District intends to begin the removal of these devices. A number of the units continue to have a useful life and the decision has not yet been made regarding the extent, if any to maintain the newer models. We note that we anticipate some concerns about the removal of single use printers. For instance, we have heard concerns about privacy issues of counsellors and administrators printing confidential material getting mixed with more

generic materials. However, the use of the job release software by the user should completely address this issue. We note that where for safety and supervision purposes teachers cannot leave their classrooms and are actively printing during class time (if applicable) the current printer may be maintained. Further, in the event of significant inconvenience or an accommodation associated with a disability single use will be considered.

## Electricity Usage

The following illustrates potential savings from current electricity usage:

- 27% reduction of standalone printers - from 382 to 278
- replacement of all large multi-function copiers (MFPs) with new, energy-efficient models

	Current	Future	Difference	% Difference
Monthly Energy Consumption (kWh)	1,216.48	845.19	(371.29)	-30.52%
Monthly Energy Cost (\$)	114.19	79.49	(34.70)	-30.39%
CO2 Emissions (lbs)	243.98	169.44	(74.54)	-30.55%

*\*Figures based on the most recent Canadian, industry data on typical electricity usage by printer model, average energy costs and resulting emissions*

These figures do not include a more aggressive single use printer removal as is being contemplated.

## Paper Reduction






The following illustrates the potential reduction of paper usage as a result of implementing print management software. This software eliminates “abandoned prints” and enforces default settings like black and white, and double-side printing.

Current State				
Current Avg Copies/month	KM Devices	Printers	Total	
Mono	1,438,792	97,675	1,536,467	
Color	36,982	7,320	44,302	
Future State				
Future Copies/month	KM Devices	Printers	Total	
Mono	1,152,314	63,532	1,215,846	
Color	19,064	4,324	23,388	
Difference				
Difference - Copies/month	KM Devices	Printers	Total	
Mono	(286,478)	(34,143)	(320,621)	-21%
Color	(17,918)	(2,996)	(20,914)	-47%

The following illustrates potential, estimated environmental impacts resulting from a reduction of paper usage (see the complete impact report attached to this information sheet):



**Estimated environmental impacts were calculated using the Environmental Paper Network's Paper Calculator(tm). When used publicly, it is required that the information is properly cited as "Environmental impact estimates were calculated using the Environmental Paper Network Paper Calculator Version 4.0. For more information visit [www.papercalculator.org](http://www.papercalculator.org)".**

	NLPS PAPER USE - CURRENT STATE	NLPS PAPER USE - FUTURE STATE
Paper Type:	Uncoated Freesheet	Uncoated Freesheet
Quantity:	7.904 U.S. Short Tons	6.196 U.S. Short Tons
% Recycled:	0%	0%
 Wood Use	31.5 U.S. short tons	24.7 U.S. short tons <i>6.8 U.S. short tons less</i>
 Total Energy	201 million BTUs	158 million BTUs <i>43 million BTUs less</i>
 GHG	142,000 pounds CO <sub>2</sub> equiv.	111,000 pounds CO <sub>2</sub> equiv. <i>31,000 pounds CO<sub>2</sub> equiv. less</i>
 Water Usage	169,000 gallons	133,000 gallons <i>36,000 gallons less</i>
 Solid Waste	9,310 pounds	7,300 pounds <i>2,010 pounds less</i>

4

Truth and  
Reconciliation

environmental  
stewardship and  
sustainability

## Explanation of Data Values



**Wood use** measures the amount of wood required to produce a given amount of paper. Results are reported in fresh/green U.S. short tons of wood. The methodology does not include the forest residues left behind during pulpwood harvest in the forests (i.e., slash, roots). If forest residues were included it could be twice the number, as roughly 50% of biomass is left after harvest.

- NLPS PAPER USE - CURRENT STATE uses 31.5 U.S. short tons, made from about 189 trees
- NLPS PAPER USE - FUTURE STATE uses 24.7 U.S. short tons, made from about 148 trees
- NLPS PAPER USE - FUTURE STATE uses 6.8 U.S. short tons less, a difference of 41 trees



**Total energy** measures all energy required over the paper's life cycle, including all renewable and nonrenewable resource use, including black liquor and all wood sources.

- NLPS PAPER USE - CURRENT STATE uses 201 million BTUs, equivalent to 240 residential refrigerators operated/year
- NLPS PAPER USE - FUTURE STATE uses 158 million BTUs, equivalent to 188 residential refrigerators operated/year
- NLPS PAPER USE - FUTURE STATE uses 43 million BTUs less, a difference of 52 residential refrigerators operated/year



**Greenhouse gases/climate change impacts** measures carbon dioxide or CO<sub>2</sub> from burning fossil fuels, methane from paper decomposing in landfills and short-lived climate pollutants (such as black carbon and organic carbon) which contribute to climate change by trapping energy from the sun in the earth's atmosphere. This impact category also includes forest carbon storage loss from logged forests.

- NLPS PAPER USE - CURRENT STATE produces 142,000 pounds of CO<sub>2</sub> equiv., equivalent to 12.9 cars/year
- NLPS PAPER USE - FUTURE STATE produces 111,000 pounds of CO<sub>2</sub> equiv., equivalent to 10.1 cars/year
- NLPS PAPER USE - FUTURE STATE produces 31,000 pounds CO<sub>2</sub> equiv. less, a difference of 2.8 cars/year



**Water consumption** measures the amount of process and cooling water that is consumed or degraded throughout the life cycle of the paper product.

- NLPS PAPER USE - CURRENT STATE uses 169,000 gallons, equivalent to 122 clothes washers operated/year
- NLPS PAPER USE - FUTURE STATE uses 133,000 gallons, equivalent to 95.6 clothes washers operated/year
- NLPS PAPER USE - FUTURE STATE uses 36,000 gallons less, a difference of 26.4 clothes washers operated/year



**Solid waste** measures sludge and other wastes generated during pulp and paper manufacturing, and used paper disposed of in landfills and incinerators.

- NLPS PAPER USE - CURRENT STATE produces 9,310 pounds of solid waste, equivalent to 2,120 people generating solid waste/day
- NLPS PAPER USE - FUTURE STATE produces 7,300 pounds of solid waste, equivalent to 1,670 people generating solid waste/day
- NLPS PAPER USE - FUTURE STATE produces 2,010 pounds less, a difference of 450 people generating solid waste/day

## Truth and Reconciliation

### Costs

We note that while there will be some savings, the impact will more be on the lessened use of paper and electricity as the ongoing maintenance and costs of the machines are largely in line with current costings. There will be some additional savings with the removal of single use printers above and beyond what our schools and consultant were initially recommending. Further, finance staff are currently determining whether a lease or an outright purchase makes more sense for the District. In the event that the District purchased the units it would save approximately \$130,000 over a 5-year period. However, we are determining whether Local Capital could support the purchase and then be paid back over 5 years. At this time, the strategy will be supported by current budgets and does not require Board motion. However, in the event that staff determined that purchasing the units using Local Capital is beneficial to the Board approval will be required.

## Communications

It is important to note that the change will lead to some concerns among staff. We intend to communicate the strategy and seek feedback and provide information and will make room to meet with our partner groups to address concerns as it is likely that there are other items that we have not considered. This would occur prior to the final rollout. However, the mandate of the Plan and the LRFP is very clear that we need to push to achieve our environmental aims. We should also note that the District, including principals will have the ability to track usage with the software solution envisioned. We want to be very upfront that meeting our environmental goals will likely require education and assistance and the District wants to be transparent that we will review usage.

## Conclusion

The paper reduction strategy is a long time coming and while we acknowledge that there will be concerns about the changes, particularly with respect to the removal of single use devices and the potential tracking of individual usage the strategy aligns directly with the Board adopted Plan.

## Appendix A: Environmental Impact – Paper Use

