Ottawa - The value of carbon-price rebate cheques from the federal government will jump more than 66 per cent in Ontario and Manitoba this year to make up for too-small rebates the past two years.

And, for the first time, the payments will come quarterly, rather than hidden as a lump sum in annual tax-return deposits.

Carbon-price backers say that will make the money more visible to Canadians.

"I think it's surprising that more Canadians aren't aware of the climate rebates," said Stewart Elgie, director of the Environment Institute at the University of Ottawa.

"But as people start getting actual payments every three months, I think it will be much more visible and people will become much more aware that they're getting money back and they're getting more back than they're paying in most cases."

The second annual report on federal carbon pricing, which was tabled in the House of Commons this week, shows Canada collected more than $4.2-billion in carbon levies on consumers and small businesses in 2020-21.

That was on a carbon price of $40 per tonne of emissions. It amounted to an additional 8.8 cents a litre on gasoline, 10.7 cents a litre on diesel and 7.8 cents a cubic metre on natural gas.

Almost $500-million in revenues were handed out in grants to smaller businesses and non-profits to invest in energy efficiencies.

Nearly $4.1-billion was returned in what the federal government officially calls "climate action incentive payments" to families.

For the second year in a row, the cheques in Ontario and Manitoba fell shy of the requirement that 90 per cent of revenues collected be returned to the province where they were paid.

So this year, as the carbon price rises 25 per cent, the payments in Ontario and Manitoba are going up 66 per cent and 71 per cent respectively.

In Alberta, the payments will go up just 21 per cent. They are increasing by 36 per cent in Saskatchewan.

For a family of four, the payments will hit $745 in Ontario, $832 in Manitoba, $1,101 in Saskatchewan and $1,079 in Alberta. The first payment in 2022 will be a double payment for two quarters in July, followed by quarterly payments in September and January, 2023.