

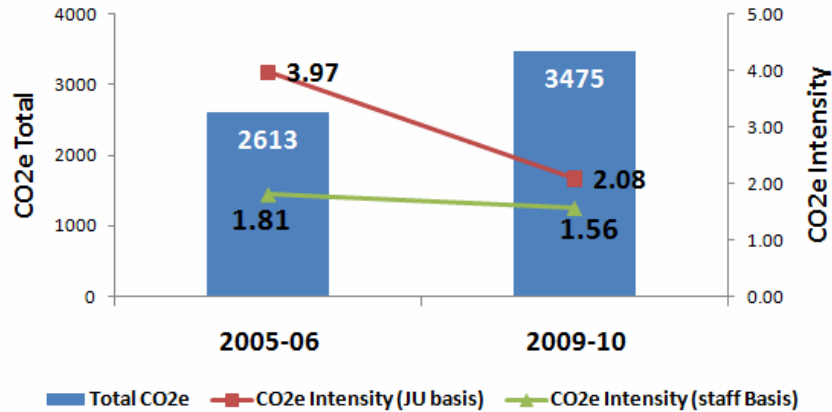
## *Executive Summary*

Green house Gas (GHG) emissions are causing climate change (aka global warming) that seriously threatens our sustainability. A global consensus is that the main culprit for climate change is the anthropogenic activities – mainly industrial production – that produce and use fossil fuels, and deplete natural carbon sinks (forests). The urgency is pronounced as earth can withstand only a couple of degrees of rise in temperature from today's level until 2050. The onus of reducing carbon emission is shared by the entire global community including India. The industry in India is rising up to this challenge with vigor with several key contributors from power, cement, aluminum and other sectors committing to carbon reduction. However, several other industrial sectors including jewelry manufacturing is yet to respond to this greatest call of our time.

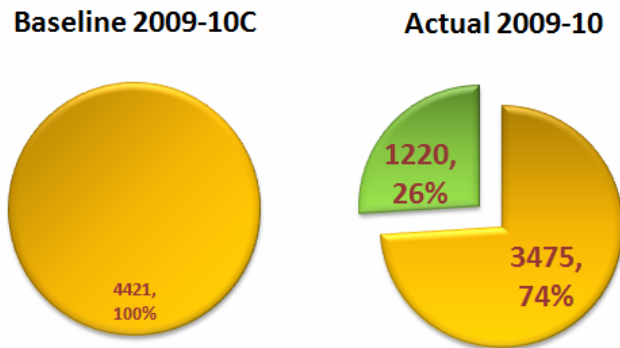
Renaissance Jewelry Limited (RJL) is leading the jewelry export industry in India by example to proactively measure, report and manage their GHG emissions. This decision is voluntary and based on the objectives of RJL's Corporate Social Responsibility (CSR). RJL engaged PRESTELS, an environmental and carbon management consultancy, to estimate the carbon footprint and prepare carbon management plan for RJL. PRESTELS compared GHG emissions from the base year (2005-06) to the current year (2009-10) to identify the priority areas of action. RJL staff worked closely with PRESETLS over several months to identify key sources of emissions and to develop the carbon management plan.

The efforts RJL has taken to reduce its carbon footprint between the base year of 2005-06 to the current year (2009-10) are clearly evident. While the production at RJL grew 2.5 times between last four years the total GHG emissions – measured in the units of tonnes of CO<sub>2</sub> equivalent – have increased merely 33 percent from 2613 tonnes CO<sub>2</sub>e to 3475 tonnes CO<sub>2</sub>e (see next figure). This reduction is a result of various energy conservation measures at RJL as well as improved efficiency of production. RJL also estimated their carbon footprint in terms of Carbon Intensity – tonnes of CO<sub>2</sub>e emitted per 1000 pieces of jewelry AND tonnes of CO<sub>2</sub>e emitted per staff member. Carbon intensity is a more accurate measure than total CO<sub>2</sub>e emissions because it captures the improved production efficiency, energy efficiency measures as well as scale of economy of RJL. **The CO<sub>2</sub>e intensity on basis on production reduced from 3.98 tonnes of CO<sub>2</sub>e per 1000 pieces of jewelry to 2.02 tonnes per 1000 pieces of Jewelry – a reduction of 48**

percent. We also estimate the CO2e intensity on basis of staff size of RJL as a conservative measure as shown in the figure below. Even most conservatively, **the CO2e intensity on basis of staff reduced 14 percent.**



To demonstrate the potential savings achieved by RJL due to various energy- and production-efficiency measures, we estimate the baseline emissions at 2009-10 levels of production or staff. We used CO2e intensity values in 2005-06 and multiplied them by level of production or staff in 2009-10. To provide a conservative measure we use either the production based CO2e intensity or staff based CO2e intensity depending upon the type of GHG emission source within the company. As shown in figure below, the emissions in 2009-10 would have been 4421 tonnes had RJL not invested in production and energy efficiency measures. However, **the actual CO2e emissions in 2009-10 are 3475 tonnes – a perceived savings of 1120 tonnes of CO2e every year. This saving is equivalent to carbon sequestered (absorbed) by a plantation of 1,100 25-year old maple trees.**



Based on carbon footprinting analysis, RJL has set the following targets to achieve by 2020.

## Carbon reduction Targets

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- 1. Reduced the CO<sub>2</sub>e intensity from 3.83 tonnes per 1000 pieces of jewelry to 1.5 (60% reduction from base year)*
  - 2. Cap the total GHG Emissions at 7500 tonnes irrespective of level of production*
  - 3. Reduced the CO<sub>2</sub>e intensity from electricity use from 3.55 tonnes per 1000 pieces of jewelry to 1.25 (65% reduction from base year)*
  - 4. Cap the total GHG Emissions from electricity consumption at 6500 tonnes irrespective of level of production*
  - 5. Reduced the CO<sub>2</sub>e intensity of diesel and LPG use in refinery from 8.3 tonnes per 1000 pieces of jewelry to 3.5 (58% reduction from base year)*
  - 6. Cap the total GHG Emissions from diesel and LPG burning in refinery at 120 tonnes irrespective of level of production*
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RJL has identified HVAC system as a priority area for further reductions in carbon intensity because HVAC systems not only consume the biggest part of electricity but also contribute to climate change due to leakage of refrigerants. The second level of reduction will be possible through energy audit of production equipments and processes. RJL in long term is exploring the use of renewable energy such as Solar and Wind in fulfilling part or most of its energy needs.

RJL has set up environmental Management System (EMS) to set, implement, monitor and verify the carbon management target along with other environmental targets we have set. As per the EMS, the carbon footprint will be reviewed annually and carbon reductions plans will be modified or developed. The board of management will also review the targets annually and is committed to continuously and consciously reduce the carbon footprint as a part of RJL's environmental policy.