



City of Roeland Park, KS Community-wide emissions

- The City of Roeland Park, KS has committed to take the first step towards reducing emissions by engaging Dynamhex, to quantify total emissions across its borders, and identified sources throughout the community.
- The data includes emissions from the burning of fossil fuels, from generation of electricity used in residential homes, commercial offices, stores and educational institutions, as well as use of fuels, such as natural gas, motor gasoline and diesel.
- Summarized here is the City's carbon footprint and greenhouse gas emissions, which forms the basis of forward-looking reduction strategies.

Community-wide

Emissions from the Buildings Sector

Residential buildings account for 53% of the total community's footprint*

- The city and its residents can evaluate and help implement various interventions across both single-family and multi-family structures, that shifts buildings away from reliance on fossil-fuels (e.g., natural gas, coal, oil) while saving energy costs. Electricity usage alone accounts for 30% of the emissions from residential buildings, while natural gas accounts for the remaining 23%.

Strategies and emissions reductions in the residential sector include:

- Energy efficiency through better insulation to reduce 4,126 mt (7.5%)
- Heating, cooling and lighting upgrades for 2,134 mt (4%) reduction

Dynamhex will enable each resident within the City of Roeland Park to log in to the portal to explore their own emissions footprint, due to consumption of energy, both electricity and direct fuels, such as natural gas and others. Fuel consumption in transportation is another source of emissions. Each of the above reduction recommendations could be personalized, to evaluate building or household-level cost savings, and emissions reduction potential.

Commercial buildings and other building types can view their footprints, for more personalized ways to reduce their emissions and help city leadership in meeting community-wide goals in a transparent, accountable and equitable way.

*Commercial (offices, schools, etc.) and industrial buildings account for 24% of emissions



Mitigation Opportunities

50% of community-wide emissions come from the power sector*:

- Key partnerships with the local utility is critical to understand and project emission reductions, as nearly half of all emissions the city was due to the choice of fuel feedstock used in electricity generation.

Aggregate emissions due to energy production

The power grid programs, such as more renewable energy can significantly reduce emissions for the district. Evergy plans on reducing the carbon content of its power over the next few years by increasing their mix's share of renewables. This shift in mix could lead to almost 2,000 (3.6%) metrics of reduction by 2025.

Additionally, almost 6,400 (12%) metric tons of emissions can be reduced if residential and commercial buildings adopted rooftop solar, instead of using grid-based electricity, much of which is produced from fossil-fuel generation.

*Power sector emissions are summative with building and other sectors that consume power

Emissions from Transportation

23% of the City of Roeland Park's emissions are due to the burning of motor gasoline and diesel which are used to power different vehicles within the city's borders.

Transitioning passenger and vehicles from conventional internal-combustion engines to electric models that produce zero tailpipe emissions, is a way to reduce transportation-related emissions. Another way is to encourage more biking and walking, as well as carpooling on trips with mutual destinations.



City of Roeland Park, KS

55,117 mt CO₂e

Commercial buildings		Units	2019		GHG (mt)	GHG (%)
Petroleum (fuel oil)	US gal		11,384	116	0%	22%
Natural gas	M MCF		36,169	1,971	4%	
Electricity	MWh		19,312	10,267	19%	
Industrial facilities		Units	2019		GHG (mt)	GHG (%)
Petroleum (fuel oil)	US gal		2,387	24	0%	2%
Natural gas	M MCF		4,238	231	0%	
Electricity	MWh		1,651	878	2%	
Residential buildings		Units	2019		GHG (mt)	GHG (%)
Petroleum (fuel oil)	US gal		8,847	90	0%	53%
Natural gas	M MCF		229,344	12,499	23%	
Electricity	MWh		31,170	16,570	30%	
Transportation		Units	2019		GHG (mt)	GHG (%)
Railway	US gal (diesel fuel and electricity)		0	0	0%	23%
Waterborne	US gal (motor gasoline and diesel)		136	0	0%	
On-road	US gal (motor gasoline and diesel)		981,800	12,471	23%	

Meet goals

Roeland Park's community-wide footprint can be reduced by undertaking strategies and meet 2025 targets



By understanding the community's emissions in greater detail, the city and its residents can better understand where deploy above actions, reductions and solutions, and meet targets (26-28% reduction, by 2025).

The city leadership, with the partnership with Dynamhex, is opening up portals for all the residents to access and understand their footprint, and take steps to reduce it.