Study: Southeast Asia can avert 36,000 ozone-related deaths yearly with tighter pollution controls - LiCAS.news | Light for the...

Home > News > Study: Southeast Asia can avert 36,000 ozone-related deaths yearly with tighter pollution...

Study: Southeast Asia can avert 36,000 ozone-related deaths yearly with tighter pollution controls

Mark Saludes May 22, 2025



An Air Asia plane descends towards Chiang Mai International Airport amid high levels of air pollution in Chiang Mai on April 10 by Lillian Suwanrumpha / AFP)

Southeast Asia could prevent up to 36,000 ozone-related premature deaths each ye 2050 if countries adopt stringent air pollution control measures, according to a new by researchers at Nanyang Technological University, Singapore (NTU Singapore).

The research, published in *Environment International*, highlights the serious health risks pos ground-level ozone — a harmful pollutant linked to respiratory illnesses, cardiovascular disea early mortality.

"Ozone is an invisible yet harmful pollutant," said co-author Professor Joseph Sung, NTU's Se President (Health and Life Sciences). "Our study shows that by taking decisive steps now, we significantly reduce the region's health burden and improve air quality."

The study modelled future pollution scenarios using international emission datasets and atm simulations. The researchers found that under a business-as-usual scenario, planned nitroge (NO_x) cuts from power plants, transport, and industry could lower annual deaths by 22,000.

However, more ambitious pollution curbs could avert as many as 36,000 early deaths annua Conversely, if fossil fuel consumption rises, ozone-related premature deaths could increase b

Study: Southeast Asia can avert 36,000 ozone-related deaths yearly with tighter pollution controls - LiCAS.news | Light for the... per year across Southeast Asia by 2050.

Lead author Associate Professor Steve Yim, Director of NTU's Centre for Climate Change and Environmental Health (CCEH), explained that reducing ozone levels in Southeast Asia is com involves regulating precursor pollutants such as nitrogen oxides and volatile organic compou than directly eliminating ozone from the atmosphere.

He noted that the region's tropical climate further influences how ozone is formed, making it distinct from that in other parts of the world.

The study also found that urban centres such as Singapore, Jakarta, Bangkok, Kuala Lumpur Chi Minh City experience ozone pollution driven by both NO_x and VOCs, requiring dual reduct strategies. In contrast, rural and coastal areas like Kalimantan and the Malacca Strait are mc sensitive to NO_x levels alone.

The NTU team emphasized that targeted interventions — including stricter regulations on inc emissions, improved transport policies, and reduced emissions from shipping and biomass bi are critical.

The team intends to expand its research to assess how climate change and land-use pattern further influence ozone pollution and collaborate with policymakers and stakeholders to craft based strategies.