

RAYdike

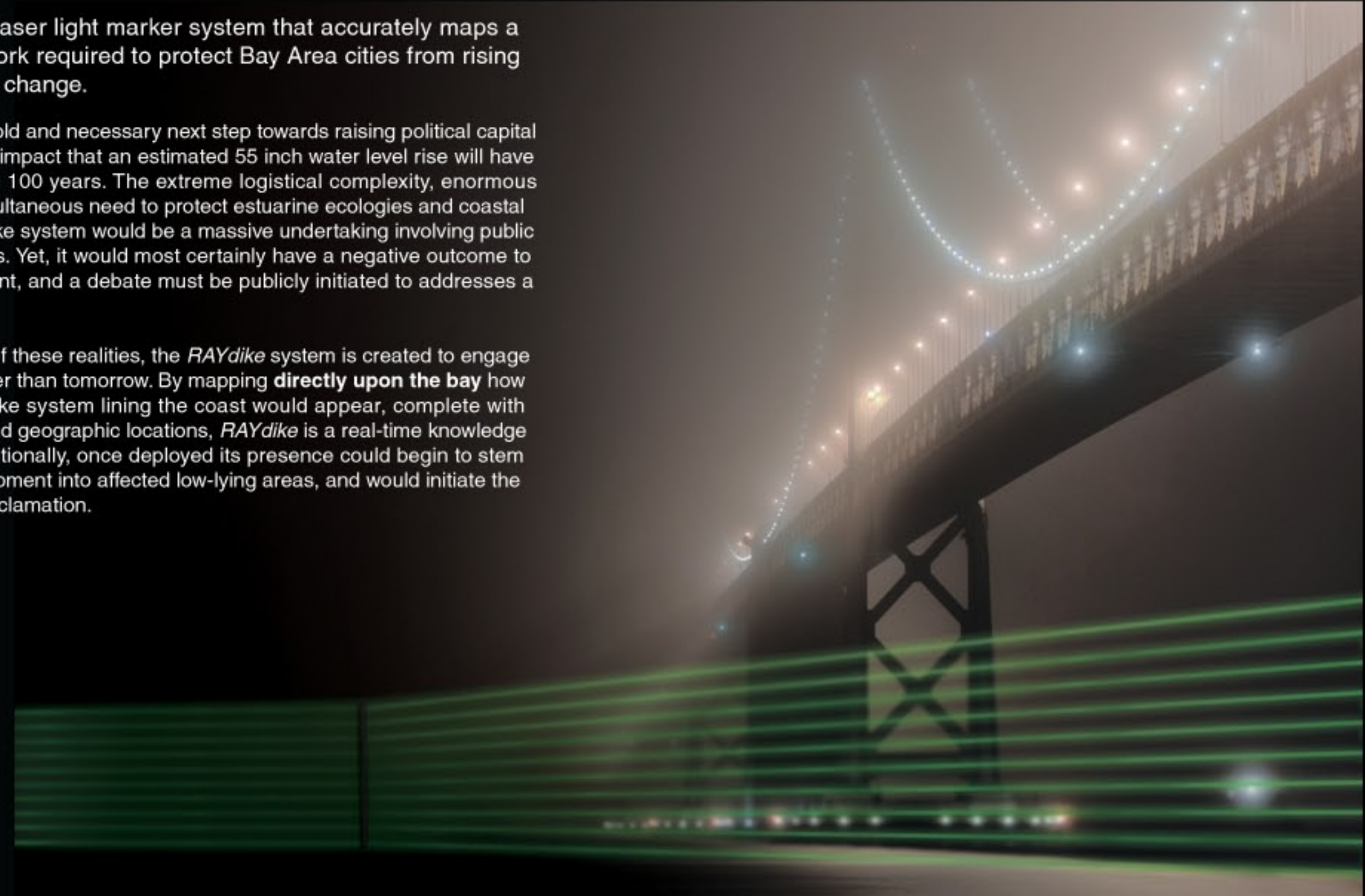
Representing the Real:
Creating public awareness by
delineating a possible future



RAYdike is a temporary laser light marker system that accurately maps a hypothetical barrier network required to protect Bay Area cities from rising waters caused by climate change.

The RAYdike proposal is a bold and necessary next step towards raising political capital and public awareness to the impact that an estimated 55 inch water level rise will have on the San Francisco Bay in 100 years. The extreme logistical complexity, enormous mitigation costs, and the simultaneous need to protect estuarine ecologies and coastal scenery with a continuous dike system would be a massive undertaking involving public involvement at multiple levels. Yet, it would most certainly have a negative outcome to the bay's life and development, and a debate must be publicly initiated to address a range of possible solutions.

To confront the significance of these realities, the RAYdike system is created to engage a cause for action today rather than tomorrow. By mapping **directly upon the bay** how a large, standard earthen dike system lining the coast would appear, complete with accurate elevation heights and geographic locations, RAYdike is a real-time knowledge and awareness system. Additionally, once deployed its presence could begin to stem the flow of new urban development into affected low-lying areas, and would initiate the process for tidal zone land reclamation.



VIEW OF RAYdike LASER LIGHT BARRIER DEPICTS A POTENTIALLY 30FT TALL DIKE ENCOMPASSING SAN FRANCISCO



The RAYdike NETWORK CLOSELY FOLLOWS THE SHORELINE

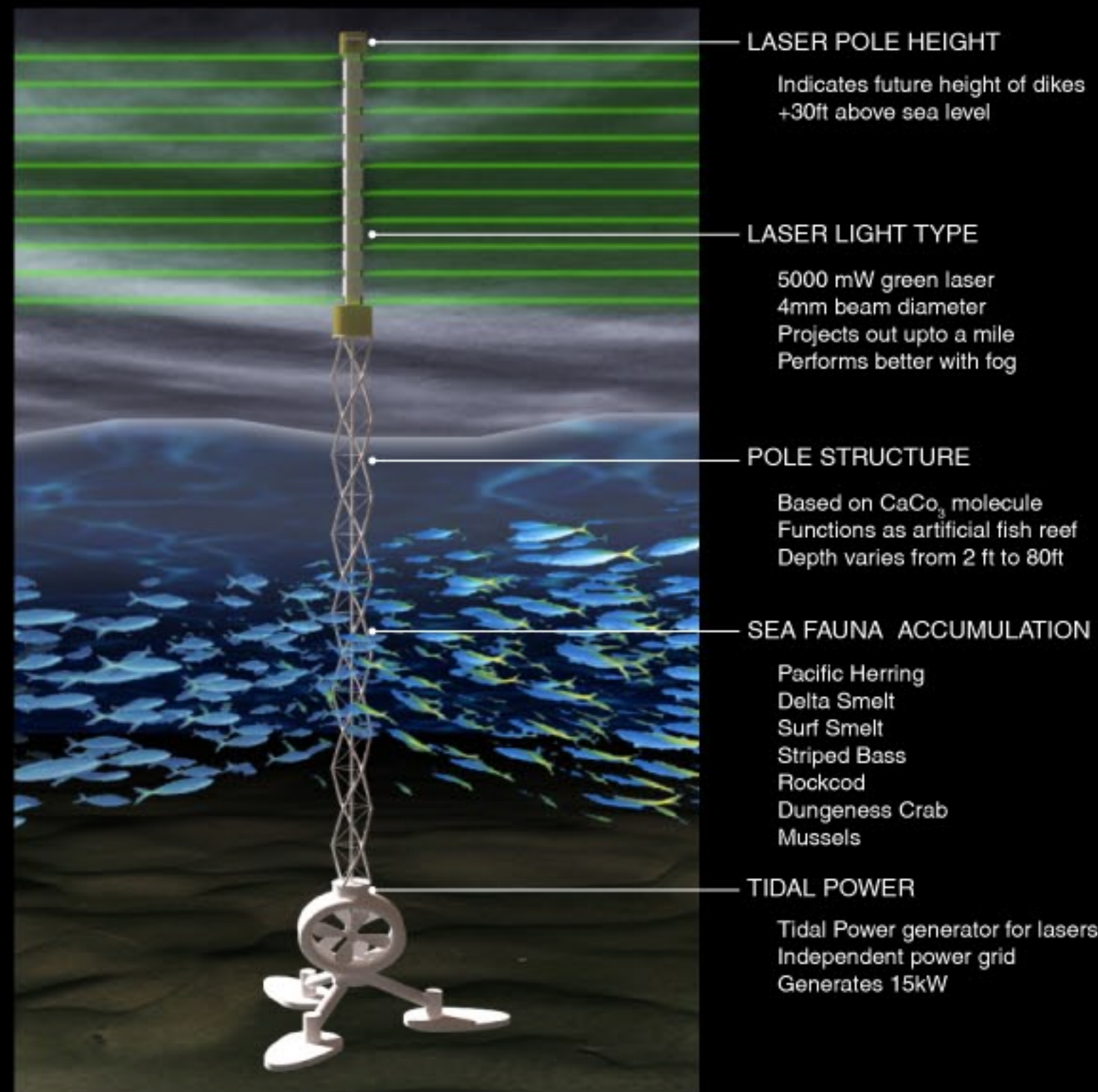
- RAYdike EMITTER NODE
- RAYdike LIGHT PATH
- EXTENDED FLOOD ZONE EMITTERS
- EXTENDED FLOOD ZONE LIGHT PATH
- POPULATION CENTERS
- TIDAL FLOOD AREA(+55 inches by YEAR 2100)
- SHIPPING LANE
- PIPES BURIED
- RESTRICTED AREA

The RAYdike network relies on the bay's unique atmospheric condition for intermittent, low-lying, and year round fog, and uses a laser light beam system that projects potential barrier elevations through the dense night air under favorable conditions. The result is a hypothetical and realistic depiction of tall barrier walls surrounding urban cores and coursing through natural tidal shores. Rather than relying on disseminated informational texts and color-coded diagrams, RAYdike diagrams a future reality directly into our everyday urban lives.

BAY AREA FOG INUNDATION



RAYdike EMITTER NODE SECTION



DEPICTIONS ILLUSTRATE PROBLEMATIC IMPACTS ASSOCIATED WITH A STANDARD DIKE SYSTEM

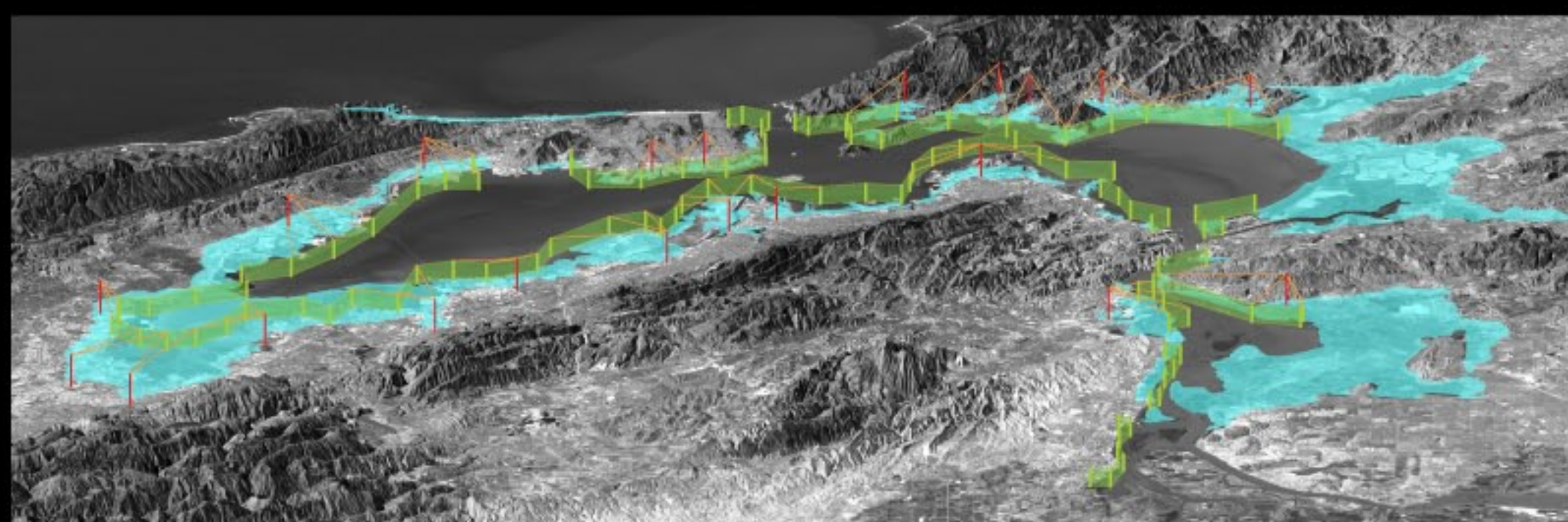


DIAGRAM SHOWING PROPOSED LOCATIONS FOR RAYdike BARRIERS (LIGHT BLUE DEPICTS ZONES OF FLOODING)

The RAYdike system can be deployed in segmented phases or in its entirety, and might be financed as a public campaign through donor philanthropy. Light emitter nodes are self-powering using existing wave generation technology, and the open truss vertical emitter nodes offer proven methods for seeding fish and shellfish farms underwater. Global warming is not a regional issue alone, and RAYdike can be deployed to other cities around the world, where an atmosphere of water, mist, and fog are often present, further aiding in the cause for global action.

REQUIRED SAN FRANCISCO BAY DIKE SECTION



$$H = h + 8h \tan \alpha + \text{Future sea level} + \text{Maximum Tidal Surge}$$

H = Total height of dike
h = Current mean water level
h₁ = Height of tide
tan α = 1/3
Future sea level = 55 inches
Maximum Tidal Surge = 9 feet