ANNEX A

Forests absorb carbon dioxide from the atmosphere and store it in tree trunks, leaves and roots. Through this process, forests keep our climate stable along with other positive benefits, like safeguarding biodiversity.

Here is how geospatial technologies help to estimate how much carbon dioxide forests absorb and store.

1. **LIDAR (Light Detection and Ranging)**
   - This laser scanning technology emits hundreds of thousands of laser pulses per second to capture the physical world.

2. **Point Cloud**
   - Laser pulses could penetrate the canopy. The reflected signals are termed "point cloud".

3. **Reliable, High-Resolution 3D Geoinformation**
   - Ground profiles derived from the point cloud is 30 times more reliable than that from satellite imagery.

4. **Geoinformation from 3D Mapping**
   - Such information offers insights into the canopy height and other terrain-related data.

5. **LiDAR-Carbon Model for Singapore**
   - The collaboration between SLA and NUS enables efficient carbon estimation and derivation of carbon density across different ecosystems.

6. **More Accurate Carbon Estimation**
   - Accurately representing carbon stock in forests will facilitate the planning of measures to address climate change challenges.

7. **SG Green Plan**
   - The use of geospatial technologies in monitoring and tracking Singapore’s green capital will bolster Singapore’s aspirations under the Singapore Green Plan to be a carbon services hub in Asia.