Reducing emissions from deforestation and forest degradation requires strong commitment and investments from governments and other involved stakeholders. Effective measures need to be designed and implemented to divert business as usual pathways into low emission trajectories. To compensate developing countries for their efforts, REDD+ offers performance-based payments based on the tons of CO₂ equivalent reduced. In order to receive such payments, countries will have to demonstrate that they are reducing emissions from forest related sources or enhancing or conserving forests carbon stocks.

Vietnam has made public commitments to reduce emissions through its National REDD+ Action Plan. However, the country initially lacked the capacity to effectively measure and monitor emissions and carbon stocks, limiting its potential to tap into REDD+ funding. To address this gap, the USAID-funded Lowering Emissions in Asia’s Forests (USAID LEAF) project developed a set of tools and provided trainings to enable consistent long-term data collection and analysis for REDD+ purposes. These trainings are part of LEAF’s commitment to build and institutionalize technical capacity across the region for forest and carbon monitoring.

In order to demonstrate emission reductions, reliable data is required on past, present and future emission levels and carbon stocks. In addition, insight is needed in how much different interventions will reduce emission, in order to develop ambitious yet feasible emission reduction plans and targets. USAID LEAF developed three innovative tools for this purpose.

### Carbon measuring and monitoring tool:
A tool and methodology has been developed for measuring and monitoring forest carbon stocks. Data collection is done in a sample plot in the field through a variety of methods for all carbon pools, including counting trees, measuring their height and diameter, weighing dead wood, saplings and forest litter and taking soil samples. All the data is entered into a computer system, which automatically calculates the carbon stocks in the area. This method can be applied at regular intervals to monitor changes in carbon stocks over time.

### Reference level tool:
To determine the amount of avoided or reduced emissions, a reference level needs to be created. USAID LEAF has developed a tool and a suite of analytical steps to model historical emissions using GIS techniques and spatial data. In Lam Dong Province, this was used to estimate historical emissions from 1990 and 2010.

### Scenario development tool:
The third tool developed under the USAID LEAF project uses output from the other two tools to develop different scenarios. The tool helps to set feasible emission reduction targets and select suitable interventions, taking into account their emission reduction potential and the government’s capacity and human and financial resources. When integrated with GIS maps, the tool enables the visualization of priority areas for the different interventions, such as areas with high poverty or biodiversity levels.
Effective interactive trainings

Over 8 integrated trainings, 187 national and subnational government officials, scientists, consultants, university staff and foresters from all over Vietnam completed an intensive technical training course on how to use the tools. The trainings were carefully designed through a combined effort of the USAID LEAF team and improved over time based on feedback from the participants. Experienced trainers from Winrock International and SNV provided a balanced mix of classroom sessions and hands-on practical fieldwork sessions. Interactive teaching methods were applied to encourage engagement.

“For scenario development we did role-plays. Everybody was assigned a role, such as government official, researcher, farmer, community leader, or CEO of a forestry company. Then we had to argue in favor or against proposed interventions, from the point of view of our character. This helped participants to understand and deal with tradeoffs for each scenario. This interactive approach is very different to the regular presentation-style teaching methods in Vietnam. It led to lively discussions and contributed to teambuilding. We all laughed a lot.”

- Pham Thanh Nam, Field Coordinator LEAF Project

The knowledge acquired through the trainings has directly been applied to develop baseline data, reference levels, scenarios and targets for the Lam Dong Provincial REDD+ Action Plan (PRAP). Some groups that received training are now applying their skills in the development of PRAPs for other provinces, notably Thanh Hoa, Nghe An and Quang Binh. Through providing effective trainings and tools, the USAID LEAF project has helped to enhance national capacity to improve forest and land use management and access potential REDD+ financing.