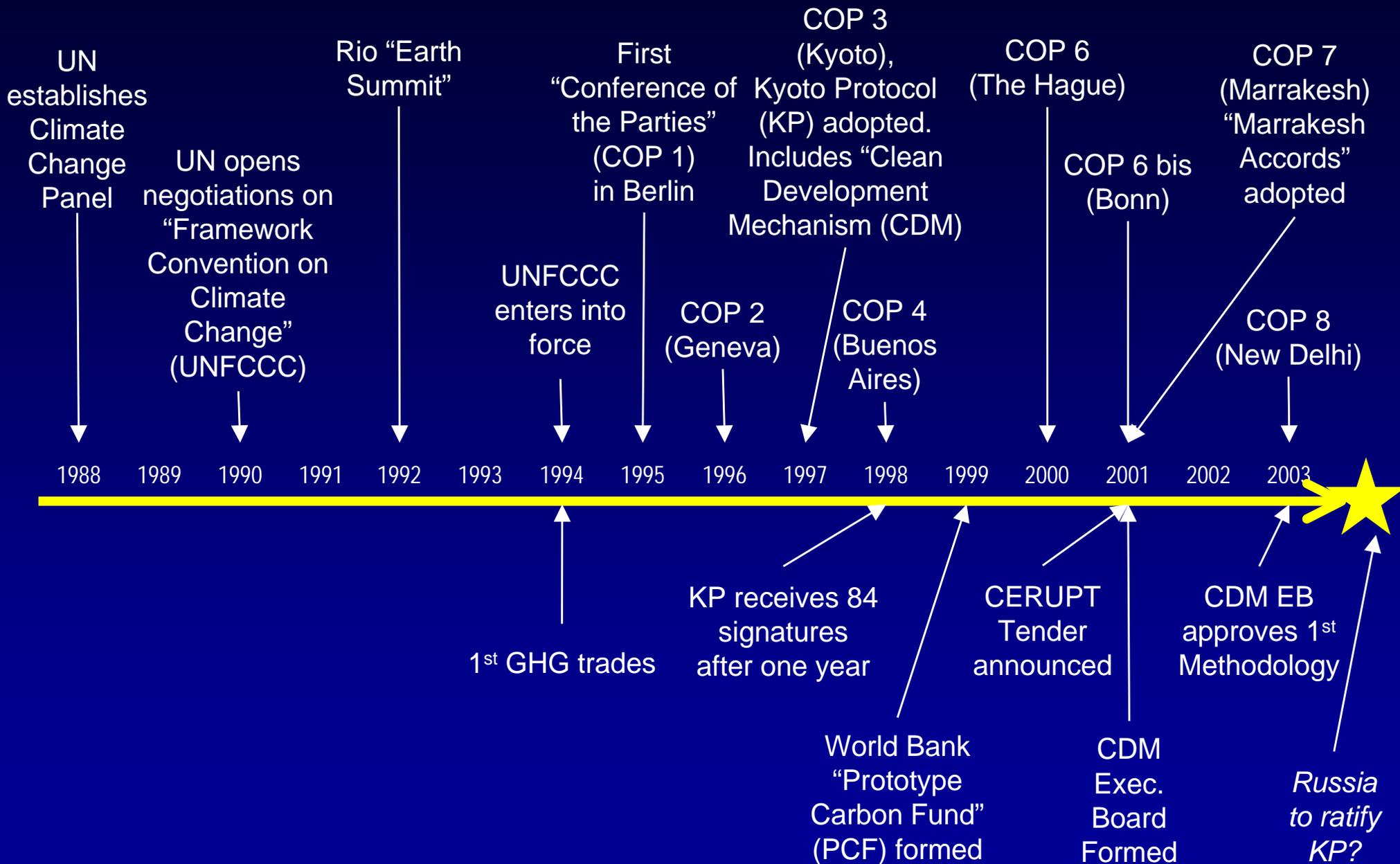


Early Emissions Trading Activities at Unocal

Anthony DiNicola

28 October 2003

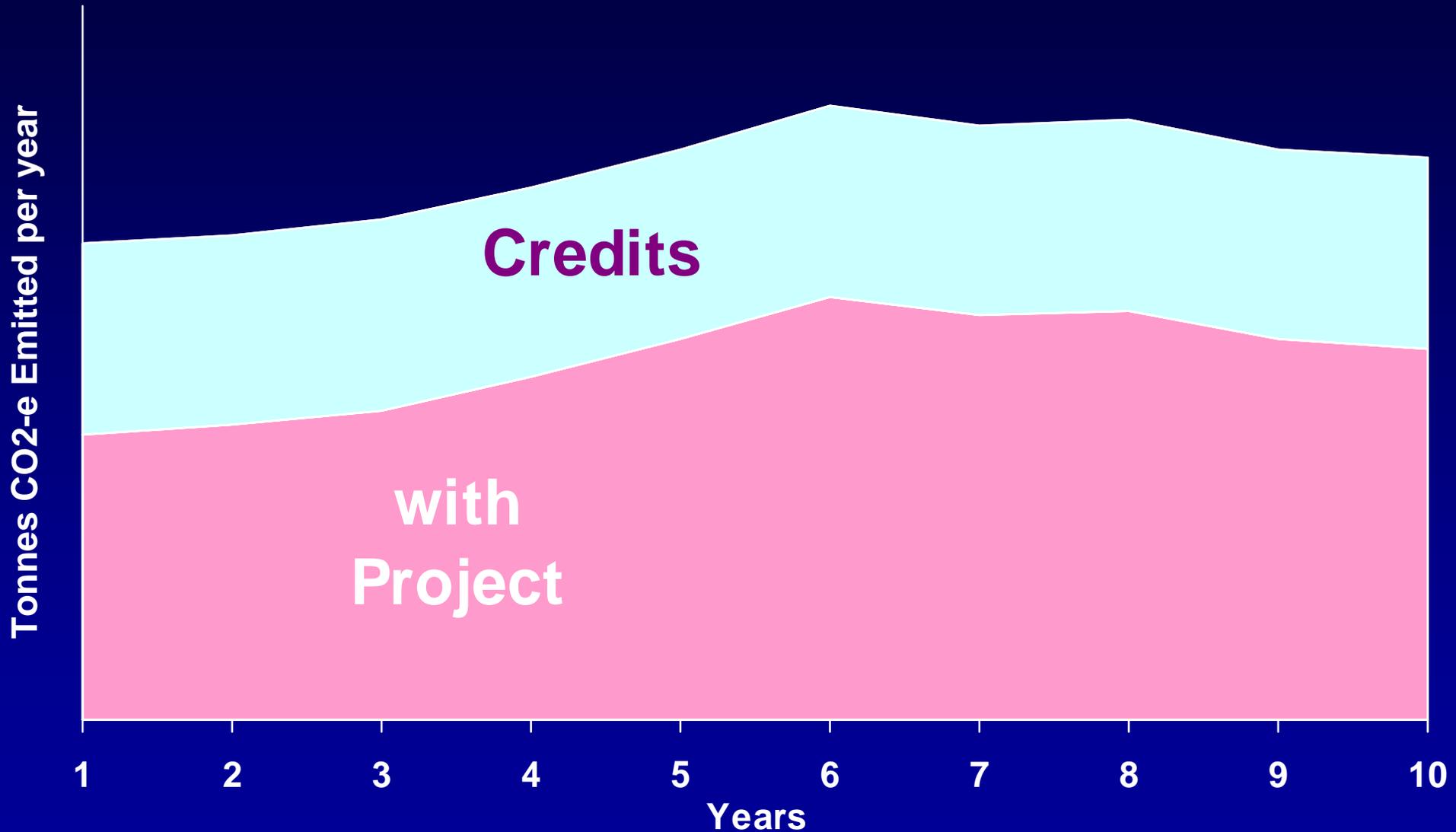
International efforts to mitigate greenhouse gas (GHG) emissions began in 1988



Operational efficiency can create an additional source of revenue -- carbon credits

- Developing countries can sell carbon credits to developed countries (CDM)
 - Voluntary programs exist globally
- Carbon Credits are a new global commodity
- Requires “investment” to acquire and has ongoing expenses to properly manage/develop
- Results in future revenue that provides economic justification for some low-ROI projects (and GHG mitigation), like efficiency activities

Credits are determined by comparing GHG emissions with and without the project



Selling greenhouse gas (GHG) credits enhances our existing business.

- Saleable GHG credit provides incentive for increased efficiency -- but must be “additional”
- Promotes increased use of Unocal resources
 - Gas, geothermal competitiveness
- GHG mitigation is increasingly important to investors, the financial community and other stakeholders
 - Host country Governments
- CDM business case is compelling
- Enables access to financing (risk reduction)

Our approach...

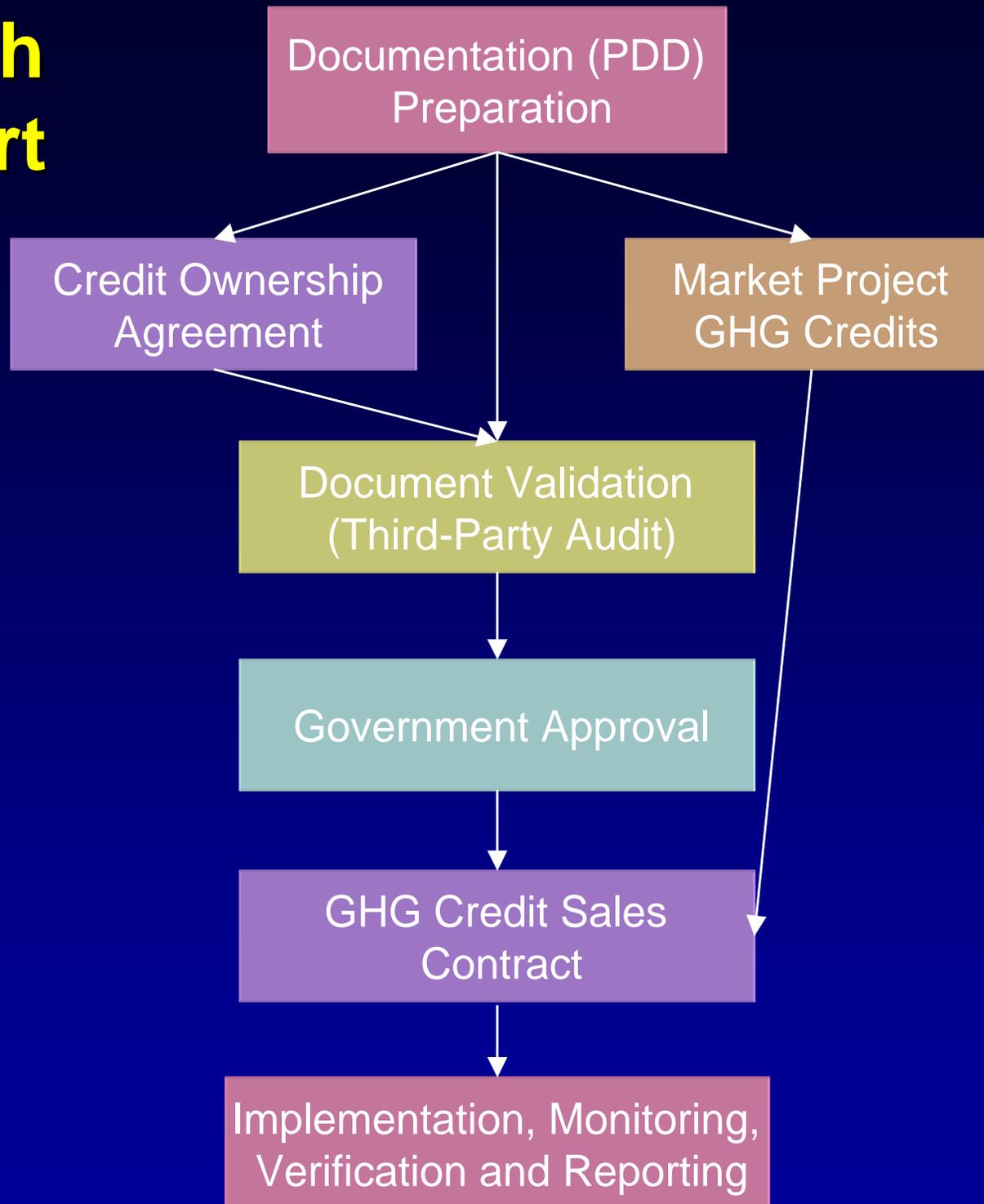
- CDM Projects spurring institutional action and corporate policy development
 - Start with development of realistic projects with clearly-identifiable benefits (financial and environmental)
 - Work with governments on a “Learning by doing” basis. Do not wait for central government policy framework.

Our approach...

- Secure early success (sales) to demonstrate value and enable process development
- Replicate success in other Unocal business units

To date, Unocal has active programs in Indonesia, Thailand and the Philippines

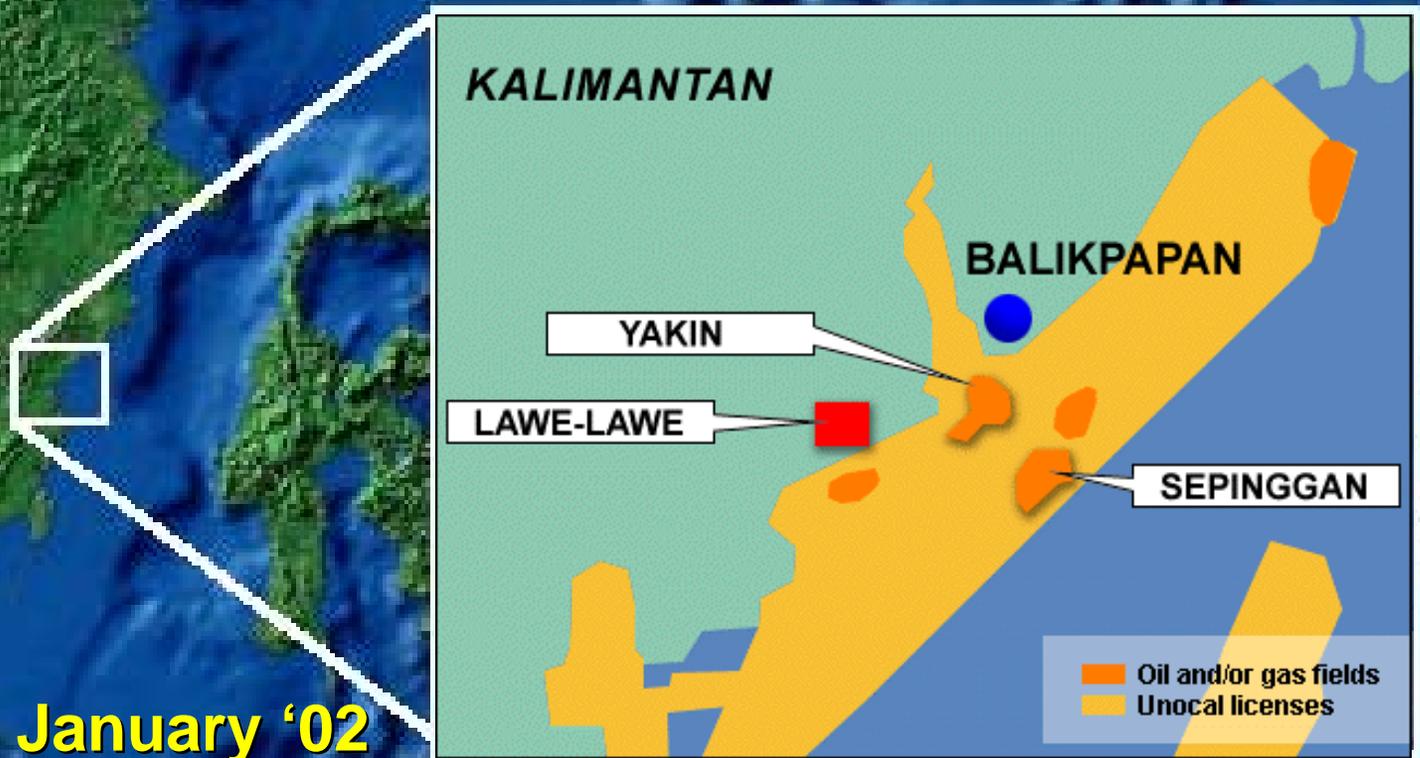
Approach flow chart



Indonesia: Commercial results

- Developed “Portfolio” of possible projects
- Developing Natural Gas Flare/Vent Reduction Project for CDM (2.5 MM CERs)
- Small Sale of existing reductions from Salak Geothermal project
 - Transaction costs far exceeded value
 - Gained valuable transaction experience
- Participated in Dutch CERUPT 2001 Tender
 - 2 geothermal projects selected as finalists
 - CERUPT awarded Wayang Windu Unit 2

Yakin flare/vent CDM project



- Commenced in January '02
- Conserves ~5% of field's gas production. Conserved gas is sold.
- Produces ~2.5 MM tonnes of real, additional reductions over 8 years.
- Sale of Certified Emission Reductions will increase revenue shared between Unocal and Indonesian government.
- Each mmcf of vented gas produces about 500 CER (credits).

Indonesia: Institutional results

- Participate in discussions with government environment and energy ministries on CDM policy and national strategy
- Develop projects as test cases for government CDM approval procedures (learning by doing)
- Coordinate closely with Ministry of Environment and Ministry of Energy

Recent recommendations to GOI

- Put investor-friendly policies in place to encourage CDM projects.
- Embrace principle that CER “title” (and right to sell) remains with project proponent (the entity at financial risk).
- Consider tax-exemption for CER “revenue” to increase competitiveness of renewable energy.
- Leave decisions on CER pricing to project proponents

Activities in Thailand and Philippines

- Focusing on gas and geothermal power opportunities
 - Unocal supplies gas in Thailand
- Collaborate with host country project partners
- Work closely with relevant government agencies

Conclusion

- Carbon credits are an emerging global commodity
- Many multinationals are becoming active in this market
- Institutions (national, international) are being created to enable the creation and trading of carbon credits
- Carbon credits provide incentive for increased efficiency (i.e. flare/vent reduction)
- For companies, realizing carbon credit value requires investment and management