Non-permanence

3.1 Introduction

3.1 One of the main concerns of the parties to the Kyoto Protocol regarding the inclusion of forestry into the CDM was the potential reversibility of the carbon stored in trees as a result of biotic or abiotic disturbances. The UNFCCC, therefore, decided to consider A/R as a technology that provides a temporary solution to climate change mitigation. As a result, A/R projects can generate temporary carbon credits1 that in time need to be replaced with permanent credits (UNFCCC, 2006b).

3.2 The temporary crediting approach to non-permanence adopted by the UNFCCC opened the door for the forestry sector to be one of the technologies to mitigate climate change. This has contributed to highlight the relevance of managing the risk of emission reductions reversal in projects. Temporary crediting has also served to test the type of assets buyers and sellers of forest carbon credits are willing to accept when trading carbon.

3.3 Despite these advantages, numerous challenges exist in applying temporary crediting. The need to replace forest carbon credits discourages carbon investors from acquiring forest credits (as they need to purchase both assets—a temporary CER and a permanent credit—to replace the temporary one). This has negative consequences for the economics of projects because applying the non-permanence rule results in lower-priced forest carbon credits, thereby limiting the potential for carbon

---

1 Emission reductions from avoided deforestation is not considered an eligible option under the Kyoto Protocol for the first commitment period, but is being discussed under the UNFCCC framework.
finance to help overcome traditional financial barriers of forestry projects. It also discourages projects with long-term carbon sequestration goals. More importantly, the temporary crediting approach has reduced the demand for forestry carbon credits because they are difficult to manage and transfer.

3.4 This chapter presents an overview of the BioCF’s experience with the temporary crediting approach and the challenges faced by project developers. Section 3.2 introduces the rules related to the temporary crediting approach. Section 3.3 presents the BioCF project developers experience in selecting the type of credits for use in their projects. Section 3.4 presents the challenges encountered by BioCF projects in applying the temporary crediting approach to non-permanence. Section 3.5 looks at relevant criteria for designing alternative options for addressing non-permanence in an eventual Kyoto Protocol’s second commitment period. Finally, Section 3.6 presents recommendations for policymakers, CDM negotiators, project developers, universities, and research centers.

3.2 Temporary Crediting

3.5 The countries committed to emission reductions under the Kyoto Protocol\(^2\) can use temporary credits to achieve no more than one percent of their annual emission reduction targets (times five) during the first commitment period of the protocol.\(^3\) Parties using these temporary credits have to replace them with permanent credits before their expiration (UNFCCC, 2006d). Temporary emission reductions, therefore, are seen by many as an opportunity for Annex B countries to gain time to develop the technologies required to effectively address climate change mitigation. While still complying with their reduction obligations, temporary credits represent a renting of reservoirs of temporary storage carbon as more expensive strategies (i.e., research for technology development and innovation) are developed.

3.2.1 Types of Forestry Credits

3.6 The modalities and procedures of the CDM define two types of forest credits: temporary Certified Emission Reductions (tCERs) and long-term Certified Emission Reductions (lCERs), each representing one tonne of carbon dioxide equivalent (tCO\(_2\)e). While the amount of tCERs is equal to the tonnes of CO\(_2\)e sequestered every verification, the amount of lCERs is the carbon sequestered since the last verification (Figure 3.1).

3.7 A key difference between the two types of credits is their term of expiration. While tCERs expire at the end of the commitment period of the Kyoto Protocol following the one in which they were issued, lCERs expire at the end of a project crediting period,\(^4\) provided that the carbon stocks are still in place.\(^5\) Therefore, the expiration date of both tCERs and lCERs is an additional element in the credit serial number (Figure 3.2).

3.8 At the time of PDD preparation, project developers must select the type of temporary credits they will use. This decision will remain fixed during the project crediting period. Projects are expected to issue credits only once every commitment period of the Kyoto Protocol, and they are issued upon project verification.\(^6\) Project developers choose the date of the first verification; subsequent verifications are automatically set every five years thereafter (UNFCCC, 2006b).

3.2.2 The “Replacement Rule” Associated with Temporary Credits

3.9 Before temporary credits expire, buyers have to replace each unit with a permanent credit to achieve full compliance with their commitments. According to the modalities and procedures for A/R projects, both tCERs and lCERs can be replaced with other units, including Assigned Amount Units (AAU),\(^7\)

---

\(^2\) Annex B countries.

\(^3\) As set out in Paragraph 14 of the Annex to decision 16/CMP.1: “For the first commitment period, the total of additions to a Party’s assigned amount resulting from eligible land use, land-use change, and forestry project activities under Article 12 shall not exceed one percent of base year emissions of that Party, times five.” Article 12 refers to the Clean Development Mechanism, and the eligible activities are afforestation and reforestation.

\(^4\) The crediting period is the duration of time selected by the project participants during which the A/R CDM project activity will be implemented and GHG emission reductions will be generated and, therefore, tCERs and lCERs are issued. The time length of the crediting period for A/R projects can be 20-year renewed twice or a single 30-year period.

\(^5\) When a DOE’s certification report indicates a reversal of net anthropogenic GHG removals by sinks since the previous certification, the project must replace an equivalent quantity of lCERs.

\(^6\) See Chapter 2 for more details on the verification process.

\(^7\) AAUs are units issued by parties to the Kyoto Protocol into their national registry up to their assigned amount, calculated by reference to their base year emissions and their quantified emission limitation and reduction commitment (expressed as a percentage).
FIGURE 3.1 ACCOUNTING OF tCERs AND ICERs

Source: Pedroni, 2005

FIGURE 3.2 EXPIRATION OF tCERs AND ICERs

Source: Pedroni, 2005
Certified Emission Reductions (CER),\(^8\) Emission Reduction Units (ERU),\(^9\) and permanent Removal Units (RMU).\(^10\) A tCER can also be replaced with another tCER—but not with an ICER. Finally, an ICER can be used to replace another ICER only in cases of reversals of GHG removals since the previous certification.

3.10 For each Kyoto Protocol commitment period, each Annex B Party shall, therefore, include in its national registry a ICERs and/or tCERs replacement account to register the replacement credits. The replaced ICERs or tCERs are registered in a retirement account. Thus, the quantity of replacement credits and tCERs transferred into the tCER replacement account for the commitment period shall be equal to the quantity of tCERs that were retired or transferred to the replacement account for the previous commitment period. Similarly, the quantity of replacement credits and ICERs transferred into the ICERs replacement account for the commitment period shall be equal to the quantity of ICERs that had to be replaced during that commitment period (UNFCCC, 2006b).

3.11 Annex B Kyoto Protocol Parties have less flexibility when dealing with temporary forest carbon credits in comparison with permanent CERs. For example, temporary credits must be exclusively used to comply with commitments for the Kyoto Protocol commitment period in which they are issued. They cannot be carried over to a subsequent commitment period. In contrast, these countries can carry over up to 2.5 percent of their original allocation of AAUs from the first to a subsequent commitment period (UNFCCC, 2006b).

\(^8\) CERs are units produced in projects using the Clean Development Mechanism of the Kyoto Protocol. CERs generated in CDM sectors other than the Afforestation and Reforestation sector can be used for replacement purposes.

\(^9\) ERUs are converted from either an AAU or an RMU and issued to project participants in joint implementation project activities. Joint implementation projects are developed by an Annex B country.

\(^10\) RMUs are issued by parties to the Kyoto Protocol for net removals by sinks in activities covered by Article 3.3 and Article 3.4 of the Kyoto Protocol (in the land use, land-use change, and forestry sector).
3.3 tCERs vs. lCERs

3.12 Temporary Certified Emission Reductions have a clear advantage on the cash flow front when compared with lCERs. All project developers of BioCF projects have selected tCERs instead of lCERs. Although both assets can be issued every five years after the first verification, the carbon stock that generated tCERs in one crediting period (i.e., the first vintage) can be reassessed once the tCERs have expired—and new credits issued in the next period. If this same first vintage is issued as lCERs, however, the credits would be committed from the certification date to the end of the project crediting period. This means that developers would receive less money from a stream of lCERs than tCERs.

3.13 There are other challenges, as well, with using lCERs. First, purchasing these credits requires buyers and sellers to commit to the whole project crediting period. Second, the lack of certainty about a second commitment period of the Kyoto Protocol has also made lCERs less attractive to project developers. Determining a price for lCERs requires buyers to have a clear understanding of both the project risk profile (Dutschke, 2010) and future prices of permanent carbon credits during the project crediting period and at the time of expiration of the lCERs (Lecocq and Couture, 2008). Establishing such a long-term liability, understanding the long-term project risk, and predicting future prices of carbon credits are all difficult to achieve in an uncertain carbon market environment.

3.14 Figure 3.3 illustrates the partial stream of tCO₂e for two BioCF projects with a 30-year crediting period. One is a reforestation project planting 4,000 ha with a mixture of native and introduced species and a first harvest happening at Year 10. The other is a forest restoration project planting close to 14,000 ha of land with native species; no harvesting is planned. The figure also illustrates the amount of tCERs and lCERs both projects would produce during the ERPA term. Assuming a $5 price per tCO₂e, the contract value until 2017 for tCERs in project 1 is about $2.8 million compared with $1.76 million for lCERs. Similarly, in project 2 the value of the contract with tCERs is $4.8 million compared to $3.8 million if using lCERs. This is a hypothetical example which uses the same price for the tCER and lCER; however, no market information exists for lCERs and it is uncertain that an lCER would be the same as the price of a tCER.

3.15 In addition to the income stream derived from the BioCF ERPA contract, when the 2012 vintage of tCERs expire after 2017 the project developer is free to issue new carbon credits and sell them to another buyer (or the same, if applicable). In this scenario, project 1 could accrue about $4 million after 2017 from its stream of tCERs instead of $1.76 million from lCERs. Similarly project 2 could accrue $5.8 million after 2017 from its stream of tCERs instead of $3.8 million from lCERs.

3.4 Challenges in Applying the tCERs Accounting Method

3.16 Because the experience of the BioCF relates to tCERs, subsequent sections focus on issues related only to tCERs. In addition, the challenges highlighted are particular to the strategies used by BioCF participants to replace their temporary forest credits.

3.4.1 For Buyers

3.17 The concept of temporary crediting has been difficult to apply mainly because it relies on the existence of subsequent Kyoto Protocol commitment periods. For example, because of the “replacement rule” the price of a tCER was calculated as the difference between current prices of CERs and the discounted price of a CER to be generated post-2012. Participants of the BioCF were only willing to acquire forestry credits because the BioCF can package tCERs with replacement credits for which information on project risks is available. This was possible because the BioCF is housed within the World Bank that manages other carbon funds, where credits from projects in other sectors are being generated and could be used as sources of replacement credits. Even so, this has not been an easy task as estimation of future prices of CERs is highly speculative given the uncertainty of the carbon market.

---

11 One lCER ERPA was negotiated and signed, but the project developer subsequently changed it to a tCER contract.
12 This can also depend on the difference in price between the two types of assets.
13 The value of ERPAs until 2017 were discounted at a 10-percent rate for the purpose of this exercise.
14 BioCF participants have to acquire replacement credits generated in other World Bank CDM projects; acquiring them from projects generated elsewhere would be costly as it would require assessing such projects against the World Bank’s safeguard policies.
3.18 Another challenge in applying temporary crediting is that there is very little supply for replacement credits. Sellers of permanent CERs are willing to receive low prices for their future vintages of credits when they can benefit from this (e.g., by being paid in advance as a way to close their financing gap). This situation not only increases the risks for both buyers and sellers of replacement credits, but also the transaction costs.

3.19 Indeed, involving the buyers of forestry credits in risky forward purchases of replacement credits negatively affects the demand for CDM forestry credits. To back up advance purchases of CERs, sellers have to secure a letter of guarantee. In one case, after a thorough analysis of the risks involved, the BioCF’s participants agreed to purchase forward CERs from a CDM non-forest project provided that the project entity presented a letter of guarantee issued by a commercial bank to hedge against the under-delivery and noncompliance risks. Local commercial banks, however, refused to issue a letter of guarantee for a seven-year forward purchase transaction15 because the time span of the transaction exceeded their standard.16 In addition, the seller of the carbon credits was unwilling to cover the cost of such a guarantee, which for just a four-year transaction would have represented two percent of the guaranteed amount. This would have reduced even further the earnings from the sale of credits and eventually discouraged the seller from entering into the agreement.

3.20 BioCF participants decided to acquire the replacement credits as soon as possible and only used CDM projects as sources of replacement credits. Their motivation for this was to minimize their risks and to benefit as much as possible from the relative maturity of the CER markets. Notwithstanding this, both the BioCF and sellers of credits have had difficulty in agreeing on future prices of CERs and discount rates for forward purchases of credits. The BioCF participants’ options were also bound by the need for projects generating CERs to comply with the World Bank’s environmental and social safeguard policies. Acquiring CERs from projects outside the World Bank portfolio would have required project developers to demonstrate their compliance with such policies, which would have added transaction costs.

3.4.2 For Sellers of Forest Carbon Credits

3.21 Carbon finance is intended to help forest projects overcome prohibitive investment and financial barriers; the reduced prices of forest credits resulting from the “replacement rule,” however, limit such potential. The time span between verifications, which relates to non-permanence as each project is expected to have only one verification every commitment period of the Kyoto Protocol, also limits the impact that carbon finance can have on forestry projects. The first verification usually starts when projects have sequestered enough carbon to collect at least enough carbon revenues to cover the transaction costs of meeting the CDM requirements; subsequent verification will occur at a five-year interval. Since the projects receive carbon revenues upon certification, carbon finance does not contribute to covering the high upfront investment required in forestry projects17 and the maintenance costs do not materialize for a number of years.

3.22 Allowing flexibility in verification timing and intervals could benefit projects that can afford the costs associated with more frequent verifications. This would also reduce the under-delivery risk of projects involving multiple farmers, as timely carbon payments

---

15 The purchase had to be done in 2010 for vintages of CERs to be delivered from 2013 to 2017.

16 Another reason for this may have been that the local commercial bank was not equipped to understand CDM risks.

17 Carbon credits, however, can help secure debt financing backed by future carbon flows to inject as upfront financing. See Chapter 6 for more discussion on challenges to achieve this.
would increase their interest in maintaining the trees in the long run. In the absence of such an option, the BioCF participants and other buyers of forestry credits have to make upfront investments to cover project preparation costs as a way to recognize the difficulty of a cash flow limited to once every five years and after verification. For example, the BioCF included in its ERPA contracts a provision that allows for annual payments to projects based on successful project validation (and other conditions as defined on a project-by-project basis). Unlike most buyers, however, the BioCF’s participants take on the risk of converting the validated emission reductions into tCERs. reused.

3.4.3 Price of Temporary Credits and Cost of Carbon Sequestration

3.23 Low prices for forest credits may not cover the cost of sequestering carbon in different types of projects. As stated before, prices for credits generated in forestry CDM projects are low because they are discounted from prices of credits generated in other CDM projects (see Paragraph 3.17). This makes the viability of forest carbon projects highly dependent upon scale and species type, discouraging small-scale projects and those planting slow-growing species. The revenues from the sale of carbon might not be sufficient to cover all project costs as there are also additional environmental services that might be provided, yet carbon cash flows are the only revenue. In projects of a more commercial nature, however, the total costs of the projects may be offset by the revenues from timber or other products.

3.24 Overall, with low carbon prices, carbon finance is doing little to help forest projects overcome the disproportionately large financial barriers to investment they usually face in developing countries (see Chapter 6). As a result of the “replacement rule,” prices paid by the BioCF per validated tCO$_2$e are low, ranging between $4-5 per unit.

3.4.4 Temporary Crediting and Long-term Carbon Sequestration

3.25 The accounting methods for forestry credits do not provide appropriate incentives for long-term carbon sequestration. The fact that tCERs can be replaced with other tCERs offers a window of opportunity to increase the demand for tCERs by developers of these projects. In practice, however, buyers of forestry credits (i.e., the BioCF’s participants) have not been willing to use tCERs for replacement purposes mainly because of their interest in bringing forward the “final” replacement in order to avoid the greater uncertainty associated with acquiring replacement credits.$^{19}$

3.26 Had BioCF’s participants selected tCERs as sources of replacement credits, their projects would not have been able to supply tCERs in a continuous manner as temporary credits cannot be renewed beyond the final project crediting period. For example, even when a project planting for environmental purposes could supply tCERs over a number of commitment periods (provided that the carbon remains sequestered), once the crediting period ends the Annex B country would stop buying credits from the project and replace the tCERs with permanent assets (e.g., CERs, AAUs, ERUs, and RMUs) or with tCERs from another project. This rule could perversely encourage the carbon sequestered in trees to be released into the atmosphere immediately after the end of the crediting period.

3.4.5 Fungibility of Forestry Credits

3.27 The lack of fungibility of tCERs with units generated via other mechanisms of the Kyoto Protocol limits the demand for this type of credit. The European Union’s provisions regarding forestry CDM credits exemplify this; European private companies are not allowed to use forestry CDM credits to achieve their emission reduction commitments. The lack of fungibility of forestry credits with other CERs and European Union Allowances, along with difficulties in addressing the liability of replacements, have been important reasons for excluding forestry credits from the European Union Emissions Trading Scheme.$^{20}$

$^{19}$ Other buyers, however, may find attractive the option of using tCERs as source of replacement credits.

$^{20}$ In 2005 the European Union established its Emissions Trading Scheme, a cap-and-trade system to limit the GHG emissions of companies from the electric power industry and certain industrial sectors of its country members’ economies. Under ETS, EU member states determined the total amount of allowances and distributed them among their own facilities. These facilities were then enabled to trade allowances. The first trading period was from 2005-2007; the second is running from 2008-2012. The EU-ETS created the “linking directive” to allow the companies to use credits from the CDM and joint implementation to comply with their commitments. The companies were allowed to use credits from all CDM sectors except A/R for compliance.

---

$^{18}$ Although the UNFCCC defined simplified modalities and procedures for small-scale projects, four BioCF small-scale projects have proven that this has not contributed to reducing transaction costs in a significant manner. See Chapter 6, Finance, for more information on transaction costs.
Because the EU-ETS became the most important market for CERs, such exclusion resulted in a severe reduction in the demand for forestry credits during the first commitment period of the Kyoto Protocol. Even governments, which have the ability to use a limited amount of LULUCF assets, have barely acquired any of them. This is reflected in the composition of BioCF participants.22

The result of these linking issues is that no other crediting programs in operation use these temporary credits. In addition, concerns about permanence of reductions, accuracy of monitoring, and “flooding of the market” continue to keep LULUCF assets outside most emission trading schemes (e.g., EU-ETS and the New Zealand Emission Trading Scheme).

(Dutschke, 2010).21 Because the EU-ETS became the most important market for CERs, such exclusion resulted in a severe reduction in the demand for forestry credits during the first commitment period of the Kyoto Protocol. Even governments, which have the ability to use a limited amount of LULUCF assets,

Table 3.1 Volume and Value of the Forest Carbon Market

<table>
<thead>
<tr>
<th>Markets</th>
<th>Volume (million tCO(_2)e)</th>
<th>Value (million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Historical Total</td>
<td>2010</td>
</tr>
<tr>
<td>Voluntary Over the Counter</td>
<td>58.7</td>
<td>27.3</td>
</tr>
<tr>
<td>Chicago Climate Exchange</td>
<td>2.9</td>
<td>0.1</td>
</tr>
<tr>
<td>Total Voluntary Market</td>
<td>61.6</td>
<td>27.4</td>
</tr>
<tr>
<td>A/R CDM</td>
<td>7.8</td>
<td>1.4</td>
</tr>
<tr>
<td>New South Wales</td>
<td>3.1</td>
<td>1.1</td>
</tr>
<tr>
<td>New Zealand ETS</td>
<td>0.8</td>
<td>0.2</td>
</tr>
<tr>
<td>Total Regulated Market</td>
<td>11.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Total Global Market</td>
<td>73.3</td>
<td>30.1</td>
</tr>
</tbody>
</table>

The greatest forestry activity is still in the voluntary carbon markets; while the volumes remain low (e.g., less than 0.3 percent of the global carbon markets), transaction volumes increased 28 percent between 2009 and 2010 (World Bank, 2011).

3.28 The result of these linking issues is that no other crediting programs in operation use these temporary credits. In addition, concerns about permanence of reductions, accuracy of monitoring, and “flooding of the market” continue to keep LULUCF assets outside most emission trading schemes (e.g., EU-ETS and the New Zealand Emission Trading Scheme).

21 In analyzing the possibility of allowing credits from forest projects into the EU-ETS, the European Commission concluded that the fact that forest projects cannot deliver permanent emission reductions could undermine the environmental integrity of the system. The commission considered that insufficient solutions have been developed to deal with uncertainties, non-permanence, and leakage arising from this type of project. The EC concluded that the temporary and reversible nature of such activities would pose considerable risks to the EU-ETS and impose greater liability risks on member states (European Commission, 2008).

22 The BioCF includes six governmental entities and 12 private companies. Five of the governments are European and the Government of Canada. Eight of the private companies are Japanese and four are global.
All this negatively affects the attractiveness of forestry credits for buyers and reduces market liquidity (Dutschke and Schlamadinger, 2003; Lecocq and Couture 2008). The impact of the low demand in the forest carbon market is illustrated in Box 3.1. These assets might enjoy a new relevance and value should they be accepted into future emission trading schemes (World Bank, 2010a).

3.5 Other Approaches to Non-permanence

Non-permanence has been intensively debated, and the debate did not stop with the UNFCCC’s decision to adopt the “expiring” credit approach. Many, for example, have argued that the emission reductions originating from some energy projects (e.g., avoidance of fossil fuel use) should also be considered temporary if the non-extracted fossil fuel were to be used in the future with subsequent GHG emissions releases (see, for example, Noble et al., 2000; Pedroni, 2005). Alternatively, to maintain consistency among all types of credits, forest carbon credits should also be considered permanent. Others recognize the temporary nature of forest carbon credits but consider that developers should be allowed to select the most suitable approach to non-permanence for their projects.

As the discussions on the rules for LULUCF activities are ongoing in the UNFCCC, negotiators from developing countries are analyzing new proposals for consideration in the negotiations of the Kyoto Protocol’s next commitment period.23 Negotiators on the Ad Hoc Working Group on further commitments for Annex B Parties under the Kyoto Protocol suggested alternative approaches in 2009 that allow for the issuance of permanent carbon credits from LULUCF projects. These approaches involve the host country taking responsibility for reversals, insurance, buffers and credit reserves, exceptions for low-risk activities, and accounting for emissions from harvesting of forests. The text approved in COP16 in Cancún includes in brackets the following statement: “Alternative approaches to addressing the risk of non-permanence may apply in accordance with any further decision of the COP.” The COP also requested that the Subsidiary Body for Scientific and Technological Advice initiate a work program “to consider as appropriate, develop, and recommend modalities and procedures for alternative approaches to addressing the risk of non-permanence with a view of forwarding a draft decision on this matter to the COP17.”25

Project developers, negotiators, and organizations involved in LULUCF projects are working to improve their understanding of the implications, advantages, and disadvantages of alternative approaches to non-permanence.24 While some of these approaches are already being tested in the voluntary carbon market (i.e., the buffer approach) and in LULUCF joint implementation projects (i.e., host party taking responsibility for reversals), others have only been mentioned in the forest carbon literature as interesting options. Examples of criteria often used to assess the different possible approaches are listed below:

- Scope (e.g., type of actual GHG emissions, and may include harvest wood products);
- Simplicity (e.g., simple to estimate the risk, and the resulting units can be easily transacted);
- Cost efficiency (e.g., administrative costs and risk-mitigation costs);
- Dependence on enforceability of relevant national policies (e.g., due to non-payment of risk premium);
- Type of coverage provided (e.g., ability to cover a large number of projects);
- Guarantees to sovereignty (e.g., allow host countries to develop and implement their own solutions to non-permanence);
- Consistency with the approach for managing reversals for LULUCF activities in Annex B countries and in joint implementation projects;
- Level of protection to compensate in the event of non-permanence;
- Assurance that host countries will have the financial means to compensate for eventual reversals; and
- Availability (e.g., availability of policy insurance than can be purchased by project developers).

23 FCCC/KP/AWG/2010/18/Add.1. For example, negotiators have highlighted the need to indentify approaches that simplify the accounting rules (FCCC/KP/AWG/2009/INF.2). Others still consider that the temporary crediting approach should be an available option (FCCC/KP/AWG/2009/INF.3).
26 See for example Lecocq and Couture, 2008; Scholz and Jung, 2008.
### 3.6 Recommendations

#### 3.32 Below are some recommendations that should be considered by policymakers and the CDM EB. Risk management measures and best practices to reduce the risk of reversal and project non-permanence are presented in chapter 8.

#### FOR THE CMP

- Allow A/R CDM projects to select from a variety of approaches to non-permanence in addition to the temporary crediting approach. Some of these are being tested in the voluntary carbon market, and lessons can be learned from this experience (see Paragraphs 3.29–3.31). The new approach(es) to non-permanence should avoid putting forestry credits at a disadvantage. They should be designed bearing in mind that complex credits that are not fungible with other carbon assets lead to a lack of demand for forestry credits (see Paragraphs 3.27–3.28) and to low prices, which negatively affects project viability, reducing the carbon finance’s potential to support forest projects (see Paragraphs 3.23–3.24 and Chapter 6).

- In designing a new approach to non-permanence for forestry credits, consider flexibility in the number of verifications per commitment period and allowing projects with a high volume of credits to use shorter periods so that carbon revenues can help improve the cash flowing into projects (see Paragraphs 3.21–3.22).

- Change crediting rules to encourage long-term carbon sequestration by considering renewal of credits beyond the crediting period. This will favor projects reforesting for conservation purposes (see Paragraph 3.25).

#### FOR MARKET PLAYERS

- Developed countries committed to reducing emissions should support the A/R CDM by ensuring a demand for credits, recognizing that:
  - A/R CDM projects contribute to climate mitigation as well as to improving rural livelihoods;
  - Credits from A/R CDM project activities are produced in a rigorous manner, as they are based on conventional forest inventory techniques, which are independently audited;
  - Projects apply safeguards to avoid, minimize, and/or mitigate potential risks to the local environments and to communities’ livelihoods. Some projects go even further—certifying their project designs as a way to ensure the delivery of positive net co-benefits; and that
  - All stakeholders continue to make efforts to improve the A/R CDM and realize the emission reduction potential of A/R projects (see Paragraphs 3.27–3.28 and Box 3.1).