TIAA-CREF Asset Management

Responsible Investment in Farmland

2014 report on ethical conduct and responsible stewardship of the environment
This report was developed in consultation with TIAA-CREF staff responsible for farmland investments, as well as through research involving asset managers and external stakeholders, all of whom provided insight and context on key issues, opportunities and potential performance indicators. We thank SustainAbility, Inc. for its assistance with developing this document. As with prior years reporting, our intent is to improve our stakeholders’ understanding of how we invest in farmland and perform our fiduciary duty over the long term. We believe this report is another step toward increased transparency regarding our practices.
Responsible Investing

A message from Biff Ourso, Portfolio Manager for Agriculture Investments

In 2011, TIAA-CREF was one of a group of UN Principles for Responsible Investment (“PRI”) signatories who developed the Principles for Responsible Investment in Farmland (known as the “Farmland Principles”), which were designed to guide institutional investors who wish to invest in farmland in a responsible manner.

To ensure the longevity and sustainability of the Farmland Principles as an important component of the larger and established PRI initiative, in mid-2014 the Steering Committee of the Farmland Principles (consisting of founding signatories) and the PRI, together, agreed to integrate the Farmland Principles within the PRI. This will ensure adequate resources and finances to manage the work on responsible investment in farmland going forward. As part of the integration with the PRI, the Farmland Principles have evolved into “Guidance for Responsible Investment in Farmland” (“Guidance”) and align directly with the original five Farmland Principles of:

1. Promoting environmental sustainability
2. Respecting labor and human rights
3. Respecting existing land and resource rights
4. Upholding high business and ethical standards
5. Reporting on activities and progress towards implementing and promoting the Principles

By signing these Farmland Principles in 2011, TIAA-CREF committed to integrating them into its responsible investment strategy. We took an important step in late 2012 by releasing our first Responsible Investment in Farmland Report, initiating an ongoing commitment to report on our progress and fulfill Principle 5. In the 2012 report, we introduced our global portfolio and provided a profile of our investments across various crops and regions. We explained how TIAA-CREF invests in farmland and how we work with local asset managers to identify, acquire and monitor our properties, as well as how farm operators manage the actual farms in our portfolio. The report provided details on our investment process and how TIAA-CREF’s corporate governance practices and the Farmland Principles are implemented with regard to our farmland properties. We also committed to developing key performance metrics to measure progress in each area.

In 2013, we took another important step: introducing a set of key performance indicators (“KPIs”) to help measure progress across each of the five Farmland Principles. These KPIs are designed to measure if we are taking the right steps to ensure that the principles are followed up with action and to find ways to close the gaps in future years by holding our portfolio to high standards.

A copy of prior reports is available on TIAA-CREF’s website: https://www.tiaa-cref.org/public/pdf/Farmland-Sustainability-Report.pdf

Some Farmland Principles lend themselves easily to being measured, while others are more qualitative in nature or relate to specific regional issues, making a quantifiable metric more complex. We challenged our team to find and articulate meaningful indicators that are relevant and can be consistently measured across such a diverse, global portfolio. Overall, we are pleased with our performance to date and the progress we made over the past year, especially in areas such as water management in light of drought-stricken regions. We have identified areas for improvement and expect that future reports will demonstrate our continued progress as we look to refine these KPIs in order to reflect the broader needs of farmland and its diverse set of stakeholders.

Biff Ourso
Portfolio Manager, Agriculture Investments
Overview of Responsible Investment in Farmland

In the past few years global farmland investment and interest has steadily increased. This surge in activity is occurring in the midst of important global issues such as water scarcity, climate change, and land development, bringing an even greater need to invest responsibly and sustainably. Individual and institutional investors alike are increasingly attracted to the benefits of farmland as a stable long-term investment that offers diversification, inflation protection and potential to earn attractive returns. TIAA-CREF has chosen to invest in this asset class for many of these reasons. However, we also believe farmland investing should be done in a responsible and sustainable manner by ensuring we are effective stewards of the land, manage resources efficiently, maintain the health and safety of our workforce and respect local communities.

Today’s global farmland markets are characterized by an evolving set of challenges, such as growing food demand to support a projected population of 9 billion people by 2050, increasing protein consumption, climate change and global water scarcity. At the same time, farmland managers are better equipped to confront these and other challenges through opportunities such as advanced farming practices, GPS mapping and tracking of water and nutrient use. As responsible farmland investors we are cognizant of these challenges and see our investments and management practices as a way to support sustainable agricultural development that will help feed our growing population while making the most efficient use of limited resources such as land and water.

Responsible Farming Practices

At TIAA-CREF, our farmland investment approach is directly aligned with our overall investment philosophy: we are long-term investors helping to provide for the financial well-being of our customers and clients decades into the future. We see farmland as an excellent addition to our portfolio and look to acquire farmland assets with a 20 to 30 year time horizon.

As part of our long-term investment horizon we are dedicated to responsible and sustainable land management practices in order to maintain the longevity of our farmland properties. Many initiatives and strategies can deliver dual “wins” for both investment and sustainability outcomes, including:

- Soil Health Maintenance: Drives improved yield and can reduce input costs
- Water Efficiency and Conservation: Protects groundwater quality, lowers input costs, and addresses issues of water scarcity in water-constrained or drought-prone regions
- Resource Efficiency: Minimizes agricultural waste and nutrient loss, supporting cost savings
- Biodiversity Protection: Maintains integrity of valuable ecosystem services (e.g. erosion control, water cycling, nutrient cycling, and pollination)
- Toxics Reduction: Reduces localized pollution, supports worker health, and promotes food safety
- Respecting Labor Standards, Human Rights and Safety: Reduces risk of labor interruptions and strengthens workforce
- Transparency in Land Acquisition: Mitigates risk from legal liability and security issues
- Respect for Local Communities, Smallholder Farmers and Other Stakeholders: Supports local communities’ economic and cultural needs
We are dedicated to the above responsible practices across our properties and have processes in place to ensure they are maintained, including in-depth pre-acquisition due diligence, ongoing site visits, property reviews, and KPI measurement and assessment (see the “Tracking Progress on the Principles” section for a more detailed view of our performance in using these KPIs). Our core investment strategy is based on a partnership model focused on acquiring existing, high-quality farmland and identifying best-in-class local farmers who operate the farms via a leasing arrangement. In doing so, we facilitate the growth of local family operators and agribusinesses while also contributing capital (in the form of the purchase price) to the local market. By employing a comprehensive asset management and farm oversight program, we are able to assess and validate adherence to strict operating practices and analyze potential capital investments that will support enhanced production and sustainability into the future.

Challenges to Farmland Investing

As a leading investor in and manager of global farmland, we recognize that the industry, as well as TIAA-CREF, faces a number of challenges in ensuring responsible and sustainable investment in farmland. We have been aware of and have been managing many of these challenges from the beginning of our engagement with this asset class:

- **Water Scarcity**: Water availability is and will continue to be a growing concern for farmers and investors like us. We place a great importance on managing our water consumption and its impacts by using the most efficient means to grow our crops and acknowledging and mitigating impacts related to the environment and local waterways.

- **Deforestation**: Many organizations rightfully express concern that farmland investment comes at the expense of forested area. Our entire farmland portfolio consists of land approved for agricultural use, the majority of which has been used as farmland for many years. In critical forested areas such as in Brazil we meet all government requirements for protection of rainforests and also contribute by improving and rehabilitating certain lands set aside for conservation.

- **Land Grabbing**: Within farmland investing there is widespread concern that investors are taking advantage of insecure land rights in undeveloped areas in order to purchase large tracts of land. To confront this challenge, we have established a formal title search and review process to ensure the land we own is part of a verified chain of ownership and make a point to invest in geographies with established land rights.

- **Lack of Transparency**: NGO’s and agriculture activists often voice concerns that farmland investors lack transparency around their investments. As signatories of the Farmland Principles and through our ongoing publication of this report for the past three years and into the future, we are dedicated to being transparent about our farmland investments while retaining sensitive commercial information that supports the security and integrity of our investment program.

At TIAA-CREF we take these issues seriously, and we believe our investment approach sets us apart in addressing these concerns. We evaluate each with an investment and management view that considers not only quantitative economic impacts, but also the qualitative concerns of a diverse stakeholder base, including our participants, clients, and the broader community in which we invest.
Farmland Investment Value Chain

In order to understand our approach to farmland investing, it is important to first become familiar with the farmland investment value chain. Within this chain there are a number of key stakeholders. We earn returns primarily through farmland lease payments and long-term increases in underlying farmland asset value, although we do take direct exposure to crop production and commodities on a subset of our portfolio. As investors we distinguish our role from those of our business partners, which include asset managers, farm operators, and numerous other stakeholders including crop buyers, farm workers, and local communities.

Investors
TIAA has established several investment entities, including TIAA-CREF Global Agriculture LLC (“TCGA”) to make farmland investments. These investment entities also provide financing for purchases and capital expenses on the farm, such as implementing upgraded irrigation technology which conserves water resources while improving yields, or paving roads on the property to reduce dust.

Institutional investors serve as the members of TCGA. TIAA and our co-investors make capital contributions to the investment entity, and we receive capital distributions from the investment entity. These distributions may have several revenue sources, including rent paid by farmers, proceeds from the sale of property, and crop sales.

Asset Managers
TIAA-CREF has two affiliated asset managers, Westchester Group Investment Management Inc. (“WGIM”) covering the U.S. and Australia, and Radar Propriedades Agricolas (“Radar”) covering Brazil, who are critical in the implementation of our investment approach. WGIM and Radar identify, acquire, and monitor our farmland investments and are also responsible for the negotiation of the lease and crop management contracts. Because these asset managers are located in the region of the farmland investments, they are well positioned to work directly with farmers and crop managers within the local communities towards effective management. In many cases the asset managers we work with are also farmers themselves or come from generations of family farming allowing us to apply decades of farming experience to how we manage our properties.

Farm Operators
Farm operators manage the farms, earning their return from growing and marketing the crops. Our relationship with the farm operators generally depends on the type of crop being farmed. We invest primarily in farmland that produces two kinds of crops: row crops and permanent crops.

- Row crops are planted and harvested annually, such as corn, cotton, or soy. These crops may be further processed into food for human consumption, animal feed, fuel (e.g., ethanol production), or fiber for clothing. With row crops, the farmer leases the land from the investment entity and pays rent to the entity. The terms of the lease are generally established or renewed on an annual or multi-year basis. The farmer is responsible for acquiring seeds, fertilizer and other inputs, and for growing and harvesting the crops. Once the row crop is harvested, a crop buyer purchases it from the farmer and the proceeds of this purchase go to the farmer.
- Permanent crops, usually vines or trees, are planted once and then bear produce over many years, such as apples, nuts, citrus, or wine grapes. They may be sold as a finished product for human consumption, or used as ingredients to be processed into some other type of grocery item. In the case of the permanent crop land, the asset manager (e.g., WGIM) helps to manage the sales and marketing of the crop, and the proceeds from the sale of the crop go to the investment entity. In this case, the crop manager is responsible for the cultivation over several years while the trees or vines are still in the non-bearing stage, and for the management of the crop once the trees and vines are producing. A key difference with permanent crops is that a significant portion of the asset value is in the tree or vine, which has a finite life.
Crop Buyers
The crop buyer is responsible for bringing the crop to market. In the case of row crops such as corn or soy, it may be sold as animal feed, becoming an important link in the animal protein production value chain. Cotton will be ginned and spun into yarn for use in apparel, while sugarcane and corn, in particular, may be cultivated for use as fuel (ethanol). Many row crops like corn, soy, sugarcane and wheat are also used as inputs in food manufacturing and used to make products from breakfast cereal to beverages.

The crop buyer for permanent crops has a similar role managing the sale of the produce into the marketplace. However, unlike with row crops, the asset manager plays a more active role in the marketing of the product from permanent crops. All permanent crops are destined for human consumption, whether they are processed—such as wine grapes being made into wine—or consumed with little processing beyond packaging and distribution—such as almonds or citrus fruit.

Stakeholder Management
There are a number of factors that affect how we manage and oversee stakeholders within the farmland investment value chain. As we seek to establish sustainable and responsible practices across all of our properties, there are a few conditions that sometimes limit our abilities:

- We have a varying degree of influence over tenants and operators based on the nature of the relationship (i.e. leased row crop farms vs. custom-managed permanent crop farms). For example, TIAA-CREF can exercise greater control over permanent crop properties where we custom operate.
- We face different dynamics across the regions and countries where we invest. For example, a more competitive tenant market (as in the U.S. Midwest) allows our asset managers to dictate more terms in the lease as compared to less developed markets.
- Size limitations of tenants and operators can impact their ability to justify and afford compliance officers or staff to gather and report additional data.

While owning and managing a diverse farmland portfolio is complex, we work closely with local asset managers to implement a number of responsible and sustainable practices across our properties.
Value Chain Diagrams

Permanent crops

- Crop sales proceeds
- Crop manager
cultural care to produce crops
- Asset Manager
  (e.g. WGIM or Radar)
negotiate crop mgmnt contract & provide oversight
- Crop mgmnt contract
- Crop buyer
- Food producer
- Grocery store

Investment entity
e.g. TCGA
- Purchase, develop and make capital improvements
- Crop & property sales proceeds
- Capital contributions, crop & property sales proceeds
- Asset management contract
- Performs due diligence on & manages

Investor
(e.g. TIAA & others)
capital distributions

TIAA-CREF Alternative Advisors, LLC
set strategy, manage portfolio

$
Row crops

Investor (e.g., TIAA & others)

Asset Manager (e.g., WGIM or Radar)

farmer

Investment entity

TIAA-CREF Alternative Advisors, LLC

set strategy, manage portfolio

farmer

Asset Manager (e.g., WGIM or Radar)

Investment entity

Asset Manager (e.g., WGIM or Radar)

Investment entity

crop sales proceeds

crop sales proceeds

Crop buyer

Crop buyer

ethanol producer

livestock grower

clothing producer

food producer

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Our Process

As investors, TIAA-CREF seeks to be good stewards of the land we own and manage, and we believe that ethical conduct, responsible stewardship of the environment, and respect for those with whom we do business are essential to the long-term performance of our farmland investments. While we do not directly operate most of the farms we own, we work with our asset managers, tenants, and custom operators to promote sound agricultural management practices and look to meet or exceed all environmental standards and labor regulations. Our rigorous due diligence process facilitates fundamental analysis of each property prior to acquisition, and we monitor the performance of each farm individually over time through a detailed management and governance process. Furthermore, TIAA-CREF’s farmland investments are only in regions and countries where we believe adequate controls and management infrastructure are in place to meet our standards for each market.

Pre-acquisition Due Diligence

Our formal, proven investment process examines each investment opportunity prior to acquisition. This process includes an assessment of the suitability of any third-party managers, joint-venture partners, tenants, or operators as well as an analysis of the property to ensure it meets our investment risk-return criteria.

As part of the property analysis, our affiliated asset managers and TIAA-CREF’s Global Real Estate Asset Management and Engineering Services team assess the environmental impacts and risks of each farmland investment using an Environmental Site Assessment. These assessments are completed for all new investments prior to acquisition and are conducted in accordance with the American Society for Testing and Materials (ASTM) or the local country equivalent. A third-party auditor, AECOM, a global leader in environmental property assessments, performs the assessments in order to ensure and verify the findings.

In the Environmental Site Assessment we make use of extensive pre-acquisition checklists considering a range of issues pertaining to farmland-specific properties such as pesticide storage practices, vehicle-emissions standards, mineral-ownership rights, landlord-tenant laws, and boundary disputes. We apply a checklist to other tangible and intangible issues as well, including harvesting practices, water rights, property improvements, intellectual property, and patented crops. This process also accounts for any potential environmental liability relating to hazardous conditions or other relevant issues such as the presence of wetlands and endangered species. If a property does not meet our strict standards for acquisition we will not complete the purchase and in some cases have walked away from a transaction because a property was not environmentally sound.

Post-acquisition Management

Following acquisition, we reassess and monitor each farm’s performance on an annual basis using attestation documents signed off on by our asset managers, a key performance indicator review to assess our adherence to the Farmland Principles and site visits to our properties. These and other strategies are assessed at the local level in conjunction with the tenant or operator. A key part of this process is ensuring the environmental sustainability of each farm across our entire portfolio, with activities and strategies aimed at reducing soil erosion and runoff, conserving water, and maintaining or improving soil fertility.

Attestation Documents: Our asset managers WGIM and Radar are required to follow certain TIAA-CREF policies and procedures relating to agricultural investment governance and compliance. Each year we require them to review and sign off on adherence to a variety of property conditions from infrastructure maintenance and harvesting practices to compliance with legal, employment and even endangered species regulations.
Farmland research and collaboration

We realize that responsible management extends beyond what happens on our farms and as such helped launch the TIAA-CREF Center for Farmland Research at the University of Illinois in March 2013. The Center serves as a specialized unit within the College of Agricultural, Consumer and Environmental Sciences and was established to enhance the university’s research and educational initiatives focused on farmland practices and the financial aspects of farm management. Since the launch, the Center has already hosted several research and academic symposiums helping to educate the next generation of responsible farmland investors.
Snapshot of TIAA-CREF Farmland Portfolio

At the beginning of 2014, TIAA-CREF managed more than 1.2 million gross acres of globally diversified farmland valued at just under $5.0 billion. Recent acquisitions have resulted in portfolio growth across the U.S., Australia, and Brazil. We continue to focus our portfolio construction and strategy on acquiring high quality row crop producing assets in the principal grain exporting regions of the world, with additional diversification from permanent crop investments such as wine grapes, tree nuts, and tree fruits in premier growing regions of the U.S.

During 2013, TIAA-CREF acquired 24 new properties in the U.S., Australia, and Brazil. This acquisition activity focused on permanent and row crop transactions in existing regions as well as growth into a number of new areas where we have targeted investment for some time.

In the row crop sector we grew our portfolio in the U.S. Midwest and expanded our holdings in the U.S. Delta, and added to our holdings in Brazil, across the productive grains and oilseeds regions of the Center-West and Northeast as well as the sugarcane producing regions of Southeast Brazil. Within the permanent crop space, we have been acquiring both mature (fully producing) and developing assets (farms with to-be-established plantings). By developing new assets including tree nuts, wine grapes, and avocados, we aim to contribute additional food resources into the agricultural value chain.

Portfolio Diversification

Since our first investment in farmland in 2007, we have built a portfolio diversified by geography and crop type. The following charts detail our current farmland holdings.

Agriculture acreage by geography

Based on gross acreage of 1,240,187 as of 12/31/13

<table>
<thead>
<tr>
<th>Country</th>
<th>South</th>
<th>North</th>
<th>West</th>
<th>East</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>9.0%</td>
<td>1.9%</td>
<td>14.3%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Brazil</td>
<td>8.6%</td>
<td>17.5%</td>
<td>20.8%</td>
<td>6.2%</td>
</tr>
<tr>
<td>USA</td>
<td>6.2%</td>
<td>4.8%</td>
<td>0.1%</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

Agriculture acreage by crop type

- 74.4% Grains/Oilseeds
- 21.4% Sugarcane
- 2.0% Winegrapes
- 2.5% Other Permanent Crops
- 0.2% Fruits/Vegetables
Total acreage as of 12/31/13: 181,865

Map Legend

Alfalfa  Almonds/ pistachios  Apples  Avocado  Barley  Citrus/oranges  Corn  Cotton  Cranberries  Fruits
Grass  Lemons  Oilseeds  Pulses  Rice  Soybeans  Vegetable  Wheat  Wine Grapes
TIAA-CREF Responsible Investment in Farmland

Western Australia
177,187 acres

New South Wales
233,811 acres

Victoria
17,691 acres

Queensland
48,371 acres

Total acreage as of 12/31/13: 477,060

Map Legend

- Cereal
- Cotton
- Oilseeds
- Pulses
TIAA-CREF Farmland Holdings – Brazil

Total acreage as of 12/31/13: 581,262

Map Legend

- **Corn**
- **Cotton**
- **Soybeans**
- **Sugarcane**
Tracking Progress on the Principles (KPI Results)

In adherence with Principle Five, TIAA-CREF has committed to report publicly on our activities related to implementation of the Farmland Principles. This section provides greater detail on how we put each principle into practice and gives examples of our activities.

In this section we also report on our progress against the set of key performance indicators (KPIs) we introduced last year. These were created to ensure we can effectively measure our progress in adhering to the Principles and reflect our view on the most appropriate and relevant factors for the various regions in which we operate, given our investment approach and strategy today. We aim to continue to revisit, improve and evolve these measures over time to ensure they remain relevant and consistent with our strategy and operations.

Overall, our portfolio is meeting expectations related to sustainable agricultural practices, labor and worker safety, and ownership/local land rights, and in 2014 we saw slight improvements in the areas of chemical and production inputs, water management, and investment ethics. However, we believe that we can strive for greater improvements in environmental integrity and soil, water, and chemical inputs monitoring. In the following sections, we have provided greater detail on how we implement the Farmland Principles at the farm level. We look forward to reporting on our progress against these measures in future years.

Progress against the KPIs is rated based on the following scale:

- **Green** = 95+% (satisfactory)
- **Yellow** = 75-94% (opportunities for improvement exist)
- **Red** = <75% (improvements needed).

↑ = increase  ↓ = decrease  ○ = no change
<table>
<thead>
<tr>
<th>Topic</th>
<th>KPI</th>
<th>2014 Rating</th>
<th>Progress &amp; Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principle 1: Promoting Environmental Sustainability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental integrity</td>
<td>Percentage of farms in portfolio with appropriate environmental assessment conducted (e.g., Phase 1 Environmental Site Assessment, wetlands, endangered species, etc.)</td>
<td>94%</td>
<td></td>
</tr>
<tr>
<td>Chemical and production inputs</td>
<td>Percentage of farms in portfolio maintaining detailed input and production records including pesticide and fertilizer applications</td>
<td>93%</td>
<td></td>
</tr>
<tr>
<td>Soil health</td>
<td>Percentage of farms in portfolio with appropriate ongoing testing to monitor soil health and assess pH and nutrient levels</td>
<td>91%</td>
<td></td>
</tr>
<tr>
<td>Sustainable agricultural practices</td>
<td>Percentage of farms that utilize research-based practices, e.g., Good Agricultural Practices (GAP), to encourage plant health and minimize negative environmental impact (timing and rates of chemical and fertilizer applications, field scouting, efficient irrigation, crop rotation, tilling practices)</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Water management and conservation</td>
<td>Percentage of farms using irrigation in portfolio with detailed records of annual water usage maintained</td>
<td>83%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage of farms using irrigation that have practices in place for water conservation (e.g., water-conserving technology)</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Resource, energy and fuel conservation</td>
<td>Percentage of farms that have practices in place for production, and energy and fuel efficiency, including utilization of new technologies (e.g., new varieties, auto-steer, GPS, high-efficiency pumps)</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Land protection</td>
<td>Percentage of portfolio invested only in land previously developed for agricultural use (i.e., not converted from other non-agricultural uses)</td>
<td>99%</td>
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</tr>
<tr>
<td><strong>Principle 2: Respecting Labor and Human Rights</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor compliance</td>
<td>Percentage of on-site managers and tenants/operators agreeing to comply with state and federal labor laws</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Worker health and safety</td>
<td>Percentage of farms inspected in the past year to confirm that management of the property is meeting expectations and to ensure safe and healthy working conditions, including proper use of pesticides and other chemicals (e.g., practices for mixing and loading sites and use of safety equipment)</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td><strong>Principle 3: Respecting Existing Land and Resource Rights</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership and Local Land Rights</td>
<td>Percentage of investments in portfolio with formal title search and review completed to verify chain of title/ownership</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage of farms that are compliant with Federal Reclamation Law (Western U.S.) or assessed against applicable aboriginal heritage registers (Australia) or other indigenous rights depending on region</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td><strong>Principle 4: Upholding High Business and Ethical Standards</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment ethics</td>
<td>Percentage of investment staff completing one annual business ethics course</td>
<td>83%</td>
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</table>
Promoting environmental sustainability

As long-term investors, we believe that responsible stewardship of the environment is essential to the long-term performance of our farmland investments. Therefore, many of the KPIs we track under this principle are ones that we have been invested in for quite some time. In the past year there was an increase in the number of properties that conduct environmental site assessments, monitor chemical and production inputs and a considerable increase in the number of properties maintaining detailed water usage records. Although these KPIs improved over last year, we are still working with our asset managers to drive our performance against them to above 95%.

While we are proud of our progress, we continue to look for new ways to make our properties more efficient and environmentally stable and are considering other measurement and auditing techniques that will help drive greater improvement across these indicators.

Ongoing Activities Supporting Environmental Sustainability

Beyond the specific areas measured by our KPIs we also engage in a number of recurring environmental sustainability activities across our properties, including:

- Water conservation (during irrigation) through grading, leveling, and improved technology that optimizes efficient water delivery;
- Utilizing research-based practices that encourage plant health and minimize negative environmental impacts (e.g., timing and rates of chemical and fertilizer applications, field scouting, crop rotation, and tillage practices);
- Reduction of soil erosion and rainfall runoff through properly designed roads, berms, culverts, terraces, or use of cover crops;
- Encouraging the use of new technologies to increase production, energy and fuel efficiency (i.e. auto-steer, GPS, high-efficiency pumps);
- Maintaining detailed input and production records (i.e., pesticide and fertilizer applications) for over 93% of the portfolio;
- Protection of endangered species;
- Reforestation efforts, especially in environmentally sensitive areas in Brazil.
The Principle in action

Water Management and Conservation

One of the most critical environmental elements for farmland is water management. Multiple regions across the globe including areas where we own farmland will face periods of drought and water scarcity. As a result, we are actively working through our asset managers to ensure that we use water as efficiently as possible. Across our permanent crop properties we utilize some of the most water efficient technologies, such as drip line or micro-sprinkler irrigation systems, and are in the process of converting properties not currently using these systems to water conserving technology over time. In areas where methods like flood or furrow irrigation are in use, we aim to utilize recyclable polyethylene pipe, which when combined with precision leveling to even out water pressure across a field, can improve water efficiency by 25%. The pipes are then recycled at the end of each season.

On our U.S. South properties, precision land leveling is used to increase drainage, control erosion, and reduce overall water use. While this process of creating an even soil surface is more capital intensive, it also produces more water-efficient results, cutting water use in half for crops like rice. Other examples of water conserving technology being used include: low-pressure center pivot systems with drip nozzles, perimeter pads, and flashboard riser culverts. Newer technologies such as moisture probes are also used in some of our farms to monitor soil moisture levels and irrigate only when and where necessary, dramatically reducing water use.

Napa Valley Recycled Wastewater Irrigation Pipeline

In face of the severe drought impacting California, our vineyard management team in Napa identified a way to help reduce groundwater withdrawal by developing a pipeline that transports treated municipal wastewater and recycles the water for irrigation. In conjunction with the Napa Sanitation District, WGIM’s vineyard management team, Silverado Investment Management company supported the development of a two-foot wide pipeline that will route water from the local wastewater treatment facility under the Napa River to surrounding farmland and other users. Silverado contributed $2 million in up-front capital to support the project and granted property easements to allow the pipeline to run through its properties benefiting 30-40 other landowners in the Los Carneros water district. The project has dual benefits of reducing the amount of groundwater needed for irrigation while also re-purposing treated wastewater that would otherwise have been flushed into local streams and rivers.

Innovations in Fertilizer

Through a partnership with a California agtech company, one of our almond farming properties is piloting a new fertilization technique that promises to improve plant and soil health while reducing waste and carbon emissions. The company takes waste foods (fruits, vegetables etc.) from grocery stores, mixes it with enzymes that break down the material and blends them into a liquid fertilizer that can be applied through existing irrigation systems directly to plant roots. The technique has the potential to realize a number of benefits including healthier plant root and soil systems that can retain more nitrogen, have lower leaching or runoff rates (important for maintaining the health of local waterways) and require less fertilizer. The process also repurposes organic food waste reducing dependence upon synthetic fertilizers, amount of waste to landfill, trucking miles needed to transport waste and carbon emissions at landfill. The pilot is still in the early stages with final data expected in 2015, but early measurements are positive, and, if the technique is proven, WGIM will look to expand the program to other properties.
The Principle in action

Reforestation efforts in Brazil

Our investment approach in Brazil focuses on improving the productivity of existing farmland rather than placing greater emphasis on farmland conversion that could lead to greater deforestation in environmentally sensitive areas. Through our asset management partner in Brazil, Radar, we closely manage and monitor our farmland portfolio to ensure compliance with the existing Forest Code, legislation created to establish protected areas of the Brazilian Amazon, Cerrado and Atlantic Forest, and restore degraded areas. As part of our compliance with the Forest Code we have already planted 284,000 native seedlings across four different farms within São Paulo state and over the next 20 years plan to plant over 1.5 million native trees throughout our portfolio of farms.

In 2012, as part of the Forest Code compliance, Radar worked to recover three natural lagoons across two farms within São Paulo state. Prior to the restoration, the lagoons were drying up and lacked vegetation, making what was once a haven for migratory birds, including a rare species (Triste-piá, scientific name: Dolychonyx oryzivorus), a barren area. In 2013 and 2014, Radar worked to recover the areas by removing any sugarcane plantings, preparing the soil and planting approximately 246 acres of native trees in the areas encircling the ponds. Figure 1 shows the three lagoon areas on the properties, while figure 2 shows the area that was restored in purple. In figure 3, the newly restored areas can be seen. Moving forward Radar will continue to maintain the area until the trees are fully mature, revitalizing this important habitat.

Fig. 1

Fig. 2

Fig. 3
Respecting labor and human rights

We believe that respecting labor and human rights — those of farmers, farm workers, and citizens of farm communities — is an essential element of a successful farm operation. We seek to ensure that our farmland investments support safe, healthy workplaces that add value to the communities while upholding our long-term investment goals. We strive to ensure that our tenants and operators meet or exceed compliance with local laws, and we conduct site visits through our asset managers to verify that worker health and safety practices at the properties meet our standards. Our portfolio did exceptionally well in this regard against our KPIs, maintaining a 100% rating across labor compliance and worker health and safety.

Ongoing Activities Supporting Labor and Human Rights

We employ a variety of practices across our farmland portfolio to ensure a standard of practice around labor and human rights:

- Our standard lease agreement for farm operators requires compliance with national and international health and safety standards such as USDA, OSHA and EPA requirements;
- Lease and crop management agreements also specify adherence to applicable state and federal labor laws and require tenants/operators to maintain proper permits and licenses;
- All farm operators provide safety training to their employees and ensure all relevant custom farm operators are certified and trained for potentially hazardous activities, such as applying chemicals or operating machinery;
- Annual property inspections are completed to confirm that management of the property is meeting expectations with regard to safety, appropriate signage, and the safe handling of chemicals and pesticides.

The Principle in action

New Safety Measures in Australia

In 2012, we conducted a Workplace Health & Safety Assessment (WH&S) on all existing properties as part of a larger priority on worker health and safety across all of Australia’s agriculture industry. Recommendations for safety improvements (varying from the addition of minor warning signs to the removal of unnecessary buildings) were made and implemented over the past two years, resulting in continued outstanding performance across the KPIs this year. In addition, we have not experienced a serious accident or death on any of our managed properties in Australia to date.

Fruits of Employment Hiring Initiative

In the United States, we initiated an innovative program to offer farm-related job opportunities to the disabled community. The program is now known as Fruits of Employment. This initiative is led in partnership with two of our custom farm operators who engage with local communities to seek individuals with disabilities as potential employees on our farms. The initiative has been very successful so far providing significant benefit to the community and also helping meet the labor needs of our operators. We currently have fifteen individuals employed on two of our properties who provide reliable and flexible labor to those farms throughout the year. We are developing plans to expand the program in the next 12 months.
Respect for existing land and resource rights is critical to our responsible investment strategy and will be of increasing importance in the coming decades as competition for scarce resources such as arable land and water intensifies due to increasing global population and food consumption patterns. For communities, land rights underpin social and economic stability and security. Yet, in some places, land rights may be a source of conflict from ambiguous laws, lack of clear documentation, or historical disputes. We do our best to avoid investing in areas with ambiguous land rights laws and in regions where we do purchase land ensure that proper land title searches and ownership are confirmed prior to purchase. Our KPIs are meant to reflect the due diligence procedures and processes performed to ensure we are evaluating the integrity of our land investments and conducting appropriate screening for relevant local factors. Our success in this regard speaks to the diligence of our policy and procedures.

In the past two years we have done exceptionally well across our KPIs for this principle with 100% of our properties verifying titles and ownership prior to acquisition and 100% maintaining compliance with federal and local laws protecting aboriginal heritage and indigenous community rights.

### Ongoing Activities to Respect Existing Land and Resource Rights

Both prior to the purchase of a property and during the time we hold and farm the property we ensure that we respect existing land and resource rights:

- Our asset managers conduct extensive title searches to confirm the proper chain of land ownership and ensure properties we purchase are not under dispute;
- We maintain proper permits and licensing for any water or mineral rights and road use;
- We work with local groups to ensure we are contributing members of the local community.

We recognize that considering the impact on local communities is an important component of Principle 3. In the future, we may consider adding a KPI to help track our progress in this area. We already give attention to this issue in specific parts of our portfolio. For example, over the past two years, our asset manager in Australia has also been exploring corporate social responsibility initiatives whereby we are able to contribute and give back more directly to the communities in which we are invested.
Upholding high business and ethical standards

Upholding high business and ethical standards is a key component of TIAA-CREF’s corporate values. We have incorporated a number of business practices into our standard investment-operating model that demonstrates our commitment to upholding and implementing this principle. As a signatory to the United Nations Principles for Responsible Investment (“UN PRI”), TIAA-CREF also reports publicly on the full scope of its responsible investing activities, available on our website at www.tiaa-cref.org/public/about-us/investing/responsible-investing-ri.

Finding a quantifiable metric to measure progress against this principle is somewhat challenging; however, we believe that progress begins first with the individuals that manage and underwrite our properties. Our asset managers and TIAA-CREF investment staff receive Foreign Corrupt Practices Act (“FCPA”) training and participate in courses on business best practices and ethics. While we have improved on our percentage completion of business ethics training we are still unsatisfied with our yellow rating against this KPI and expect to see a higher rating in the next report.

Ongoing Activities to Uphold High Business and Ethical Standards

Throughout the farmland investing process we maintain a number of processes to ensure we uphold high business and ethical standards:

- Our asset managers conduct legal due diligence across all investments to ensure compliance with applicable laws, all tenant and farm management contracts require compliance with laws, and all lease contracts and operator agreements require best management practices;
- OFAC screens are conducted by our property managers to ensure tenants, sellers, and certain other business relationships are not on the U.S. government’s restricted list of terrorists and specially designated nationals and blocked persons;
- Additionally, asset managers complete a comprehensive attestation checklist of the oversight activities conducted during the year.

The Principle in action

Radar’s GRI Reporting

Our Brazilian partner, Radar, follows Global Reporting Initiative (GRI) standards for reporting on its sustainability practices. GRI is a network-based organization that produces a comprehensive sustainability reporting framework that is widely used around the world. By joining GRI, Radar committed to increased transparency and reporting standards to maintain a strong relationship with its stakeholders.

Business Standard Certifications in Brazil

Several of our tenant farmers are affiliated with various sustainability initiatives related to certain crops. For example, our largest tenant in Brazil, operating more than 43% of TIAA’s farmland there, is a member of BONSUCRO and their sugarcane operations have been certified by the organization. Our second largest tenant (which operates more than 34% of TIAA’s Brazil farmland) participates in several sustainability initiatives, including: Better Cotton Initiative (BCI); Brazilian Responsible Cotton Program (ABR); and Round Table on Responsible Soy Association (RTRS).

GAP Certifications

In the U.S., our nut crop managers are participating in the U.S. Department of Agriculture GAP (Good Agricultural Practices) program and the majority of the orchards that are in production were certified by the end of 2013. (Note: certifications are only awarded to orchards that are in production.) Our apple and cherry orchard managers have obtained GAP certifications. We are exploring expanding this certification to our extensive vineyard portfolio in the future.

http://www.globalreporting.org/
As one of the founding members of the Farmland Principles, TIAA-CREF views our annual Principles for Responsible Investing in Farmland report as an important part of our ongoing engagement with stakeholders. We published our first report in the fall of 2012 and will continue to do so on an annual basis in order to uphold the values outlined in Principle 5. We will also continue to evaluate how we can improve and refine our KPIs to account for shifting challenges that will demand more from farmland investors and operators seeking to operate responsibly.

To many investors, farmland investing is an opaque discipline that often entails complex financing and ownership structures. Our launch of the TIAA-CREF Center for Farmland Research at the University of Illinois last year serves to shed light on the complex process of investing in farmland and to introduce more transparency for all stakeholders and further promote responsible investing.

TIAA-CREF will also continue to sponsor research on environmental, social, and governance practices, host conferences, and works with regulators, legislators, self-regulatory organizations and other institutional investors to educate the business community about governance, shareholder rights and responsible investing. We regularly submit written comments on regulatory proposals and testify before various governmental bodies, administrative agencies and self-regulatory organizations. We participate in public and industry debates—as well as related conferences and symposia—dealing with governance issues in domestic and international markets.
Looking Ahead

We are pleased with our 2014 performance against the KPIs we introduced last year, but are dedicated to maintaining a focus on continuous improvement as we move into 2015. Beyond achieving above 95% ratings across all indicators, we are also looking to find new ways to measure and report on our actions as responsible investors in farmland.

TIAA-CREF believes that the consideration of environmental, social, and governance criteria by investors can produce competitive, long-term financial returns for our clients while also contributing to positive societal outcomes, broader economic development, and a healthy environment for future generations. We remain committed to sharing information with clients and other stakeholders on our responsible farmland practices and our progress towards implementing the Farmland Principles.

We hope this report aids in furthering the conversation of what it means to be a responsible investor in farmland. Through our key performance indicators, we strive to improve our performance against these metrics over the coming years, and we will continue to develop and improve these measures as our strategy and practices continue to evolve.
Overview of TIAA-CREF

TIAA-CREF is a Fortune 100 financial services company with a history of investing spanning more than 90 years. We are a leading financial services organization with $851 billion in assets under management (as of 12/31/14). The firm is a leader in helping those in the academic, medical, cultural, governmental and research fields plan for retirement, and life’s other goals. Over 5 million individuals trust us to help support their financial well-being.

TIAA-CREF has a long history of socially responsible investment, including becoming a signatory of the UN PRI in 2009. We regularly publish information on our overall approach and performance on socially responsible investing, which can be accessed by visiting www.tiaa-cref.org/ri2014.

Contact Us

For more information, please visit tiaa-cref.org.

Additional information on the Principles for Responsible Investment in Farmland can be found at www.unpri.org.
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