

**Farm Foundation, Berkeley, California
Transition to a Bioeconomy
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**Thomas C. Dorr
Under Secretary for Rural Development
Remarks**

Panel: *Infrastructure and Policy Issues in the Bioeconomy*

- Cornelius Gallagher, Bank of America, Chair
- Thomas C. Dorr: *Rural Policy for the 21st Century*
- Frank Dooley, Purdue: *Infrastructure for the Bioeconomy*
- Daniel Kammen, UC-Berkeley: *The Impact of State Policy Initiatives in the Bioeconomy*
- Paul Hammes, Union Pacific: *Transportation Infrastructure for the Bioeconomy*
- Mark Hanson, Stoel Rives LLP: *Legal Structures and Issues for the Bioeconomy*

From a public policy standpoint, what is both fascinating and challenging about the current situation is that we are at a point of transition. There is a world of difference between dealing from strength versus dealing from weakness. This is true in any field ... and it is certainly true as one thinks about rural policy, the rural economy, and the emerging bioeconomy. We are now dealing from strength.

For many years, all of us here have recognized the exciting potential of the carbohydrate economy. But now it's getting serious.

The bioeconomy is moving from concept and aspiration to reality ... from the labs to the marketplace. This is being led by the rapid buildout of biofuels. But it also extends to an ever-broader range of non-fuel biobased products as well.

This process is still in its early stages. But it is not too early to recognize that this evolution builds the case for important changes in government priorities and policy ... changes that are indeed already underway.

This isn't always easy. Old perceptions, old attitudes, and old policies often die hard. As we saw in the debate on the 2008 Farm Bill, the old dependency-oriented, program-oriented model is still entrenched. At the federal level, in fact, it has been a long battle simply to gain recognition of the fact that rural policy is bigger and broader than farm policy.

It has been an even harder battle ... one that is still underway ... to persuade policymakers that markets and entrepreneurial activity, not government programs, should be the primary economic drivers in rural America.

Change in this area is slow, but gradually we have begun to challenge old assumptions. Many of you are familiar with the American Farm Bureau Federation's MAPP report, which was published in 2005.

That was a landmark piece of work ... not least for the observation that farmers are now more dependent on rural communities than rural communities are dependent on farmers. The Farm Bureau is right about that, and policy needs to catch up with that insight.

60 million people live in rural America, and 58 million of them don't farm. More than 95% of the total rural income is earned off the farm. Even farm families, as a group, earn most of their incomes from non-farm employment. Virtually all the new jobs and most of the prospects for economic growth occur off the farm.

Clearly distributed computing, broadband, and modern transportation have rewritten the rules of the game. They have made rural communities probably more competitive today than at any prior point in our lifetimes. Thus the growth of the bioeconomy is an important dimension of this new rural economy ... but it is just one dimension. We are now dealing from multiple strengths.

At USDA Rural Development, we recognized five or six years ago that we were in a fundamentally new ballgame.

Not too many years ago, we were viewed ... and frankly we viewed ourselves ... as a lender of last resort. But today we are essentially an investment bank for rural America with a combined portfolio of more than \$100 billion in business, infrastructure, housing, and community facilities.

Not so long ago, we were oriented primarily to conventional government loan and grant financing. But today ... while loans and grants remain part of the tool kit ... we have shifted our emphasis to technical support and loan guarantees in order to maximize leverage and engage private capital- markets, customers and entrepreneurs drive our business.

The old assumption, from the 1930's forward, was that rural America was starved for credit and capital ... and that government programs were therefore the engine of growth. But the new reality is that rural America is awash in latent investment capital in amounts that frankly dwarf the resources government is likely to bring to the table.

Net farm equity alone has more than doubled in this decade to nearly \$2.3 trillion ... and that of course is just one portion of the rural economy. To put that in perspective, USDA Rural Development has a total Budget Authority this year of \$2.3 billion. Net farm equity alone is 1,000 times larger. Anyone who expects government programs to pull the train is expecting the tail to wag the dog.

Much of the growth, by the way, is a product of the growth of biofuels. Agriculture is shifting to a food, feed, fiber, and fuel economy. That is reflected in commodities prices, farm incomes, and land prices. There are multiple impacts.

As a result the old policy model needs to change. And it is clear that the bioeconomy, especially biofuels, creates incentives, opportunities, and a policy environment that empowers and facilitates that change.

Renewable energy in fact is probably the greatest new opportunity for wealth creation in rural America in our lifetimes, America last year sent \$330 billion abroad to pay for imported oil. It will be higher this year.

If we can displace a billion barrels of imported oil with biofuels, that alone is a potential market larger than today's net farm income. That's clearly a goal worth pursuing ... and it's an incentive that is now drawing record amounts of private capital into the arena.

So what are the policy implications?

First, as I suggested earlier, I take as a starting point the observation that government is no longer driving the train. This is a fundamental change. It doesn't mean that government can or should simply walk away. Not at all ...

- **The President, for example, proposed and the new Farm Bill contains several initiatives to accelerate the commercialization of cellulosic ethanol and dedicated energy crops. This is appropriate and important.**
- **Government has a critical role to play in sponsoring basic research, and we will continue to do that. Many of the new technologies are not mature.**

- **Government also has a strategic role to play in helping new and emerging technologies cross the “Valley of Death.” We will continue to do this as well.**

But as the buildout continues, our sights need to shift. Markets will and should drive private investment. Government’s role as a direct financing agency will become very secondary, and eventually incidental.

As just one example, a couple of years ago I was still giving speeches patting USDA on the back for having been involved in a majority of the biodiesel plants in operation at that time. I can’t do that any more. I don’t know what the percentages are today, but most of the financing is private. This is a sign of success. We have reached liftoff.

That changes the mission and we are still feeling our way. But over the last four or five years we have commissioned a series of studies that have begun to outline new policy priorities.

We began with a study by *Informa Economics*, which examined the connections between broadband and the growth of the ethanol industry.

Ethanol is the first major new industry to arise in rural America since the advent of broadband. We suspected that wasn't a coincidence ... and we were right. The *Informa* study very persuasively demonstrated that broadband and distributed computing were essential factors in enabling a highly dispersed industry to achieve economies of scale.

A second study examined investment models with an eye toward reducing transaction costs and facilitating the aggregation of local capital. I mentioned earlier that net farm equity now approaches \$2.3 trillion. That's doubly relevant when it comes to biofuels because farmers already own the underlying resource. We grow the feedstocks. With regard to biofuels, we hold our future in our own hands.

But raising \$40 million for a small ethanol plant, or \$100 million, or \$500 million in \$10,000 increments is a challenge. The alternative is to raise it in two or three transactions with money center banks or venture capital firms. This is an economy of scale issue, and if we want to encourage local equity participation, it is a problem we need to solve.

A third study analyzed business structures to identify strategies for encouraging entrepreneurial initiative and local ownership.

The traditional coop model is appropriate for some purposes, but it also has familiar limitations. In the more dynamic and innovative business environment that exists today, there is an investor premium on transparency, transferability, liquidity, and equity appreciation.

In this environment, business forms such as new generation coops, LLC's, and a variety of partnership arrangements clearly hold great promise. Our role in this area is simply to inform, explain, and expand the toolkit available to rural investors. When farmers are sitting on \$2.3 trillion in equity, what they need is probably not a government check ... what they need is a roadmap and technical support.

Finally, we have begun an open-ended discussion of regulatory and logistical issues related to the development of distributed energy resources. A substantial new infrastructure needs to be built. This will involve roads, rail, barges, and pipelines. It will involve transmission corridors for distributed, rural wind and solar power. It will involve environmental and land use permitting, rights of way, and utility pricing structures. The technical potential of biofuels and biobased products is just the beginning of the story. Government has to get the industrial policy questions right as well.

So in the final analysis, we won't walk away from our traditional programs. We'll still provide loans, grants, and loan guarantees. But I am convinced that our success will ultimately rest not on the federal dollars we bring to the table nearly as much as it will rest on the entrepreneurial spirit and private investment we can catalyze.

This is the critical need today. We are realigning ourselves as an agency to focus greater resources on outreach, education, and technical support.

And we could use your help. May I suggest in closing ... especially for those of you associated with the land grant colleges ... that this is an area that richly deserves more research, more outreach, and more education.

The potential is there, in rural America. We hold our future in our own hands. With your help, we can and we will develop the entrepreneurial orientation and technical business skills to capitalize. Thank you.